

# **Encountering the Hidden Worlds of Musical Objects**

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## Abstract

This thesis articulates an approach to our musical interactions with sounds and technologies influenced by Object Oriented Philosophy and the thought of Gilles Deleuze. The research question is borne out of the practice itself and the questions it poses: how to make sense of my own relationship with sounds as a listener, improviser and composer, and how to understand my engagement with the technologies which mediate this relationship. The most prominent technology I encounter is the laptop, which throughout my practice is used as a musical instrument, and a large part of my research also involves the development of a sensor instrument which utilises the Apple iPhone. The research thus serves as an exploration of both the laptop-as-instrument and certain 'post laptop' possibilities, alongside the development of a framework within which to critically consider our relationships to these new instruments.

Music involves multiple 'objects', a concept which includes (but is not limited to) sounds, songs, instruments, speakers, performers and listeners. Object Oriented Philosophy tells us that these objects are withdrawn: they possess 'hidden worlds' or reservoirs of potential that we do not exhaust through any one encounter. Sounds and instruments can be always be used in different ways and reveal different qualities through the networks they are placed in. Listening and playing are construed as being a challenge to find the hidden potentials and affordances in sounds, through changing the way we listen or recontextualising or reworking the sound itself: a range of different strategies for approaching sounds is discussed. I also bring this approach to new instruments - such as laptops, sensor instruments or electronics set-ups - asking what their unique affordances and 'hidden worlds' are, and how they might not be actualised should we approach them with fixed ideas about what instruments, performance and music are.

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## Creative Components of Submission<sup>1</sup>

### CD1. *Altes Finanzamt*

1. Adam Parkinson and Robin Hayward - Live at Altes Finanzamt

### CD2. *Dovestones EP*

1. A Final Descent From Indian's Head
2. Alderman to Dovestones
3. Yeoman Hay
4. And We Achieved Reservoir

### CD3. *Glass Faced Man*

1. part\_(9+13)
2. part\_six
3. part\_(14+15)
4. part\_(a-c)
5. lost\_returns
6. part\_(-)
7. part\_(b\_d)
8. part\_four

### CD4. *iPhone improvisations*

1. RaM (Adam Parkinson, Mariam Rezaei and Nick Williams) - Live at Love's Secret Domain<sup>2</sup>
2. Atau and Adam - Helsinki 1<sup>3</sup>
3. Atau and Adam - Helsinki 2
4. Atau and Adam - Helsinki 3
5. Atau and Adam - Helsinki 4

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<sup>1</sup> CD cover photos by Daniel Chaytor (CD1, 2 and 6), Ko Le Chen (CD4) and Jon Entwistle (CD3).

<sup>2</sup> This track was also released as RaM / Mike McHugh, *Live at Love's Secret Domain*, Entr'acte Records, E93, 2010.

<sup>3</sup> The Atau of 'Atau and Adam' is Atau Tanaka.

**CD5. Laptop Improvisations**

1. Duo for Imagined Valves
2. In Extension (Edit)

**CD6. Assorted tracks, mixes and remixes**

1. Adam Parkinson - Kevlar (additional production by Will Crossland)
2. Jace Syntax - Jackin Around (remixed by Adam Parkinson)<sup>4</sup>
3. DJ Slugo vs Oneohtrix Point Never<sup>5</sup>
4. DJ Nate vs Oneohtrix Point Never<sup>6</sup>
5. DJ Pierre vs Oneohtrix Point Never<sup>7</sup>
6. DJ Screw vs Oneohtrix Point Never Part I<sup>8</sup>
7. DJ Screw vs Oneohtrix Point Never Part II<sup>9</sup>
8. Mountain River Music I<sup>10</sup>
9. Mountain River Music II
10. Guessmen - remixed by Adam Parkinson<sup>11</sup>
11. Perseverance is Useless<sup>12</sup>
12. Laxx
13. Beyond the Night

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<sup>4</sup> Original track by Jace Syntax, original and remix (under pseudonym Socco Chico) both released on Jace Syntax, *Jackin Around*, Mutate Records, MATE013, 2011.

<sup>5</sup> Features unknown DJ Slugo track (<<http://www.djslugo.com/>>, retrieved 20/09/2011) and Oneohtrix Point Never, 'Behind the Bank', *Rifts*, No Fun Productions NFP56, 2009.

<sup>6</sup> Features DJ Nate, 'Make Em Run', *Hatas Our Motivation*, Planet Mu, ZIQ28, 2010 and Oneohtrix Point Never, 'Describing Bodies', *Returnal*, Editions Mego, eMego 104, 2010.

<sup>7</sup> Features Dj Pierre, 'Hater's Knock Em Out', from *Juke it Hard Vol. 2*, Subterranean Playhouse, 2008 and Oneohtrix Point Never, 'Parallel Minds', *Rifts*.

<sup>8</sup> Features DJ Screw, 'Daz - Don't Play Me', *Thangs Done Changed*, Screw Tapes, 1996, and Oneohtrix Point Never, 'Ouroboros', *Returnal*.

<sup>9</sup> Features DJ Screw, 'Da Brat - Ghetto Love', *Thangs Done Changed* and Oneohtrix Point Never, 'Stress Waves', *Returnal*.

<sup>10</sup> Source material for Mountain River Music Part I and II taken from Cloud Water, *Drifting With The Cloud*, BAC6601

<sup>11</sup> Original track by The Guessmen, <<http://www.guessmen.co.uk/>>, retrieved 07/08/2011.

<sup>12</sup> 'Perseverance is Useless', 'Laxx' and 'Beyond the Night' were also released under the pseudonym Ilton JN as *The Rats Rain Down*, Clinical Archives, ca116, 2008.

## iPhone Apps

A further part of the practical components of the submission is two ‘patches’ which run within the RjDj application on the iPod Touch, iPad or iPhone, called *ColossalPeacePipe* and *GranSampler*. These patches are included on CD7, along with instructions on how to install them. The patches are also available at the following URLs:

<http://rjdj.me/sharescene/gransampler/>

<http://rjdj.me/sharescene/colossalpeacepipe/>

The RjDj App is available for free at <http://itunes.apple.com/gb/app/rjdj/id290626964?mt=8>

The links need to be opened in Safari on the iThing itself - they will then be downloaded and open with the RjDj App. They will not run on a computer, and cannot be downloaded onto a computer. When downloaded, the two ‘scenes’ will be saved automatically and appear under the ‘interactive’ menu within RjDj. *ColossalPeacePipe* is CPU intensive and may not run well on older devices.

## Introduction

Our musical lives are full of encounters with ‘objects’. These objects are diverse and varied, including sounds, people, instruments, songs and technologies. Any number of encounters may take place with and between these objects, but none will ever exhaust them, for they always have potentials and unactualised qualities that might be revealed if they are engaged with differently or placed in different networks of relations. Approaching music in this way brings us to consider listening and playing as challenges: challenges to be open to different possible musical encounters, and challenges to reveal and draw out the hidden potentials of sounds and new instruments through our practices.

The research questions emerge out of my practice and my own musical encounters as an improviser, composer, listener, programmer and as someone who works in a diverse range of musical fields: performing minimal electronic improvisations, producing techno, remixing pop songs, DJing, crooning about death over bass heavy digital samba beats or using mobile phones as musical instruments. How do I make sense of these various and diverse encounters with sounds, whether I am listening, playing, reworking or remixing? How do I understand my relationships with these technologies, in particular the electronic instruments, which mediate these encounters? Throughout my research, the laptop is the main technology I encounter through my musical activities, whilst a further significant proportion of the research has been the development - through coding and performing - of a sensor instrument that runs on the iPhone. This research, then, is an investigation of listening and sounds, of the laptop-as-instrument and of some ‘post-laptop’ instrumental possibilities, along with the development of a theoretical framework for the critical discussion of these activities and technologies.

This is an approach which assumes music - and our modes of encountering it - to be diverse and varied, and which avoids reducing sounds, songs or technologies to the limited qualities which we might encounter. Through a combination of Object Oriented Philosophy and the thought of Gilles Deleuze, a picture of our musical lives emerges where sounds, songs and instruments are not inert or passive but lively objects or actors, moving through different networks of relations, revealing different qualities, possessing agential tendencies that can shape and influence human practices, creating new musics and new modes of listening through their various collisions and encounters, with humans being but one object among many that actualises the diverse qualities we associate with music.

## Object Oriented Philosophy

This thesis is influenced by concepts drawn from Object Oriented Philosophy, a relatively new school of philosophy and a branch of the equally new ‘Speculative Realism’. Graham Harman and Levi Bryant are the two most prominent philosophers in this movement and it is Bryant’s own version of Object Oriented Philosophy, which he describes as ‘onticology’, that I make the most use of. There are factions within Object Oriented Philosophy and within the different philosophies that might make up Object Oriented Philosophy there are many concepts and theories which I am not using. I draw mostly upon one relatively simple premise taken from Object Oriented Philosophy, though as it is variously nuanced and combined with different theories. That premise is that *everything has potentials that might not initially be revealed to us, but that might be explored through praxis*. Throughout the thesis, this premise will be expanded upon and applied to various different aspects of our musical encounters.

Object Oriented Philosophy sees the world as being made up of distinct objects or ‘actors’, whether these be atoms, dogs, political theories, theatres, social clubs, mountains or guitars. These myriad objects that constitute the cosmos are ‘withdrawn’ or possessing what I term ‘hidden worlds’: the untapped potential that we have spoken of. Such a world view is indebted to Heidegger, and Harman began his academic life as a Heidegger scholar, before breaking away by means of a radicalisation of Heidegger’s work on tools and technologies. Objects always overflow or surpass our representations or impressions of them and have a *being* that exceeds the *presence* encountered by us, or for that matter, anything.<sup>13</sup> Following from Bryant’s synthesis of Object Oriented Philosophy with the thought of Gilles Deleuze and Manuel Delanda, this ‘hidden world’ can be understood as being a ‘virtual multiplicity’, a structured design-space of possibilities that is real even if it is not manifest and ‘actual’, concepts which will be explored in greater detail in Chapter I.<sup>14</sup> These ‘hidden worlds’ are also understood in terms of James Gibson’s notion of affordances, along with William Gaver’s notion of *hidden* affordances (those withdrawn capacities that are discovered through interaction), as will be elaborated in Chapter I.

Object Oriented Philosophy attempts to break free from the constraints of the post-Kantian ‘linguistic turn’, the ‘focus on discourse, text, culture, consciousness, power, or ideas as what constitutes reality’ and philosophies which end up focusing on the human at the expense of other things at large in the world. As Bryant et al describe, ‘Humanity remains at the centre of these

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<sup>13</sup> Harman does not conceive of this withdrawal in terms of ‘potential’, and my own use of Object Oriented Philosophy is more indebted to Levi Bryant than Harman, as Harman’s rejection of potential problematises the concept of the virtual. See Graham Harman, ‘DeLanda’s Ontology: Assemblage and Realism.’ *Continental Philosophy Review* 41, 2008, pp. 367-383.

<sup>14</sup> Levi Bryant, ‘Virtual Proper Being’, *The Democracy of Objects* (Open Humanities Press, 2011), <<http://quod.lib.umich.edu/o/ohp/9750134.0001.001/1:7?rgn=div1;view=fulltext>>, retrieved 26/09/11.

works, and reality appears in philosophy only as the correlate of human thought.’<sup>15</sup> Object Oriented Philosophy does not discount the importance of such things as language, text and culture, but they are no longer seen as ‘the major source of difference in the world’, as attention is brought to all the non-human things in the world that exist independently of human thought and interest, and also have a bearing upon human activities.<sup>16</sup> As we be discussed, Object Oriented Philosophy helps remind us of the independence and influence of sounds, songs and musical technologies. These are all vital actors in sonic cultures, which can manipulate and affect humans rather than merely bend to our will or interest. Nonetheless, music as I construe it remains an inherently ‘human’ activity that emerges through our encounters with these things external to us, though it is a relational phenomenon, and therefore dependent upon our interactions in the world and thus reducible to neither pure mental phenomenon nor material vibration.

Object Oriented Philosophy becomes a defence against *reductionism*. Graham Harman describes Latour’s ‘Principle of Irreduction’ as ‘no object is inherently reducible or irreducible to any other’. Nothing can ever be explained entirely by anything else and all theory and explanation is in part reductive and a distortion. That does not mean we cannot ever risk explaining anything - the thesis articulated here clearly contains degrees of reductionism - just that we must be *aware of* the reductionisms, translations and distortions at play so they do not become restrictive.<sup>17</sup> Reductionism is inevitable to some degree as *all* relation is distortion: everything always encounters a ‘reduced’ version of something else, and it is important not to mistake this ‘reduced’ presence for the entire being of the object encountered.<sup>18</sup>

In this thesis I bring this to bear on the relationship between theory and practice. Practice does not simply embody the ideas of theory and theory does not exhaustively explain practice. When the two are related, we always find a translation or distortion. Representations or images of each is contained in the other, but each must be understood as consisting of distinct objects, influencing and shaping each other, doing their own ‘work’: some work is best done by practice and some work is best done by theory.

### **Deleuze: Music, Multiplicity and Diversity**

Drawing on the thought of Gilles Deleuze, there is throughout this thesis an assertion of the multiple nature of terms such as ‘listening’ and ‘music’. We use one word, ‘listening’, to describe

<sup>15</sup> Levi Bryant, Nick Srnicek and Graham Harman (eds.), *The Speculative Turn: Continental Materialism and Realism* (Melbourne: re.press, 2011), pp. 2 - 3.

<sup>16</sup> Levi Bryant, ‘Lexicon of Onticology’, <<http://larvalsubjects.wordpress.com/2010/05/22/a-lexicon-of-onticology/>>, retrieved 01/04/2011.

<sup>17</sup> Graham Harman, *Prince of Networks: Bruno Latour and Metaphysics* (Melbourne: re.press, 2009), pp. 14-15.

<sup>18</sup> Graham Harman, ‘Vicarious Causation’, *Collapse II* (Falmouth: Urbanomic, 2010), p. 193.

myriad different ways of experiencing and engaging with sound. Whilst having such a word is very convenient, we should be aware that this convenience comes at a price, as this unifying concept implies a homogeneity that is often lacking from the messy reality of musical activities. It becomes all too easy to believe that because we have one word - 'listening' - it refers only to one activity, as oppose to a *multiplicity* of diverse but related ways of encountering sound. Through acts of listening and playing, through engaging with sounds and technologies, we might find new modes of listening and playing, new modes of experiencing the world and new *a priori* structuring our future encounters and experiences.

Deleuze's concept of multiplicity, especially as it is deployed by Manuel Delanda, surfaces repeatedly throughout this thesis, one of its uses being the negation of reductionism in our musical discourses. The concept will be explored in further detail in Chapter I, but as a preliminary definition, a multiplicity is understood to be a *structured space of possibilities*, a topological space that can be used to describe dynamic, form-generating processes. It is a multidimensional, abstract mathematical space, difficult to represent mentally but eminently useful for modelling real-world dynamic processes in complex systems, not dissimilar to how a graph might describe a runner's distance over time. Everything is borne of such dynamic process, described by multiplicities: taking 'Idea' to be roughly synonymous with multiplicity, Deleuze writes;

There are Ideas which correspond to mathematical relations and realities, others which correspond to physical laws and facts. There are others which, according to their order, correspond to organisms, psychic structures, languages and societies<sup>19</sup>

This concept of multiplicity was influenced by 'population thinking', an approach to ideas of species and identity in evolutionary biology which emerged as a synthesis of the ideas of Charles Darwin and Georg Mendel. Ernst Mayr posits population thinking against that of the typologist and essentialist, writing:

The populationist stresses the uniqueness of everything in the organic world. What is true for the human species - that no two individuals are alike- is equally true for all other species of animals and plants [...] All organisms and organic phenomena are composed of unique features and can be described collectively only in statistical terms. Individuals, or any kind of organic entities, form populations of which we can determine the arithmetic mean and the statistics of variation. Averages are merely statistical abstractions; only the individuals of which the populations are composed have any reality. The ultimate conclusions of the population thinker and the typologist are precisely the opposite. For the typologist, the type (eidos) is

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<sup>19</sup> Gilles Deleuze, *Difference and Repetition* (London: Continuum, 2008), p. 232.

real and the variation an illusion, while for the populationist the type (average) is an abstraction and only the variation is real.<sup>20</sup>

The populationist moves towards a ‘science of multiplicities’, for we can use multiplicity to replace abstract essence or type whilst still accounting for regularities. Individual’s histories make them unique individuals, but *attractors* in these abstract mathematical spaces describe likely outcomes of the morphogenetic processes which beget them, hence explaining the similarities of higher-level ‘groupings’ and the fact that we are able to identify classes and species. We need no longer grant any higher ontological status to types or essences, as they are simply statistical averages we might draw from populations of actual individuals. Similarly, these individuals are no longer more or less perfect instantiations of some abstract essence. Difference and diversity - however subtle or small - is to be expected. As Manuel Delanda notes, ‘for population thinkers *heterogeneity* is the state we should expect to exist spontaneously under most circumstances, while *homogeneity* is a highly unlikely state which may be brought about under very specific selection pressures’.<sup>21</sup>

It might seem a somewhat archaic view to assume that everything we encounter is a mere instantiation, of varying degrees of perfection, of some abstract essence. Such thinking often returns, however, through our use of language and concepts; we may find that the general categories that we (often inadvertently) apply to human activities imply a unity and a reality above and beyond the material reality they purport to represent. Christopher Small describes the presence of this in our musical discourses;

Music is not a thing at all but an activity, something that people do. The apparent thing “music” is a figment, an abstraction of the action, whose reality vanishes as soon as we examine it closely. This habit of thinking in abstractions, of taking from an action what appears to be its essence and of giving that essence a name, is probably as old as language; it is useful in the conceptualizing of our world but it has its dangers. It is very easy to come to think of the abstraction as more real than the reality it represents, to think, for example, of those abstractions which we call love, hate, good and evil as having an existence apart from the acts of loving, hating, or performing good and evil deeds and even to think of them as being in some way more real than the acts themselves, a kind of universal or ideal lying behind and suffusing the actions. This is the trap of reification, and it has been a besetting fault of Western thinking ever since Plato, who was one of its earliest perpetrators.<sup>22</sup>

<sup>20</sup> Ernst Mayr, *Evolution and the Diversity of Life: Selected Essays* (Cambridge, Ma.: Harvard University Press, 1997), pp. 27-8.

<sup>21</sup> Manuel Delanda, *Intensive Science and Virtual Philosophy* (London: Continuum, 2007), p. 59.

<sup>22</sup> Christopher Small, *Musicking: The Meaning of Performing and Listening* (Connecticut: Wesleyan University Press, 1998), p. 2.

In *The Study of Ethnomusicology*, Bruno Nettl finds essentialism at work in dictionary definitions of music (such as those in Webster's or the OED), where music is primarily defined in terms of tones, beauty, intelligibility or expressiveness. Whilst music may possess such qualities, it cannot be reduced to them, and as Nettl points out 'there are societies and musics where these criteria make no sense at all.'<sup>23</sup> Following the logic of multiplicities, such qualities can instead be seen as statistical abstractions we might draw from recent histories of Western musics, as oppose to defining essences of music which must be met.

Such essentialism might not be a problem, but we often create institutions and knowledge storage systems - such as schools, notation methods or instruments - which solidify and perpetuate our linguistic categories, as we believe they reflect or are even 'more real' than whatever underlying reality we use them to describe. Even without finding form in such things, these categories can still reflect back and modify material reality, for language is not some passive and trouble-free means of representing the world, but a force of its own which can intervene back into material reality. Language is part of a whole realm of expression, signifiers and signs whose reality must be accounted for. Deleuze and Guattari use the example of the judge's sentence transforming the accused into the convict, and extending their approach, Delanda finds further examples of this intervention;<sup>24</sup>

There are... important cases in which the very models and classifications social scientists use affect the behavior of the entities being studied. Political or medical classifications using categories like "female refugee" or "hyperactive child", for example, may interact with the people being classified if they become aware of the fact that they are being so classified.<sup>25</sup>

We might consider these to be 'special cases', for there are many other instances when material reality may be less likely to possess such a character of 'reflexivity': Deleuzian scholar and Object Oriented philosopher Levi Bryant writes, 'When a geologist classifies a rock as "obsidian" that rock doesn't begin to *emulate* the qualities of the *category* of obsidian'.<sup>26</sup> Nonetheless, the treating of a rock as 'obsidian' does affect the networks it participates in, and the way in which it is treated, if only in the human sphere. Similarly, attempts to classify and delineate different musics, in terms of genre or even in terms of what is or isn't 'music', can affect those musical activities we are trying to label. As DJ and theorist Steve Goodman describes, a new genre name might function as a 'kind of

<sup>23</sup> Bruno Nettl, *The Study of Ethnomusicology: Thirty One Issues and Concepts* (Illinois: Urbana, 2005). p. 18.

<sup>24</sup> Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (London: Continuum, 2003), p. 80.

<sup>25</sup> Manuel Delanda, *New Philosophy of Society: Assemblage Theory and Social Complexity* (London: Continuum, 2006), p. 1.

<sup>26</sup> Levi Bryant, *Larval Subjects* blog, <<http://larvalsubjects.wordpress.com/2010/09/01/reading-group-delanda-a-new-philosophy-of-society-anps-introduction/>>, retrieved 6/5/2011.

little ecology... for nurturing certain sounds', uniting a series of disparate producers, helping with the establishment of some club night or festival, giving journalists a useful handle on a term and allowing musicians working within the larval genre to intensify their output and achieve some recognition or monetary success.<sup>27</sup> At the same time, the unifying power of this new genre might reduce the previous experimentalism and exploratory approach of musicians involved with it as the genre brings with it a set of 'rules' and codes, these codes taking on the role of an essence which starts to define what does and does not belong to the genre and 'essence' proceeds by way of a 'power takeover'.<sup>28</sup>

According to our logic of multiplicities, we can replace any essence or fixed idea of what music or listening is with progressively defined, divergent actualisations. As Small asserts, music is an activity, something lived and experienced through continuous encounters with the sonic materials of the world and there are times when we might be challenged by the sensual content of that experience. We might have to reorder ourselves, consciously or unconsciously adjust our receptivity and *change the way we listen*. 'Listening' and 'playing', then, must be thought of not as each describing the essence of one human activity but a whole range of different encounters between ears, bodies and sounds. Throughout our lives we might learn to listen differently, discover new modes of playing and performing, experiencing music in different ways as we become attuned to different affordances and open ourselves up to these multiplicities.

This thesis discusses our *encounters* with sound, guided by Deleuze's notion of the relationship between thought and encounters. As Deleuze writes, 'Something in the world forces us to think. This something is an object not of recognition but of a fundamental *encounter*.'<sup>29</sup> What if our sonic encounters *force us to listen*? Just as Deleuze would like thought to be conceived not just in its mundane everyday applications of recognition and representation, but in terms of something more like its own limit case and internal possibilities, we might imagine being opened up to listening and music as multiplicities through our musical encounters.<sup>30</sup>

## Creative Research

The practical components of this PhD fall into two categories: those which are being submitted as works 'in their own right' and those that function more as evidence of a research process, documenting the exploration of ideas and certain 'listenings', encounters with technologies and sounds, or ways of combining musical materials which point to particular affordances and

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<sup>27</sup> Steve Goodman (Kode9) interviewed at <<http://tricorder.at/?p=1678>>, retrieved 17/08/2011.

<sup>28</sup> Deleuze and Guattari, *A Thousand Plateaus*, p. 7.

<sup>29</sup> Deleuze, *Difference and Repetition*, p. 176

<sup>30</sup> *Ibid.*, p. 197.

qualities, the latter category mostly compiled on CD6. Also included in the practical submission are two ‘patches’ that run on the Apple iPhone, iPod Touch or iPad within the RjDj application.<sup>31</sup> One of these, *ColossalPeacePipe* is a generative patch, an attempt to remove physical traces of my playing from a performance whilst exploring the myriad affordances of the granular engine itself and a small selection of looped samples. The second, *GranSampler*, is the same synthesis engine but ‘playable’, with the generative elements replaced by a touch interface and tilt sensors. It is a granular sampler, based upon Nobuyasu Sakonda’s granular patch for Max MSP, adapted to run on the Apple iPhone within the RjDj app.<sup>32</sup> The *GranSampler* app embodies two crucial ideas at the heart of the PhD: it is an invitation to explore the musical affordances of a technology (the iThing), and an invitation to explore the hidden affordances of a sampled sound as it subjected to granular timestretching and pitch manipulation.

Along with a handful of other, simpler patches (sine wave and white noise generators and rain synths), these apps form the basis of the ‘iPhone instrument’ that has been a large part of my PhD research. It should be noted that the use of the iPhone within my creative practice has arisen from an interest out of mobile music and the possibilities of these new technologies, and not out of any attempt to subvert a supposedly desirable consumer product, nor any particular interest in the use of Apple technologies. Mobile devices are becoming increasingly viable musical tools, as they combine powerful processing power with embedded sensor capabilities, and my interest lies in how musicians might use such tools.

There is no video documentation submitted with this thesis, only audio. This is not borne out of any personal vendetta against moving pictures, but a feeling that video documentation is problematic and unwittingly ‘deceitful’. After attempts to document performances, I have come to the conclusion that video documentation gives the impression of ‘giving more’, of bringing one closer to the live experience, than it actually does. Watching a performance on a computer screen, no matter how good the quality of audio and video or how many camera angles are available, is simply a wildly different experience from being in the presence of that live performance, but the delivery of audio and video may lead one to believe that one has in fact experienced something akin to that performance.

## Chapter Overview

Chapter 1 is entitled ‘**Listening and Improvising**’ and provides a continued exploration of multiplicity and its mathematical origins, establishing music as a relational phenomenon that

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<sup>31</sup> RjDj can be found at <<http://rjdj.me/>>, retrieved 20/09/2011.

<sup>32</sup> Sakonda’s work can be found at <<http://web.me.com/nsakonda/sakoweb/download.html>>, retrieved 01/09/2011.

emerges through our sonic encounters. Through a consideration of different performance practices I will explore a series of strategies in our listening and playing for exploring the ‘hidden worlds’ of these materials, potentially generating new modes of listening and playing, asserting the role these sounds have as ‘actors’. I will then consider how an improvisatory and open approach to listening in our musical encounters can open onto a larval ‘ethics of listening’.

In Chapter 2, ‘**Embodied Encounters**’, our notion of listening is widened, moving away from just the ears and mind to include the whole body. This is then used to consider some of the issues surrounding contemporary performance practices on laptops and other new instruments, critiquing a focus on ‘gestural legibility’, a notion which is problematised by embodied listening. An Object Oriented and Deleuze influenced approach is brought to bear on considerations of new instrumental practices, suggesting we should consider them to be ‘objects’ or ‘actors’, seeking to explore their unique affordances and the new modes of performing and musicking they may beget, as oppose to judging them on the basis of more traditional instruments and performance practices. My own practice developing a gestural instrument which runs on the iPhone is used as a way of interrogating ‘gestural legibility’, ‘expressive latitude’, and the way in which apparently superfluous or theatrical gestures may be seen as essential in the construction of musical meaning.

Chapter 3 is entitled ‘**Listening, Dancing and Remembering**’ and follows on from Chapter 2 in considering what might be the epitome of embodied listening, electronic dance music and ‘rave’. The radical difference of these musical forms is discussed, as are the problems of reducing the sound-world of electronic dance music to its dance floor functionality. This then moves onto a discussion of Deleuze’s Bergsonian conception of memory, before looking at the way in which musics - dance and other - attempt to manipulate the way in which memory infuses perception, and ways in which the sounds of dance are treated as ‘objects’ with withdrawn beings, that are repurposed and recontextualised, functioning in different ways and revealing different qualities.

Much of the theoretical work done in this thesis can be expressed in two simple points: everything is an object, and objects are multiplicities. It is this understanding of what objects are that is valuable, helping us to identify when reductionism and essentialism are at play in potentially problematic ways, and when brought to bear upon different musical encounters - from sonic ecologies, improvisation, new instruments and dance music - reveals fertile domains for investigation and analysis.

## Chapter I: Listening and Improvising

In this chapter I will lay out the framework for the theory of musical encounters I wish to deploy throughout this thesis. Informed by an Object Oriented approach, sounds, songs and instruments are considered to be ‘objects’ with ‘hidden worlds’ that are not immediately revealed to us in any one encounter. Drawing on Levi Bryant’s interpretation of Deleuze, these ‘hidden worlds’ are understood as being a ‘virtual multiplicity’, a structured space of possibilities which is ‘real’ without being ‘actual’, having an existence even if it is not manifest. Listening and playing open up possibilities for engaging with this virtual realm and investigating the multiple musics and different qualities which may be actualised through encounters involving people, sounds and technologies. Listening is an encounter and here it is conceived as being a *challenge* to explore the potentials of sounds through our listening and musical practices.

I argue that an *improvisatory approach* in our listening and playing might assist our exploration of these potentials and, through discussions of the practices of myself and others, I will consider various strategies for listening to and utilising sounds, informed by our Object Oriented approach. The final part of this chapter will then go on to speculate about the ethical implications of an open, active, engaged and improvisatory approach to listening, relating this to R. Murray Schafer’s discussions of our sonic environments and the Object Oriented ecology and new materialisms of Timothy Morton and Jane Bennett.<sup>33</sup>

### Musical encounters

Music is something that emerges as the result of an encounter. It is not a ‘primary’ quality that resides wholly in an object external to thought, rather it is a ‘secondary’ or relational quality that emerges through an encounter. Music cannot be solely attributed to the subject in this encounter, as we do not hylomorphically impose structure and form upon passive, inert sound-matter through our listening, nor do we carve up undifferentiated ‘noise’ with our senses and perceptions into something that is only then beautiful or rich in meaning: the vibrational reality of the sound must have capacities and provide affordances allowing for this music to emerge. Equally, music cannot be said to reside solely in these sonic materials or sounds themselves: it is relational, sound needs to be encountered *by something*, and different encounters will produce different musics. Furthermore, not all encounters will produce ‘music’ in such a manner. The intrinsic

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<sup>33</sup> I follow Christopher Small in using ‘music’ as a verb, which gives us the term ‘musicking’. Small writes, ‘*To music is to take part, in any capacity, in a musical performance, whether by performing, by listening, by rehearsing or practicing, by providing material for performance (what is called composing), or by dancing.*’ in Christopher Small, *Musicking: The Meaning of Performing and Listening* (Connecticut: Wesleyan University Press, 1998), p. 9.

‘subjective’ dimension meaning that one man’s (or woman’s) music always has the potential to be another’s ‘noise’.<sup>34</sup> In this way, sounds have potentials which are not exhausted through any single encounter we may have with them.<sup>35</sup>

Asserting the relationality of music and its dependency on encounters is not to reduce it to some ethereal and fleeting existence. Deleuze considers that art is the preservation of a ‘bloc of sensations’.<sup>36</sup> Great art and music preserves ‘percepts’ and ‘affects’; that is, perceptions and the ability to affect considered independent of any particular encountering-subject. Thus, whilst music is dependent upon relations and encounters to be actualised, we can still grant a certain reality to the powers of the ‘sound matter’ to produce the music we experience. Furthermore, for Deleuze, great art is able to create new modes of experience. Art can introduce new *a priori*s, and as Bryant describes,

there’s actually a creation/production of ways of seeing or experiencing according to Deleuze. For instance[...] the evolution of a bat is not just the evolution of a species, but the evolution of a form of sensing and accompanying qualities (sonar) that couldn’t be said to be there in the world “already”. A great artist, too, produces new emotions, new ways of seeing, new ways of experiencing, rather than just reporting something that’s already there.<sup>37</sup>

In his discussions of Deleuze, John Rajchman describes how new modes of subjectivity are born out of sensation. Artists can create new ways of perceiving the world and new subjects are born through sensory, artistic encounters: ‘those who are involved in the “becoming-art” of an expressive material – who are drawn to it and transformed by it, or who invent ways to see and say new things through it – do not pre-exist it, but are rather invented in the process.’<sup>38</sup> The things that musicians

<sup>34</sup> noise is understood here as being ‘unwanted sound’.

<sup>35</sup> It may be queried why the term ‘music’ is retained here. Some writers addressing sound art and sonic technologies may abandon the term altogether, letting ‘sound be sound’. ‘Music’ may appear a little quaint, especially when the sounds in question are not coming from traditional musical instruments and perhaps lacking in melody, harmony and other such things that may be associated with that term ‘music’. Furthermore, as Bruno Nettl has noted, ‘music’ as we use it may be a predominantly Western term; not all cultures linguistically delineate certain sounds or activities in quite the same manner (Bruno Nettl, *The Study of Ethnomusicology: thirty-one issues and concepts* (Illinois: Urbana, 2005) p. 17.) Nonetheless, I wish to hold on to the term. As someone who finds themselves constantly being drawn to spend their time listening to, ordering or creating sounds and musics, always propelled towards certain sounds and truly loving certain sounds, forever chasing some sounds whilst fleeing from others, my listening changing as I learn to appreciate (or stop appreciating) different sounds and ways of using them, I find the word music useful to refer to a certain affordance in sound. Music is what happens when our encounter with a sound or song is ‘productive’ in some way: it does not seem to be as simple as *enjoying* a sound, for the pleasure, pain and compulsion associated with music seems to resist being reduced to as simple a dichotomy as like / dislike, but perhaps the idea of music as sound we ‘enjoy’ is at least a starting point in defining ‘productive’.

<sup>36</sup> Deleuze and Guattari, *What is Philosophy?* (New York: Columbia University Press, 1994). p. 164.

<sup>37</sup> Levi Bryant, *Larval Subjects* blog, <<http://larvalsubjects.wordpress.com/2007/09/11/sensation-and-sensibility-deleuzes-aesthetic-metaphysics/>> on 16/12/2009

<sup>38</sup> John Rajchman, *The Deleuze Connections* (Cambridge, Ma: MIT Press, 2000), p. 121.

might produce, whilst requiring encounters in order to actualise music, can nonetheless preserve and perpetuate certain ways of experiencing sound and the world.

Following from this, in exploring the affordances and potentials of sound, we may ourselves be transformed as we discover new ways of hearing, new ways of engaging with the world and new affordances within our own bodies. In this way, whilst relying on the encountering-subject for its actualisation, the 'sound matter' itself can be seen to invite or even demand a particular way of listening, having something approaching an agency. Object Oriented Philosophy reminds us of the importance of other factors - technologies of playback and reception or the cultural circumstances of the listener; assemblages that might involve speakers, buildings, instruments, sounds, dancers and more - that may influence how a piece of music sounds and how it is listened to, but none of this should take away from the reality or powers of these sounds themselves. Thus, music is a subjective experience, but it is based upon encounters with sounds that are at large in the world and have a reality beyond our minds.

Music is not the only quality that is relational in such a manner, and we find a similar relationality with the phenomena of colour. As cognitive linguists George Lakoff and Mark Johnson write, 'Given the world, our bodies and brains have evolved to create color.' They go on to explain that colour as experienced is neither an internal representation, nor objectively present in the thing itself, but an emergent phenomenon, the result of an encounter. It is a sensual experience we have when, in the right lighting conditions, radiation in a certain range impinges on our retina and is absorbed by colour cones in the eyes to produce an electrical signal which is processed in a certain manner by our brain.<sup>39</sup> We 'intervene' in this process quite severely, and the stability of colour is the result of cognitive compensations, as the colour of an object has to be preserved under different lighting conditions: it requires work from our brains to preserve the yellowness of a banana in a dimly lit room. Approaching this relationality from Object Oriented Philosophy, Levi Bryant considers a rotating vase, the gloss shimmering in the light:

Pay special attention to the band about the lip of the vase as it rotates. Notice how the color of each point on the band surrounding the top of the vase changes color as it rotates... It would be a mistake to claim that the band about the lip of the vase is blue. No, the band is now silver, now blue. Any suggestion that the band is blue is an approximate statistical claim pertaining to averages and optimal conditions defined by an observer, not pertaining to the being of the vase itself.<sup>40</sup>

<sup>39</sup> George Lakoff and Mark Johnson, *Philosophy in the Flesh: The embodied mind and its challenge to Western thought*, (New York: Basic Press, 2009), pp. 23- 24.

<sup>40</sup> Levi Bryant, <<http://larvalsubjects.wordpress.com/2010/02/25/objects-endo-relational-structures-and-topology/>>, retrieved 04/09/2010.

Bryant's explanation for this plunges us straight into his own variation of Object Oriented Philosophy, as he writes,

And how do these variations take place? In this case the color variations in the endo-relational topology of the vase are a consequence of its endo-relational structure and attractors entering into exo-relations with other objects (photons of light) that produce certain local manifestations as a consequence.<sup>41</sup>

'Endo-relations' are the internal structure and relations of an object, though this should not be understood as a spatial interiority or 'inside'. Rather, it is the reservoir of potential, the 'hidden world', an excess of being that goes beyond any one manifestation or presence. The vase possesses the power to 'blue'. In a very real sense, there is always more to the vase than meets the eye.

Bryant's version of Object Oriented Philosophy considers this 'hidden world' to be structured like a Deleuzian virtual multiplicity, a concept better understood if we delve into the mathematical origins of the concepts of multiplicity and the virtual. The behavioural tendencies of complex systems can be observed using techniques such as 'state space analysis'. At any given time, a dynamic system has a 'state' which can be described as a point in state space, the space having as many dimensions as the system has variables. Over time, several points can be plotted in the state space as the complex system changes state. The trajectories described by these states then allow us to construct a 'multi-dimensional curved surface', also known as a manifold or a *multiplicity*, which through topological analysis reveals the tendencies and behaviours of the system over time. These tendencies point towards 'attractors', points in the state space which are never actualised but describe likely areas of behaviour or states of being. The frothy bubbles forming on top of a freshly pulled pint of beer 'know' how to organise themselves because the frothy structure exists as an attractor - a point of minimum energy - in the multiplicity that describes their possible behaviours.<sup>42</sup>

A system will actualise a point in the multiplicity at any one time, with the rest remaining what Deleuze terms 'virtual'. The Deleuzian virtual - not to be mistaken for the 'virtual' of 'virtual reality' - is a crucial and eminently useful concept, and illustrated well by John Protevi's example of weather and climate. The weather is the actualisation at any one time of the virtual realm we know as 'climate', populated by attractors which display tendencies realised over time: a reasonable chance of some warmth and sun in summer, snow in winter, perhaps, or the inevitability of

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<sup>41</sup> Ibid.

<sup>42</sup> This is routed in Manuel Delanda's interpretation and explication of Deleuzian multiplicities in Delanda, *Intensive Science and Virtual Philosophy*, pp. 11-15.

incessant drizzle in Manchester. Whilst the general tendencies that we describe as the climate of a place may not be *actual* at any one time, climate nonetheless is ‘real’, possessing a reality that allows us to speak of things such as more favourable climates, or climate change. Climate, then, is virtual, and the weather is an actualisation at any one time.<sup>43</sup> Timothy Morton describes the experience of weather as constituting a ‘false immediacy’, blinding us to the virtual multiplicity or ‘object’ that is climate but which remains imperceptible directly. The real thing that is climate can never be reduced to any one encounter with the weather, just as any one encounter with a sonic environment is not exhaustive of its virtual being, even though we might mistake the presence we encounter for the totality of the object involved.<sup>44</sup>

To summarise, virtual multiplicities are topological spaces, populated by attractors, which structure the behaviour and tendencies of real systems, constituting a *real yet virtual* layer of reality, immanent to the systems themselves. Many of the operations of matter can be described in terms of multiplicities, understood in this manner, and part of Deleuze and Delanda’s projects involve elegantly and non-reductively extending these theories on the dynamics of matter to more complex systems, such as organisms and even human society.<sup>45</sup> Bryant’s work combines the Deleuzian notion of a topologically structured virtual with Object Oriented Philosophy, considering the withdrawn aspects or ‘hidden worlds’ of objects to be virtual multiplicities.<sup>46</sup> Returning, then, to Bryant’s rotating vase, the different possible qualities (in this example, the colours) of the rotating vase exist as *attractors* within the *virtual multiplicity* of the vase, actualised through real world encounters with other objects (light photons, eyeballs and so on). The blueness of the vase is ‘part of’ the virtual multiplicity of the vase, which is real and immanent to the vase itself. Like music, it is a quality actualised through an encounter.

## Sounds as Objects

Returning to sonic experiences, we can consider how sounds are objects which can be understood in a similar way to the vase, possessing a virtual dimension and actualising different qualities over time and according to different viewpoints. Our encounters with sounds are structured by material and cultural circumstances, all of which can be understood as objects in their own right, what Bryant has described as a ‘regime of attraction’, which brings forth different relational

<sup>43</sup> John Protevi, ‘Deleuze, Guattari and Emergence’, *Paragraph*, 29:2 (2006), pp. 23- 24.

<sup>44</sup> Timothy Morton, *Ecology without Nature Blog*, <<http://ecologywithoutnature.blogspot.com/2010/11/hyperobjects-are-nonlocal.html>>, retrieved 01/08/2011.

<sup>45</sup> Deleuze, *Difference and Repetition*, pp. 230 - 232.

<sup>46</sup> Deleuze’s virtual is generally understood to be a heterogenous yet continuous space. Bryant’s interpretation, however, sees multiple specific virtuals unique to individual objects. This is further explored in his forthcoming *The Democracy of Objects*, of which an html version is available at <<http://quod.lib.umich.edu/o/ohp/9750134.0001.001/1:7?rgn=div1;view=fulltext>>, retrieved 22/09/2011.

qualities of that sound. We encounter sound through the prism of memory and experience, in the presence of cultural forces, as well as the material specifics of room acoustics and hi-fis, allowing for myriad different actualisations or ‘local manifestations’. Such circumstances produce different ‘listenings’ and hence different musical experiences.

We can connect this notion of sounds-as-objects with another important concept, that of *affordances*, a concept created by psychologist James Gibson in 1977, which has since migrated to various fields, including Human Computer Interaction and Interaction Design. Gibson describes affordances as follows, ‘The *affordances* of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill.’<sup>47</sup> Considering this notion within a more Deleuzian framework, Manuel Delanda describes the difference between *properties* and *affordances*,

A piece of ground does have its own intrinsic properties determining, for example, how horizontal or slanted, how flat, concave or convex, and how rigid it is. But to be capable of affording support to a walking animal is not just another intrinsic property, it is a capacity which may not be exercised if there are no animals around.<sup>48</sup>

Affordances, then, are not necessarily manifest or perceptible, unlike more quantifiable properties. As William Gaver, an interaction designer whose work has developed the concept of affordances, adds,

Affordances *per se* are independent of perception. They exist whether the perceiver cares about them or not, and even whether there is perceptual information for them or not [...] a glass of water affords drinking whether or not I am thirsty, a ball affords throwing whether or not anybody sees it, and a pit affords falling even if it is concealed by brush.<sup>49</sup>

Drawing on these definitions, we can see that *affordances have a reality which exceeds any particular presence or manifestation*, and as such, I propose that we consider them as belonging to the ‘virtual multiplicity’ or ‘hidden world’ of an object: these affordances are points in the multiplicity which allow for certain qualities to emerge through encounters. A sound or song has particular affordances that allow for the perceptual phenomenon of music to occur and most sounds or songs will afford multiple different listenings. House music may afford dancing to, but it may also afford thesis-writing to. Listening is in part constituted by the affordances, but it may also involve seeking out the different, hidden affordances a sound or song might possess. As will also be

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<sup>47</sup>James Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, 1986), p.127.

<sup>48</sup>Delanda, *Intensive Science and Virtual Philosophy*, pp. 72-73.

<sup>49</sup>William Gaver, ‘Technology Affordances’, *CHI 91 Proceedings of the SIGCHI conference on Human factors in computing systems: Reaching through technology*, ACM, New York, 1991, p. 80.

discussed, instruments have affordances that structure how we engage with them and that might be more-or-less ‘hidden’.

William Gaver presents a rather Schaefferian distinction between two different modes of listening, each likely to actualise a different quality of the encountered sound, calling these modes the ‘musical’ and the ‘everyday’:

The distinction between everyday and musical listening is between experiences, not sounds (nor even psychological approaches). It is possible to listen to any sound either in terms of its attributes or in terms of those of the event that caused it. For instance, while listening to a string quartet we might be concerned with the patterns of sensation the sounds evoke (musical listening), or we might listen to the characteristics and identities of the instruments themselves (everyday listening). Conversely, while walking down a city street we are likely to listen to the sources of sounds – the size of an approaching car, how close it is and how quickly it is approaching – but occasionally we might listen to the world as we do music – to the humming pitch of a ventilator punctuated by a syncopated birdcall, to the interplay and harmony of the sounds around us. This may seem an unusual experience, but hearing the everyday world as music is one way to understand what John Cage, for instance, is attempting in his compositions<sup>50</sup>

Similarly, Pierre Schaeffer and Michel Chion note that multiple listenings might experience the same sound differently, for instance, the sound of galloping:<sup>51</sup>

ordinary listening hears it as the galloping of horses, but different specialised listenings hear it differently; the acoustician seeks to determine the nature of the physical signal, the Native American Indian hears “the *possible danger of an approaching enemy*”, and the musician hears *rhythmic groupings*.<sup>52</sup>

A sound, then, might have multiple affordances and be able to afford both a ‘musical’ and an ‘everyday’ listening, as well as accumulate different ‘meanings’. Gaver, Chion and Schaeffer leave room for human agency in seeking out these different affordances, and there is always the possibility of changing our mode of listening and becoming aware of the rhythmic possibilities of horses hooves or the harmonics of a combustion engine. Furthermore, if a dog, bat, bee, nettle or house brick encounters a sound, we can reasonably speculate - after Jacob von Uexküll - that it will be different to any human encounter, primarily through the different physiologies of the

<sup>50</sup> William Gaver, ‘What in the world do we hear? An ecological approach to auditory source perception. *Ecological Psychology*, 5:1 (1993). p. 2.

<sup>51</sup> It should be noted that the ‘sound objects’ (*objet sonore*) of Pierre Schaeffer are conceptually different from objects as discussed here.

<sup>52</sup> Michel Chion, *Guide des Objets Sonores: Pierre Schaeffer et la recherche musicale*, (Trans John Dack and Christine North). (Paris: Éditions Buchet/ Chastel, 2009). Available at <<http://modisti.com/news/?p=14239>>, retrieved 23 February 2011, p. 25.

encountering-object involved, and their different capacities to be affected.<sup>53</sup> Different musics, then, can be actualised through encounters with the same sonic materials and there are countless musics emerging constantly through these encounters in the world. When we listen on any one occasion, we encounter only one local manifestation. Any encounter with a sound actualises but one possibility within the multiplicity: there remains a whole virtual realm of possible musics to be explored.

A multiplicity can be explored by a searching device, or what Gilles Deleuze and Manuel Delanda have termed a *probe head*, which is produced by coupling a sorting device with the ability to replicate with variation. Delanda describes such workings in the genesis of planetary life:

We can imagine our planet, before living creatures appeared on its surface, as populated by metallic particles which catalyzed reactions as they flowed through the Earth, in a sense allowing the planet to “explore” a space of possible chemical combinations, that is, allowing the planet to blindly grope its way around this space, eventually stumbling upon proto-living creatures.<sup>54</sup>

With this model in mind, I propose that listening, the actualisation of different qualities of sounds-as-objects, should be construed as being an *active and fundamentally creative act* and we should therefore see the sonic materials of the world as presenting to us a *challenge*. It might be recordings of cicadas, Merzbow, the hum of an air conditioning unit or Kanye West that we encounter in this way, all having the potential to be ‘music’ or ‘noise’, our role being to seek out the ways to engage with it and to perceive its affordances. As Francisco Lopez elegantly describes, ‘Music is listening to any sound with dedication.’<sup>55</sup> In this way, listening can be staged as a challenge. I recall the extreme joy of a friend one day when he claimed he had ‘discovered how to love Coldplay.’ When we are listening to or playing music, part of what we will be doing is trying to perceive or tease out the potential or the affordances we find in virtual multiplicity or ‘hidden world’ of sound - in a sense, then, what I am trying to advocate is that we should always be ‘trying to love Coldplay’.<sup>56</sup>

### **Strategies of Listening and Playing**

I would like now to discuss some of the interwoven and related strategies which might be taken in order to best explore these ‘hidden worlds’ of sounds. We can see how this investigation of

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<sup>53</sup> Discussed in Deleuze and Guattari, *A Thousand Plateaus*, p. 257.

<sup>54</sup> Manuel DeLanda, ‘Deleuze and the Open-Ended Becoming of the World’, <<http://www.diss.sense.uni-konstanz.de/virtualitaet/delanda.htm>>, retrieved 04/07/2011.

<sup>55</sup> Francisco Lopez, interview for Montreal Mirror October 2000, <[http://www.franciscolopez.net/int\\_mm.html](http://www.franciscolopez.net/int_mm.html)>, retrieved 22/08/2012.

<sup>56</sup> I should probably admit that this is not something I’ve managed to do yet...

sounds might be approached through the ‘acousmatic’ situation, isolating a sound from its source of production to allow for a different, ‘purer’ listening, as described by Pierre Schaeffer:

The acousmatic situation changes the way we hear. By isolating the sound from the “audiovisual complex” to which it initially belonged, it creates favourable conditions for *reduced listening* which concentrates on the sound for its own sake, as *sound object*, independently of its causes or its meaning<sup>57</sup>

Certainly, these tactics represent similar attempts to engage with a certain materiality of sound, detached from - or at least less reliant upon - the signifying potential, moving from an everyday to a musical listening. However, it may also be that it is through allowing it to acquire new meanings and take up a different place within the mesh of signification that we might engage with a sound. Often, a sound’s repetition within an improvisation can strip it of some initial signifying value and expose some ‘materiality’ (such as in the acousmatic ‘closed groove’ and ‘cut bell’ techniques), before by nature of its repetition it is ‘reterritorialised’ by some ‘meaning’ - however fleeting and transient - within the improvisation. The world of ‘expression’ and signs is just as real as that of bodies and materials. One must not value or even fetishise one domain over the other, but realise the complex interplay between the two and resist the reduction of anything to just one of these domains.

To ‘acousmatic’ approaches to the act of listening I would like to add the value of an *improvisatory approach* to engaging with sounds and instruments.<sup>58</sup> I propose two qualities of improvisation which make it a useful strategy for engaging with the ‘hidden worlds’ of sounds. The first such quality is *dynamic response to the material specificity* of a situation. Whilst all musics respond to material specificities and are embedded in their context to some degree, the situation is intensified the greater the degree of improvisation. Through making decisions dynamically and ‘in the moment’ with less commitment to (or reliance upon) predetermined forms and structures, when improvising one feels the imperative to respond to the very specific material conditions one encounters *in that moment*.<sup>59</sup> We are always dealing with *this* string, with *this* mixing desk, *these* speakers, *this* collaborator, *this* audience. One finds a certain part of a sample, a certain pitch relation with a collaborator, a certain resonance of the room. These things manifest themselves in

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<sup>57</sup> Chion, *Guide des Objets Sonores*, p. 1.

<sup>58</sup> Improvisation here is not considered as being diametrically opposed to composition, and all of my ‘composed’ pieces submitted contain a degree of improvisation. Nonetheless, I am here focusing more upon ‘freer’ forms of improvisation, wherein there is less commitment to any specific ‘style’ or ‘genre’, which includes the ‘non-idiomatic’ improvisation of Derek Bailey, John Stevens et al, along with contemporary minimalist improvisers such as Rhodri Davies and Radu Malfatti, the electronic improvisations of John Bowers and John Richards and noise / drone artists such as James Ferraro and Dolphins into the Future.

<sup>59</sup> one might argue that they often make their way back in, inscribed on the body through habit and technique or embedded in the architecture of an instrument: these are points that are considered in Chapter II.

improvised performance and are actively brought out through improvisation. The second quality of improvisation I wish to highlight here is an *openness to and active fostering of uncertainty*.

Although players may try and eliminate some of the unknowns of a performance, by playing on the same instrument, selecting carefully where or with whom one will play, it would fail to be an improvisation were all such unknowns removed. To improvise is to embrace some degree of uncertainty.

Importantly, we can see how identifying affordances can be bound up with uncertainty and improvisation. William Gaver has suggested we consider different types of affordances: alongside those that are perceptible, there are those that are ‘hidden’. According to Gaver, these hidden affordances may be revealed through a combination of exploration and chance encounter:

The notion of affordances may be extended to explicitly include exploration. For instance, [a] pivoting door handle [...] may appear to afford grasping, but passive observation will probably not indicate the affordance of turning it or using it to open the door. However, once grasped [...] *a random or exploratory* press downwards will convey tactile information revealing the affordance of turning the handle [italics my own].<sup>60</sup>

The uncertainty of an improvisation actively fosters chance encounters and facilitates serendipity, the possibility that combinations of objects brought about over the course of performance, through the demands of that performance, may reveal new affordances in sounds and technologies. Improvising becomes a way of exploring sounds and actualising different qualities, throwing light upon new possible musics which we grope at with ears, bodies and fingers. These qualities emerge through relations, and often it is through bringing objects such as technologies - for instance samplers, effects pedals, different sound systems, pieces of software - into relations with sounds that we can bring about the manifestation of hitherto unforeseen qualities.

Some performers build unpredictability into their set-ups in such a way as to force them to improvise and dynamically seek out affordances in sounds and instruments. John Bower’s *Ohm my God* is part of his *Victorian Synthesiser* project which investigates the sorts of synthesisers one could make entirely from parts available to the Victorians, which they themselves might have made ‘if they hadn’t been occupied with other things’.<sup>61</sup> *Ohm my God* asks that one

places a bunch of electrode plates into [...] a kitchen bowl with each plate connected to a low-voltage battery terminal. Pour in arbitrary components: resistors, capacitors, transistors, diodes, lengths of bare wire. [...] Stir the mixture [...] Throw in a magnet or two to create lumps of arbitrary circuitry.

<sup>60</sup> Gaver, ‘Technology Affordances’, p. 81.

<sup>61</sup> John Bowers and Vanessa Yaremchuk, ‘The Priority of the Component, or In Praise of Capricious Circuitry’, *Leonardo Music Journal*, 17, 2007, p. 39.

Perhaps pour in a little hot wax and leave to set if you especially like what you have and want to keep it.<sup>62</sup>

*Ohm my God* creates a situation where one is forced to engage with objects in an exploratory manner, dependent upon chance encounters, bringing about collisions which reveal affordances and different qualities that may have lurked in the volcanic depths of these objects.

A similar preservation of instability is undertaken by John Richards, whose *Dirty Electronics* project embraces a DIY approach to hardware electronics and attempts to ‘dislodge the ubiquity of digital technology.’<sup>63</sup> Discussing one of his instruments, he writes,

The Automaticiser is a copper-clad board etching that doubles as a touch controller... By touching the board's surface with the hands, different connections and resistances are created...The scrawling squiggly etches make predicting connections and breaks nigh impossible.<sup>64</sup>

Simon Waters is one of Richards’s contemporaries who also nurtures and cultivates unpredictability within his set-ups, this time building it into the musical software he develops and uses.<sup>65</sup> Waters introduces ‘dynamic adaptive interfaces’ which

rescale or remap input over time (of performance) such that the interface’s function changes dynamically under algorithmic control. In effect they work to produce interfaces which do not respond in an entirely consistent and predictable manner.<sup>66</sup>

Such approaches place the listener-performer in a situation where they must dynamically seek out affordances in objects - sounds and instruments- and bring forth the music from sound.

Computer programming might at first seem a surprising area where chance occurrences can arise, and where productive uncertainty can be nurtured, for it is common to characterise programming as an area devoid of accidents and unforeseen occurrences. I recall Joel Ryan from STEIM (STudio for Electronic Instrumental Music) speaking at the ‘Music and Machines’ conference at Newcastle University, describing how when programming he always knew what the results would sound like and thus was never surprised by his software-instruments, a view reflected by sound theorist Aden Evens;

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<sup>62</sup> Ibid., p. 39.

<sup>63</sup> John Richards, ‘Getting the Hands Dirty’, *Leonardo Music Journal*, 18, 2008, p. 26.

<sup>64</sup> Ibid., p. 30.

<sup>65</sup> Simon Waters, ‘Performance Ecosystems: Ecological approaches to musical interaction’, from <[http://www.ems-network.org/IMG/pdf\\_WatersEMS07.pdf](http://www.ems-network.org/IMG/pdf_WatersEMS07.pdf)>, retrieved 27/04/2010.

<sup>66</sup> Ibid., p. 12.

Whatever possibilities are opened up to the computer programmer, programming still differs fundamentally from a creative engagement with a musical instrument. For the programmer always knows precisely what he is aiming for. Programming is not an open-ended task where one sets out with a desire and improvises along the way. There is no moment of dabbling, no experiment, except inasmuch as one tests to see if one's code "works".<sup>67</sup>

Whilst this may be true of 'low level' programming, there exist for musicians graphical programming environments such as Max MSP and Pure Data, both 'extended implementations' of Miller Puckette's 'Max' paradigm, which allow for and even cultivate a playful, exploratory and improvisatory approach, wherein one can set out without clear ideas of what one is attempting to do, dabbling and improvising along the way. One is not presented with the task of writing lines of code to implement musical ideas (as in basic level languages such as Csound or C), nor is one presented with a timeline, sequencer and slots for 'voices' (as one often is in more conventional music software). Instead, one has libraries of 'objects'. These are not the objects of Object Oriented Philosophy, but visual representations of bundled bits of code which can be patched and connected in an open ended, modular system. I often playfully describe Max as 'programming watered down for musicians', and Puckette notes that it was designed to be as 'accessible as possible to people who are not professional computer programmers.'<sup>68</sup> Whatever possibilities are lost through the 'watering down', many are opened up by the possibilities to improvise, an affordance which is effectively coded in at lower levels where the principle of 'interconnectability' has been purposefully enforced. As Puckette writes, 'The extremely simple structure of the messages, as well as the standardization of the use of selectors such as bang, are meant to maximize the interconnectability between boxes and to minimize the amount of "glue" needed.'<sup>69</sup>

Puckette is aware of the difference between his own approach and more conventional ones within computer science, notably in his consideration of how 'fun' a piece of software is to use. Through being playful in this way, a software environment can invite musical explorations, and whilst he does not claim to have made Max fun, the very fact that he raises it as a legitimate parameter to evaluate shows an important agenda.<sup>70</sup> Max MSP and Pure Data are programming environments that are hugely hospitable to the blundering amateur who doesn't know precisely what he or she is aiming for (or if he does, he perhaps doesn't know exactly how to get there). Once one grasps the basics (turn the audio on and connect some sound-making objects to the output...), it is in fact possible to improvise, dabble and experiment. As Cascone writes, one can just 'just "mess around" until you obtain the desired result. Sometimes, not knowing the theoretical operation of a

<sup>67</sup> Aden Evens, *Sound Ideas: Music, Machines and Experience* (Minneapolis: University of Minnesota Press, 2005), p. 169.

<sup>68</sup> Miller Puckette, 'Max at Seventeen', *Computer Music Journal*, 26:4, 2002, p. 39.

<sup>69</sup> *Ibid.*, p. 36.

<sup>70</sup> *Ibid.*, p. 42.

tool can result in more interesting results'.<sup>71</sup> This isn't the only - or even necessarily the best - way to use Max MSP or Pure Data, and both have different affordances for the expert user whilst still being open to the playful amateur.

I encounter and attempt to cultivate such attitudes towards visual programming amongst others through workshops and teaching, regularly conducting workshops entitled 'Turn Your iThing into a Sensor Instrument!' which involve getting twelve or so people - generally people who have never used Pure Data before - to build simple synthesisers and drum machines in the environment and control them with touchscreen and accelerometer (tilt sensor) data from their iPhones or iPod Touches, before running the synthesis itself on the device. Most participants have seen Pure Data patches or heard mumbblings and rumours and assume it requires vast swathes of specialist knowledge to use in any capacity, and the (generally successful) dynamics of the workshop often involve simply ignoring these fears and plunging in, pretending it's the simplest thing ever. Help files are hacked, patch cables are plugged in, and sound comes out. Once shown the basics, people can make surprisingly effective patches within a half day workshop, playfully improvising with different modules, exploring creative ways of using the touch screen and tilt sensors and revealing affordances of both the iThings, the software and various sounds they begin to control. The 'mistakes' in participants' programming often contribute positively to their patches: in one instance, on a patch which controlled the pitch of a synthesiser with the accelerometer upon the phone, 'incorrectly' re-mapping accelerometer data sent negative note values to an object that wanted MIDI data, which actually allowed the pitch controller to be creatively used as a gestural 'on - off' switch as well.

Max MSP's openness to amateurs is also embedded in a recent version's 'autocomplete' function. When you enter the first letter for creating a module, a list of possibilities starting with that letter appears, from which you can select the one you want. A colleague, upon returning from some workshops at which some Max MSP developers had been present, told me that they had declared their intention to remove this autocomplete function, following a similar logic to Evens and Ryan, assuming that people who used Max MSP knew what objects they were going to use anyway and so it didn't really speed things up. However, this was apparently met with dismay by many users who declared that the autocomplete function was in fact an integral part of their creative process, as they would regularly type a couple of random letters, trying out autocomplete's suggested objects without knowledge of how they might work. As Cascone noted, it may be that the use of the software goes beyond the intentions of the designers, inadvertently facilitating such an improvisatory approach.

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<sup>71</sup> Kim Cascone, 'The Aesthetics of Failure: "Post-Digital" Tendencies in Contemporary Computer Music', *Computer Music Journal*, 24:4, 2000, p. 16.

In my own practice I have experience with approaching Max MSP in this playful, improvisatory and amateurish fashion. Fragments from my very first Max MSP patch from 2006 still operate within my most recent patch, and moreover are responsible for many of its best qualities through their myriad ‘malfunctions’. The patch performs a somewhat idiosyncratic variety of ‘cloud’ granular synthesis on the audio which passes through it: the audio is sliced into small fragments and played back with some broadly controllable randomisations determining parameters such as position in space, volume and pitch of playback. It was originally intended to be a rhythmic companion to my solo bass guitar playing, grabbing short chunks of my playing and repeating them back at me in a percussive manner. It did such a thing reasonably, but I began experimenting with increasing the number of ‘voices’ that played back the percussive sounds, until it accidentally began to resemble a granular synthesiser. Being somewhat amateurish in my coding at that time, I didn’t put any automated amplitude envelopes in to remove the audible clicks and pops of ‘non-zero crossings’ caused by samples starting, stopping or looping at non-zero amplitudes. Nor in my ignorance did I take measures to avoid trying to read from a ‘buffer’ (a table in which an audio sample is stored) whilst at the same time recording into it at the same point, something known to cause ‘unwanted glitches’ in the shape of clicks and pops. However, all of these artefacts of my bad programming brought an unforeseen and unique sound to the synthesiser, leading it to produce glorious crisp, crackling textures and transform any sounds passed through it in ways I find musically compelling. Throughout my remixing and reworking of tracks, I run sounds through this ‘malfunctioning’ granulator, which has the ability to transform all sorts of source materials into something I find more sonically interesting. The distinctive crackles and fragmented sounds can be heard on many of my own recordings: for instance, throughout *Glass Faced Man* (CD3), on ‘Mountain River Music I’ and ‘Mountain River Music II’ (CD6, tracks 8 and 9) and on ‘Yeoman Hay’ on the *Dovestones EP* (CD2, track 3). Attempts to rewrite the synthesiser ‘properly’ have all deprived it of its interesting features. The bad, improvisatory programming thus contributed to finding new ways of treating and using sounds as objects, as well as revealing certain sonic capacities of the computer and software themselves.

We can see, then, how improvisation and uncertainty, whether cultivated in hardware or software set ups, become methods for exploring and engaging with the ‘hidden worlds’ of the sounds and technologies we are using, through nurturing chance encounters that can actualise different qualities and reveal different affordances, and putting the performer in a situation where they can seek out and pursue these affordances without undue commitment to style or genre.

## Recontextualising, Reframing and Remixing Sounds

There are many further strategies that might open up the ‘hidden worlds’ of sounds. Potentials of sounds might be revealed when their context is changed and they are brought into a new network of objects and relations, Bryant’s ‘regime of attraction’, allowing for the actualisation of different qualities. One way in which this can happen is when sounds from our ‘ordinary’ sonic environments are brought into musical pieces.<sup>72</sup> As Gaver (and in a slightly different way, Schaeffer) suggest, this can prompt a new ‘musical’ listening to the ‘everyday’, revealing some affordances of which we were previously unaware. One improviser and sound artist who utilises ‘real world’ sounds to such effect is Lee Patterson, who blends field recordings with contact microphones used to amplify events which include Alka-Seltzers being dropped into glasses of water and the burning of peanuts or sparklers.<sup>73</sup> I recall, after one of his concerts, hearing the sound of people clapping: not just the ‘sound of people clapping’, but a glorious chorus of detail, as though my ears had attuned themselves to new sonic possibilities in the world and the very materiality of something that is normally heard only for its signifying potential was revealed. Patterson describes fostering ‘a creative approach to the discovery and making of music based upon concentrated or acute listening’, proposing that through such a strategy ‘one is able to develop new approaches to the world, whereby the everyday can become a rich source of music and audiological pleasure.’ Embedded in Patterson’s music is an idea of a world which is waiting to reveal sonic pleasures to us, and the development of an approach which ‘imbues day-to-day experience with a sense of wonder’ and involves ‘the creation of extraordinary sounds from the everyday.’<sup>74</sup>

Another related practice which can bring about different musical experiences in our sonic encounters is the use of silence as a framing device and as drawing attention to ‘extra musical’ or background sounds; a technique with a Cageian heritage which has recently been extensively explored by ‘electro-acoustic’ improvisers and minimalists, including players such as Mark Wastell, Rhodri Davies, and Radu Malfatti.<sup>75</sup> Malfatti is an Austrian trombonist whose career has encompassed jazz, free jazz, electro-acoustic improvisation and composition, who retains a purposeful dedication to challenging routines and habits as he feels them forming in his own work. Silence is used by Malfatti as a sort of ‘sonic microscope’, presenting the distinctions and judgements which make up ‘music’ and ‘background sounds’ in different ways. Malfatti brackets

<sup>72</sup> There is, of course, a whole history of the search for musicality in traditionally ‘non-musical’ sounds, involving John Cage, Luigi Russolo and others.

<sup>73</sup> Lee Patterson, *Seven Vignettes*, Shaddaz, SHA07, 2009.

<sup>74</sup> Lee Patterson in Brian Marley and Mark Wastell (eds.), *Blocks of Consciousness and the Unbroken Continuum* (London: Sound 323, 2005), pp. 132-134.

<sup>75</sup> For some, the preferred name for this manner of playing is ‘reductionism’, but for ease of distinction with the ‘reductionism’ I have been critiquing, I will use the term ‘electro-acoustic’.

intentional sounds with large swathes of ‘silence’. On works such as *Three Backgrounds*, a live recording where the playing is very sparse and quiet, the background noise of the concert, even including an accidental mobile phone interruption, fiercely battles with the sounds of any instruments being played.<sup>76</sup> As John Cage asserted, ‘THERE IS NO SUCH THING AS SILENCE’: there is always a background noise, and so ‘silence becomes something else--not silence at all, but sounds, the ambient sounds.’<sup>77</sup> *Three Backgrounds*, as is implied in the title, is as much about a documentation of the specific background noise of that concert. His release *Friedrichschofquartett* takes a different approach to ‘music’ and ‘background’ through using digitally inserted silences, thereby removing any of the incidental and background noises from the performances from which the piece is constructed. The background noise of our own listening environment is then brought to the forefront of perception.<sup>78</sup> In presenting such alternative approaches to what ‘background’ is, Malfatti brings us to explicitly question what ‘music’ is, perhaps sensing a glimpse of that virtual multiplicity, as well as asking where exactly we might consider ‘the work’ to exist and how its identity is tied to the sonic substance of any particular manifestation.

We can take any sound and put it on a pedestal through the tools of silence, recording and performance, bringing sounds into a certain focus whereby we might hear dimensions that were previously unknown to us, entering new relations and actualising new qualities that lay dormant. Malfatti asks,

do you think that it could be possible to "trick" our brain? Is it possible (or even useful) to try - through hard work - to become interested in precisely that information which is considered unimportant or known? [...] What happens if we elevate the known into the realm of unknown, the unimportant into the realm of important? We sharpen the consciousness and I think we then are able to become aware of the acoustic environment surrounding the music - and: the music itself!<sup>79</sup>

Malfatti invites us to recalibrate the thresholds of perception on multiple levels, though with his music it never feels like some empty or perverse scientific experiment, executed as it is with such fiery and brilliant intensity. Implicit in Malfatti’s and Patterson’s work is how music can change our listening habits and how this might spread beyond the act of listening to music, and into how we engage with the world: this is something that will be pursued in the final part of this chapter.

<sup>76</sup> Jürg Frey, Radu Malfatti and Michael Pisaro, *Three Backgrounds*, B-Boim 005, 2006.

<sup>77</sup> John Cage, *Silence* (Connecticut: Wesleyan University Press, 1973), p.50 and p.21

<sup>78</sup> Radu Malfatti, *Friedrichschofquartett*, B-Boim 003. 2005.

<sup>79</sup> Dan Warbuton, ‘Radu Malfatti interview’, *Paris Transatlantic*,

<<http://www.paristransatlantic.com/magazine/interviews/malfatti.html>>, retrieved 10/07/2009.

With our Object Oriented approach, we have seen how sounds can be heard differently and do different work as they are recontextualised and brought into new networks of relations: repeated, bracketed with silence, or brought out of the usual circumstance under which we encounter them. In a similar manner, materials which some listeners may through their (sometimes justifiable) prejudices consider to be ‘detritus’ can be ‘rehabilitated’ through sampling, recontextualisation and reworking. A case in point is the work of Belgian noise musician and improviser Lieven Martens who, as *Dolphins into the Future*, takes New Age arpeggios, dolphin and whale song samples and other such signifiers of New Age musics and moves them into different contexts, where they do a different sort of work, and different qualities emerge from them.<sup>80</sup> The materiality of the medium performs an intrinsic function within his work as Martens foregrounds the over-compression, tape-warble, background hiss, microphone noise from amateur field recordings and general degradation of the battered cassette tapes from which he weaves his improvisations. Influenced by Martens, I’ve tried to come to terms with my own strange attraction towards pastoral and saccharine pan pipes and flutes, through pieces such as *Mountain River Music* (CD6 tracks 8 and 9), wherein glossily recorded traditional Taiwanese music is playfully fed through my malfunctioning Max MSP patch, coating the instruments with digital dirt, muffling and shredding them, whilst trying to retain what I am drawn to in the materials, amplifying some euphoric beauty I find lurking in the recordings.<sup>81</sup> ‘*Mountain River Music*’ is the sound of an encounter between an ‘ethnic muzak’ and a malfunctioning piece of software, re-situating the pan pipes within a ‘post-digital’, glitch aesthetic, where they are able to do a different sort of work.

A method of operating upon a sampled sound, granular time-stretching provides another manner in which new sonic affordances can be roused from the depths of a sound’s ‘hidden world’. The granular technique involves slicing a sound into tiny ‘grains’, and using either a series of delays or creating a ‘cloud’ of these fragments, allowing (amongst other things) for a sound to be increased in length without its pitch being affected, or the pitch to be manipulated whilst the length remains the same. ‘Paul’s Extreme Sound Stretch’ - or ‘Paulstretch’ as it is known - is a granular time stretcher designed for very extreme stretches which ‘took over the internet for a week’ in late 2010 as it was used to stretch the track ‘U Smile’ by Justin Bieber, a teenage Canadian pop star.<sup>82</sup> The chirpy, bouncy original was transformed into a glacial epic, very reminiscent of Icelandic post-rockers Sigur Ros, and within a few weeks, upwards of one million people had listened to or

<sup>80</sup> *Dolphins into the Future*, *The Music of Belief*, Release the Bats Records, RTB 49, 2010. My obsession with pan pipes and flutes also manifests itself on some of the synths on *The Dovestones EP*, CD2 tracks 1 and 3, and the iPhone patch *ColossalPeacePipe*.

<sup>81</sup> Throughout my own practice I have done multiple remixes, which always involves trying to draw something new out of materials, trying to preserve something of the identity of the original whilst at the same time transforming the track and putting it to work in a different way; such an attempt can be heard on my remix of Jace Syntax’s ‘Jackin Around’ (CD6, track 2).

<sup>82</sup> available at <<http://hypermammut.sourceforge.net/paulstretch/>>, retrieved 03/05/2011.

downloaded the track from the ‘Soundcloud’ website, with masses of comments exclaiming how shocked they were that what they considered to be such ‘trash’ or pop-detritus had been transformed into a piece of such awe-inspiring beauty. It is not that the stretched version is superior, or ‘more beautiful’, rather that this encounter with technology allows the song to operate in a new context, crossing from one genre or listening community to another, and those who thought themselves superior to whatever charms the pop original possessed might be seduced by this mutation. My own duo with Atau Tanaka - described in more detail in Chapter II, and found on CD4 tracks 2, 3, 4 and 5 - uses granular synthesis on a battery of sounds to draw out possibilities that are often hidden in the original sounds, using the ‘freeze’ function on our granular samplers which stretches to infinity any moment in the sample buffer. Tibetan bowls, radio transmissions, splashing water sounds and Stevie Wonder are all frozen in time or stretched out into shifting granular textures.<sup>83</sup>

Whilst granular synthesis draws out new possibilities in sounds, it also raises issues of ‘identity’: is a stretched sound the same as the original? Are there certain thresholds of identity? Deleuze’s theory of multiplicities again gives us a toolkit to conceptualise these issues. Deleuze and Delanda write of *intensive* properties.<sup>84</sup> Intensive properties are those which cannot be divided without changing in kind. Heat is an intensive property, and heating water will cause it to change - evaporate - at a certain critical threshold. This critical threshold brings about a *phase transition* or bifurcation in the material (water), uncovering a new attractor layout, and hence a new set of qualities that might be actualised, described by this new attractor layout. Duration may be considered to be an intensive property, and transforming the duration of the sound (stretching it) may be seen to transform that sound itself at certain thresholds, thereby exposing new affordances (and hence, in the case of the Justin Bieber remix, allow the song to appeal to a different group of listeners, who are conditioned - culturally and otherwise - to perceive and gravitate towards this new set of affordances). It is clearly an issue of thresholds, for if the song is stretched by only a few seconds, one might not perceive it as being significantly different to the original. Similarly, durational compression of the song so it is only a few seconds shorter may not be seen as sufficiently transforming the original for one to say it was hugely different, but if a whole song is compressed into thirty seconds, or stretched to last a year, it becomes very different indeed.

We can conceive of signal processing or recording techniques in terms of encounters and translations of objects. The technologies that translate and transform sounds are not themselves transparent, with many granular engines leaving a great deal of artefacts upon the transformed song, and it is often these artefacts that give the stretched version the particular qualities that people may

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<sup>83</sup> See CD4, tracks 2, 3, 4 and 5.

<sup>84</sup> DeLanda, *Intensive Science and Virtual Philosophy*, pp. 25-26.

savour in it. This is certainly the case with ‘Paulstretch’, which has a very distinctive granular engine, and the slowed down Justin Bieber track should accurately be described as being the sound of ‘U Smile’ slowed down (or encountered) *by* Paulstretch. In this way, it is also illustrative of how it is only through putting objects (such as songs) into relations with other objects (such as granular synthesisers) that such capacities can be made visible and qualities made manifest.

One of the iPhone patches included in the submission, *GranSampler*, is a granular sampler which uses the same engine used in my performances with Atau Tanaka, but with no stored samples, simplified functionality and the ability to sample live using the built in microphone on the iPhone.<sup>85</sup> It is based on an even more simplified version designed to be used in a workshop with teenagers at the BEAM Festival (Brunel University, June 2011), though myself and Atau both found it enjoyable and effective, and have since begun to incorporate it into our own performances. Recorded sounds are played back by the granular engine, with the option of switching between ‘stretch’ mode, during which the x-axis of the accelerometer controls speed of playback, or ‘freeze’ mode, which allows the x-axis of the accelerometer to control the position of playback in the sample that it is ‘frozen’. The y-axis always controls the pitch of the sample. The patch invites users to record and explore sounds, stretching and freezing, speeding up and re-pitching, drawing out different affordances from whatever material they have recorded. Human voices can be transformed into endlessly shimmering, twitching granular soundscapes, and a percussively tapped bottle can be pitched down and looped into loping, booming rhythms. It serves as an invitation both to investigate the sounds one encounters and records, but also to investigate the transformative potentials of the granular engine, as the transformations rendered can be so significant and immediate.

We have seen how various musical ‘actors’ - pan pipes, dolphin sounds and Justin Bieber - enter into new contexts through encounters with people and technologies, influencing different musical practices and acquiring different ‘meaning’ within the realms of signification. In these ways, the ‘hidden world’ or virtual multiplicity of the sound, the structured design space of possible permutations, is explored. Oliver Bown et al’s discussion of the ‘Amen Break’ illustrates a similar phenomenon of a sound as an ‘actor’, migrating through different human musical activities and revealing different qualities as it enters into different relations, presenting a story that would be fit for a Bruno Latour study as we see this sound influencing human affairs.<sup>86</sup> The ‘Amen Break’ was a short drum sample from a 1969 track by The Winstons. It was first used as a sample by hip hop artists such as NWA and Mantronix in the 1980s, and then began to be used by hardcore breakbeat

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<sup>85</sup> Earlier versions of the iPod Touch do not have a built in mic. The sampler can also use special microphones that attach via the headphone socket or dock.

<sup>86</sup> Oliver Bown, Alice Eldridge and Jon McCormack, ‘Understanding Interaction in Contemporary Digital Music: from instruments to behavioural objects’, *Organised Sound* 14:2, 2009, p. 192.

artists in the early 1990s, who would play the loop drastically sped up, before forming the centre of jungle when it emerged as a distinct genre, with a throbbing half time bass bubbling up beneath the frenetic sample mangling. Without reducing the importance of humans and human agency too much, we can see how in this instance the story of an evolution of a musical style is populated by non-human actors and chance encounters. The ‘Amen Break’ itself is an ‘actor’ in this story, manifesting itself differently in different circumstances, and influencing human affairs, affecting behaviours, shaping dance moves and production styles, influencing the language surrounding the sonic culture, affecting development processes amongst music technologies as ‘hidden’ affordances on samplers are seen to be important and made clearly ‘perceivable’ on new tools.

Having proposed these various strategies for listening and playing that may form part of an openness in listening - an openness to sounds as objects and actors, having a virtual dimension and the capacity to intervene in and influence our musics and listening practices - I would now like to speculatively consider what the ethical implications of such an approach to listening might be, and how it might affect the way we live in the world.

### **Towards an Ethics of Listening**

In his discussion of Deleuzian ethics, Ronald Bogue discusses Deleuze’s concept of ‘vice-diction’, a way of acting in the present whereby one identifies and creatively engages with the ever present virtual dimensions. Bogue’s description of vice-diction begins to sound like a model for listening and playing not unlike the one explored here;

Vice-diction [...] entails both a process of exploring and hence constructing connections among differences, and a process of undoing connections in an effort to form new ones [...] Vice-diction frames the virtual in terms of the present moment, in which one explores the connections enveloped in the event that impinges on one’s situation and then experimentally induces metamorphic alterations of that situation.<sup>87</sup>

Bogue, then, situates a sincere but playfully exploratory, *improvisatory* manner of embracing life within a Deleuzian ethical scheme. We can see how the combination of openness to encounters combined with exploratory engagement with the sonic materials of the world that characterises improvisation has implications for how we exist in the world, and more specifically, how we exist in the world *alongside and amongst others*, whether those others are people, animals, plants or rocks.

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<sup>87</sup> Ronald Bogue, *Deleuze’s Way: Essays in Transverse Ethics and Aesthetics* (Aldershot: Ashgate, 2007), p. 10.

Jane Bennett crafts an eloquent and vitalism-tinged materialism which she calls ‘Thing Power’. Bennett’s ‘Thing Power’ connects a desire to be aware of and talk about real ‘things’ (what I have termed objects) with ecological concerns; she tells us ‘I pursue this project in the hope of fostering a greater recognition of the agential powers of natural and artifactual things, greater awareness of the dense web of their connections with each other and with human bodies, and, finally, a more cautious, intelligent approach to our interventions in that ecology’.<sup>88</sup> Bennett explicitly connects her work with Spinoza’s ethics, writing,

Nature according to Spinoza is a place wherein bodies strive to enhance their power of activity by forging alliances with other bodies in their vicinity ... This process of mode-ifying is never under the full control of any one body, for it is always subject to the contingency of aleatory encounters with other modes...The relevant point for thinking about thing-power is this: a material body always resides within some assemblage or other, and its thing-power is a function of that grouping. A thing has power by virtue of its operating in conjunction with other things<sup>89</sup>

‘Thing-power’, then, entails an increased awareness of the connections we can make and the meshwork we dwell in. Speculating on the political and ethical implications of this, Bennett writes, ‘Its political potential resides in its ability to induce a greater sense of interconnectedness between humanity and non-humanity. A significant shift here might mobilise the will to move consumption practices in a more ecologically sustainable direction’.<sup>90</sup>

Bennett’s materialism is deliberately situated against the ‘other’ materialism we hear spoken of, that of capitalist consumption. Such a materialism treats everything as being waste, or quickly on its way to becoming waste. It is easy to have very little engagement with the actual materiality of ‘things’ and we may often be in denial of that very materiality when we do not think about what happens to our by-products and waste. Bennett, however, speaks in lively poetics of an encounter with such discarded waste (which includes a dead rat, a bottle cap and a smooth stick of wood), an encounter in which the waste asserts itself as being distinct and individuated *things*, objects or actors which could affect humans and intervene with human affairs. Bennett suggests that through fostering a sort of knowingly naive receptivity to these things of the world, even if it involves a little anthropomorphising, we will be left open to such encounters, and thus open to an awareness of our own embedded and crucially interdependent status in the world. In this way, Bennett suggests ways in which our philosophy of listening and approach to our encounters with the musical objects of the world may be related to - and even be part of - a larger ethical project.

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<sup>88</sup> Jane Bennett, ‘The Force of Things: Steps toward an Ecology of Matter’, *Political Theory*, 32:3, 2004, p. 349.

<sup>89</sup> *Ibid.*, pp. 354 - 5.

<sup>90</sup> *Ibid.*, p. 367.

Such a discussion of sounds, ethics and environments inevitably summons up the spectre of R Murray Schafer. His work draws attention to the importance of our sonic environments, and has been important in opening up a space in which they can be articulately discussed and seriously considered; as Brandon LaBelle writes, ‘Schafer’s belief in the power of sound to either harm or uplift an individual, as a marker for environmental health or damage, and as a necessary medium for the construction of the built environment, raises sound and aural culture into the center of attention while adding a refined vocabulary for pursuing and refining understanding on the materiality of sound and its impact’.<sup>91</sup> However, the difference between the ethics implied by the logic of multiplicity and that suggested by Schafer must be noted, and is best illustrated by Schafer’s opinion of aeroplanes, as discussed by David Toop. Schafer suggests that ‘No sound contains less interesting information than that of an airplane’, and in critical response Toop draws our attention to sound artist Toshiya Tsunoda’s work, a recording made on two microphones placed in a field, during which,

An aeroplane crosses the sky. We hear its approaching growl, lower and higher frequencies added, then subtracted as it passes, the sound reflections from the ground mixing with reflections from other objects and the Doppler effect of rising and descending pitch that finally rises again as the lower frequencies of the engine become less and less audible in the distance. At least two complex sounds coexist, both of them fluctuating in different ways, and concentrating on both simultaneously is not easy... Each time I listen to this aeroplane on my iTunes player, I hear new aspects to the sound. In fact, the low frequency is the last part of the sound to dissipate, but this was masked by the sensation of higher frequencies quickly ascending in pitch, a band of noise that moves beyond the upper range of human hearing.... Not the least interesting sound in the world then; rather *a test of our desire, or lack of desire, to discover interest.*<sup>92</sup> [italics my own]

Toop’s suggestion here that listening to a sound, regardless of how ‘natural’ it may be, can be construed as a ‘test’, is much more in line with the ethics of listening I propose here, and illustrates some key problems with Schafer’s approach: whilst he may start out listening to the world, he quickly imposes a hierarchy upon what is worthy of listening. Aesthetic judgements always creep in, with any post-industrial or mechanical sounds inevitably being judged as ‘bad’. This is in part because a Schaferian listening is often not to sound-as-sound, a material to be reckoned with on its own terms, but a listening which ties sounds to places and assigns to them to an often reductive, representative role. The aeroplane is reduced to being a representation of the industrial revolution,

<sup>91</sup> Brandon LaBelle, *Background Noise: Perspectives on Sound Art* (New York: Continuum, 2007), p. 203.

<sup>92</sup> David Toop, *Haunted Weather: Resonant Spaces, Silence and Memory*. (London: Serpent's Tail, 2004), p. 68.

modernity and all the problematic aspects of our so-called 'progress', and never actually *listened* to.<sup>93</sup>

Whilst there are many things to admire in Schafer, if the world were ruled by Schaferians then we would no doubt be deprived of much of the heady thrills of noise, metal, gabba and other musics which scale the heights of decibel meters. Perhaps such musics would be permitted in obscure anechoic chambers, or at low volumes so as to deprive them of their true force of being, and those with a thirst for noise would be forced to make extravagant trips to powerful waterfalls or other such natural noise-makers in order to quench their appetites. This alone is enough to draw attention to the limits of Schafer's approach: so much of the music of the twentieth century risks being excluded from our lives. As Francisco Lopez has noted, 'Schafer's "tuning" is basically a "silencing", as if "noisy" were an evil condition in itself and also an exclusive feature of post-industrial human-influenced world'.<sup>94</sup>

Here we should turn to Object Oriented philosopher and ecologist Timothy Morton. Whereas Schafer's environmental ethics may be rooted in anti-industrialism and ideologically deployed notions of human health, Morton strives for an 'ecology without nature'. For Morton, the very concept of 'nature' works against the most pressing issues in ecological thought, for it is an idealised, transcendent other; a fantasy of an 'outside'. Morton urges us to acknowledge the 'mesh' that connects everything in the cosmos and to think 'the ecological thought', which he at one point describes as 'the thinking of interconnectedness.' Crucially for us, this thinking of interconnectedness - a difficult task - comes as much through praxis as it does reflection, a praxis of being 'open':

it involves becoming open, radically open - open forever, without the possibility of closing again [... ]I would like stay for as long as possible in an open, questioning mode. This open mode is intrinsic to whatever we inadequately call the environment.<sup>95</sup>

Morton helps pave the way toward a de-romanticised approach to listening, as open to the possibility of beauty in the hum of distant traffic as well as the rustlings of crickets. His work shows us how even when we depart from the 'environmentalism' of the Schaferians, our approach can still be connected to wider issues and an ethical project. We can transform ourselves, remaining open to the possibilities that ultimately constitute the act of *living*, whilst simultaneously becoming better at

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<sup>93</sup> R. Murray Schafer, *The Soundworld: Our Sonic Environment and the Tuning of the World* (Vermont: Destiny Books, 1994).

<sup>94</sup> Francisco Lopez, 'Schizophrenia vs. l'objet sonore: soundscapes and artistic freedom', <<http://www.franciscolopez.net/pdf/schizo.pdf>>, retrieved 15/08/2011.

<sup>95</sup> Timothy Morton, *The Ecological Thought*, (Cambridge, Mass: Harvard University Press, 2010), p. 7.

doing this together, along with all the human, non-human, organic and inorganic matter that we co-inhabit the planet with, the ‘things’ whose agency and powers Bennett wants us to be aware of.

An idea of ‘radical openness’ to the world reconnects to certain interpretations of Deleuzian ethics. In interview, theorist Brian Massumi rather succinctly describes Deleuzian-Spinozan ethics as ‘being where you are - more intensely.’<sup>96</sup> This intensity should be construed as being more open to affective potential in the world, and one clear way in which we can do this is through opening our ears. Through such intensive being, one maintains the potential to break from habit, routine and an expectation that the future will be a mere repetition of the past:

It might force you to find a margin, a manoeuvre you didn’t know you had, and couldn’t have just thought your way into. It can change you, expand you [...] To move in an ethical direction, from a Spinozan point of view, is not to attach positive or negative values to actions based on a characterization or classification of them according to a pre-set system of judgment. It means assessing what kind of potential they tap into and express [...] Ethics is about how we inhabit uncertainty, together.<sup>97</sup>

‘Inhabiting uncertainty, together’ sounds like a rather fitting description of improvisation. The acts of exploring ‘hidden worlds’ and seeking out affordances (‘assessing what potential they tap into and express’), adapting to materials and circumstances, is not something done alone, but something that might involve humans, sounds, strings, resonators, circuits, computers, speakers, wires and more. The question becomes, what assemblages can be made, what connections established, so that we best explore the potentials of those objects involved?

Whilst we have seen how silence can be useful in guiding our listening as a framing device, Brandon LaBelle’s considerations of the politics of noise and silence consider how can ‘silence’ also be as potentially violent as ‘noise’. Drawing on Emmanuel Levinas and considering the ever present noise of modern city living, LaBelle suggests that noise is always noise from an *other*. As LaBelle describes, ‘my intention is to stage noise as an ethical encounter from which to generate care about the unknown, the other.’<sup>98</sup> Moving away from R Murray Schafer, and coupling LaBelle’s Levinasian ethics with our own, and the work of Morton and Bennett, I propose we consider encounters with the ‘other’ in an expanded sense. It is not just a human other, but a strange and non-human other, and it’s bound to be noisy. To exist is to be noise for someone or something. If for LaBelle and Levinas such an encounter is important in structuring our own subjectivity, we might speculate about the nature of subjectivity formed through our ethical encounter with the noisy, non-

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<sup>96</sup> Brian Massumi and Mary Zournazi, ‘Navigating Movements: A Conversation with Brian Massumi in, Mary Zournazi (ed.), *Hope: New Philosophies for Change* (New York: Routledge, 2002), p. 212.

<sup>97</sup> *Ibid.*, p. 214.

<sup>98</sup> Brandon LaBelle *Acoustic Territories* (New York: Continuum, 2010), p. 83.

human otherness of the world: it might be a subjectivity that embraces the successive ‘humiliations’ or decentring of the Western ego through Copernicus, Darwin and Freud, relating to Object Oriented Philosophy’s project to de-centre the human in philosophical thought.

## Summary

The approach to sound and listening which has been put forward throughout this chapter is not an attempt to suggest that we must love all sounds and all songs at all times, that when we don’t like a song or sound we are failing ourselves. We may be irritated by mindless chattering on trains, angrily awoken by birds on a summer’s morning, or kept awake by the infuriating snoring of a loved one, never able to bathe in any hidden beauty of such sonics. Not all sounds provide the same affordances for our ears, minds, bodies and whatever musical technologies we may have. We should, however, be wary of assuming that our encounters with sounds are exhaustive of their being, and equally wary of reducing sounds to but one representational aspect of their being, or some simplistic notion of their materiality. Sounds are *objects*, and as such they possess ‘hidden worlds’ that, following Bryant’s reading of Deleuze, we might consider to be structured as a virtual multiplicity, describing hidden affordance and unactualised qualities.

Through maintaining an openness in our practices we can position ourselves to explore these unmined depths of possibilities of sounds and instruments, and we can couple this with a nurturing of improvisation, fostering the sorts of chance encounters and dynamic responses to situations that can reveal and explore these ‘hidden worlds’. Furthermore, we might recontextualise, process, remix and reorder musical materials to actualise different qualities in the virtual multiplicities of their being. As a probe head bringing into being multiple, diverse musics, let us improvise with and explore sounds and musical forms, and let us remain open to the possibilities of sound, whether it be organised and structured and channelled down the radio, or ‘orchestrated’ by the wind in the woods. Let our work with sound be an exploration and extension of our capacities to affect and be affected, and of the withdrawn nature of the sounds themselves: the secret lives of sine waves and the inexhaustible being of birdsong.

## Chapter II: Embodied Encounters

In the previous chapter we established our Object Oriented and Deleuze-influenced philosophical framework, and used it primarily to consider the withdrawn being or ‘hidden worlds’ of sounds, touching upon how instrumental set-ups might help us to reveal and engage with these. Continuing this approach, we will now consider new instruments (such as laptops, sensor instruments and electronics set-ups) as ‘objects’ or ‘actors’. Understood in this way, new instruments can be said to have ‘hidden worlds’ - *unique affordances* and *singular qualities* - which we can seek out if we approach them with sufficient openness, and without overly restrictive notions of what music, listening and performance are. Rather than being passive tools which submit to our will, they are lively actors which can shape and influence our performing and music.

The way in which we discuss our musical encounters will be expanded to consider in particular the *embodied* nature of these encounters. Listening is situated not just in the ears or mind, but involves the whole body and the instrument one plays. I will use this idea of embodied listening to problematise an overt focus on ‘gestural legibility’ in new instruments, suggesting instead that body movements (gestures) are part of the totality of a musical performance, and it does not matter if they can be clearly seen to trigger or modulate sounds. It will be argued that such a focus on ‘gestural legibility’ may act to hinder explorations of the potentials of new instruments, and that we must approach them *on their own terms* rather than shoehorning them with preconceived ideas of what music and performance should be. I will then suggest some alternative ways in which we might consider our performance-relations with laptops and new instruments, offering an account of my own practice working with various technologies and interfaces, in particular my work which explores the potential of the Apple iPhone as a musical instrument.

### The Embodied Mind

An emerging view in cognitive science describes the mind as ‘embodied’.<sup>99</sup> Embodiment as I use it here is not just about the ‘physical manifestation’ of things in the world, but about the relationship between the way we move and the way in which we might construct something approaching ‘meaning’.<sup>100</sup> Drawing on the history of the concept of embodiment within phenomenological thought, tracing the idea through Husserl, Heidegger and Merleau-Ponty, computer scientist Paul Dourish notes, ‘embodiment is about the relationship between action and

<sup>99</sup> Margaret Wilson, ‘Six Views of Embodied Cognition’, in *Psychonomic Bulletin and Review*, 9:4, 2002, pp. 625-636 and Andy Clark and David Chalmers, ‘The Extended Mind’, *Analysis*, 58:1, 1998, pp. 7 - 19.

<sup>100</sup> Paul Dourish, *Where the Action is: The Foundations of Embodied Interaction* (Cambridge, Ma: MIT Press, 2004), p. 125.

meaning'. In this sense, embodiment can be used to trace connections between the way we move in the world - our physical existence and bodily experiences - and more complex cognitive processes or concepts such as 'meaning'.<sup>101</sup> Through embodiment, we can examine some of the relations between the way we move and the act of listening, ultimately relating the moving body to the generation of 'musical meaning', even though the exact nature of that 'meaning' may remain unclear.

I will ground my discussion with reference to two related theses from cognitive science: firstly, the mechanisms we use to perceive the world about us may also provide the basic neural structures with which we perform complex reasoning.<sup>102</sup> Secondly, aspects of cognition are better understood when we don't limit our studies to the brain, but consider the interactions between our bodies and environments.<sup>103</sup> Whether or not we accept all of the tenets of these theories of embodiment and extension, upon extrapolation they nonetheless have interesting implications for how we might conceive of the relationship between listening, gesture and playing.

Cognitive processes can be seen to be rooted in our lived, *bodily* experiences. Psychologist Margaret Wilson writes, 'Mental processes that originally evolved for perception or action appear to be co-opted and run "off-line", decoupled from the physical inputs and outputs that were their original purpose, to assist in living and knowing.'<sup>104</sup> As an example, Wilson notes how explicit counting on fingers can become mere subtle nudges of knuckles, and then just 'the priming of motor programs but no overt movement.'<sup>105</sup> Similar conclusions emerge from the works of cognitive linguists George Lakoff and Mark Johnson in their assertion that 'The same neural and cognitive mechanisms that allow us to perceive and move around also create our conceptual systems and nodes of reason... Because our conceptual systems grow out of our bodies, *meaning is grounded in and through our bodies*.'<sup>106</sup> This idea that the neural structures which we use for perception may also be used for more complex cognitive tasks suggests that our ability to reason and even the way in which we construct notions such as 'musical meaning' comes from our experience of the material, physical world, and that our perception of that world is itself shaped by our encounters with it.

A process known as symbolic off-trading is one of the ways in which we can see our bodies playing a role in our reasoning and effectively 'doing cognitive work'. This could manifest itself in numerous ways, as Wilson writes,

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<sup>101</sup> Ibid., p. 126.

<sup>102</sup> Lakoff and Johnson, *Philosophy in the Flesh*, pp. 19-20.

<sup>103</sup> Wilson, 'Six Views of Embodied Cognition'.

<sup>104</sup> Ibid., p. 633.

<sup>105</sup> Ibid., p. 633.

<sup>106</sup> Lakoff and Johnson, *Philosophy in the Flesh*, pp. 4 - 6 , italics my own.

symbolic off-trading need not be deliberate and formalised; but can be seen in such universal and automatic behaviours as gesturing while speaking. It has been found that gesturing is not epiphenomenal, nor even strictly communicative, but seems to serve a cognitive function for the speaker, helping to grease the wheels of the thought process that the speaker is trying to express.<sup>107</sup>

Beyond our own bodies, the ‘active externalism’ or ‘extended mind’ thesis of Andy Clark and David Chalmers suggests that we also enter into ‘cognitive systems’ with components in our environment; using a tool or technology, the human body

is linked with an external entity in a two-way interaction, creating a coupled system that can be seen as a cognitive system in its own right. All the components in the system play an active causal role, and they jointly govern behavior in the same sort of way that cognition usually does. If we remove the external component the system’s behavioral competence will drop, just as it would if we removed part of its brain. Our thesis is that this sort of coupled process counts equally well as a cognitive process, whether or not it is wholly in the head.<sup>108</sup>

Not only are our cognitive processes grounded in the body, but moving the body (or further acts of perception) can be an *active part* of these processes; moving and thinking can be construed as being embedded within each other and the ways in which we move our bodies can be construed as playing a role in the way we generate meaning in our everyday behaviours. Furthermore, our environment and the tools we use in that environment can be seen as coupled with and part of our cognitive apparatus.

## Embodied Listening

Wayne Bowman asserts that such research in embodiment may offer strong grounding for claims about the central role of the body in musical experiences, writing,

If it is indeed the case that rhythmic / temporal features in music perception / cognition arise from activation of substantial parts of the same neural circuitry involved in bodily movement and action, the bodily dimension so often evident in acts of musical listening (and music making) is not just a function of fortuitous resemblance, representation, or association. If listening and music making activate the same neural circuitry as bodies in motion, we have a material basis for the claim that bodily action is an indelible and fundamental part of what music, *qua* music, is.<sup>109</sup>

<sup>107</sup> Wilson, ‘Six Views of Embodied Cognition’, p. 629.

<sup>108</sup> Clark and Chalmers, ‘The Extended Mind’, p. 7.

<sup>109</sup> Wayne Bowman, quoted in David Borgo’s *Sync or Swarm* (New York: Continuum, 2007) p. 50.

Embodiment and extension theses suggest that we must recognise that listening involves more than just the ears, but the whole body, and that music should not always be separated from the bodily movements we associate with it. The way in which we move when we encounter sounds and the way we move when we explore and play instruments can be seen as part of the cognitive processes involved in the perception and cognition of music, not just something superfluous or even something communicational, but part of how we generate musical meaning in our sonic encounters.

An interesting example of symbolic off-trading in music perception and cognition comes from a study of capoeira by ethnomusicologist Greg Downey. He describes watching a performance, observing the non-participating musicians playing along on their own phantom instruments, tapping fingers and hands, and how this was never simply tapping along to the rhythm, but would involve complex counter-rhythmic layers. He writes, '[The] incorporation of bodily skill conditions a practitioner simultaneously to hear the rhythm that is being played by another and to feel different, complimentary rhythms or variations emerging from his or her own fingers and hands.'<sup>110</sup> The movements of the practitioners were not simply 'on the beat', but falling in between the beats, as the music is experienced and reconfigured through the body. These movements of the hands need not be seen as a conscious response to the sound after it has been listened to, but as part of the listening process. Downey suggests that within the context of people who have acquired instrumental or dance-related proficiency, aspects of the process of listening whilst dancing or playing upon these instruments are embedded in the body.<sup>111</sup> Music becomes generalized in the limbs, not localized only in a relation between the ears and mind, and listening and moving becoming intimately intertwined.

The 'superfluous', theatrical gestures that many musicians put into their performances may be seen as part of this 'symbolic off-loading' or embodied listening.<sup>112</sup> As Marcelo Wanderley et al note in their research into ancillary gestures of clarinetists, such gestures 'are not randomly produced or just a visual effect, but rather they are an integral part of the performance process.'<sup>113</sup> A theory of embodied listening allows us to conceive of these movements as an essential part of the way in which we experience music. Wanderley observes clarinet players performing the same piece with instructions on varying degrees of 'immobility' that they must display in their playing,

<sup>110</sup> Greg Downey, 'Listening to Capoeira: Phenomenology, Embodiment and the Materiality of Music', *Ethnomusicology*, 46:3, 2002, p. 498.

<sup>111</sup> *Ibid.*, p. 499.

<sup>112</sup> Atau Tanaka, 'Music Performance Practice on Sensor- Based Instruments', and Claude Cadoz and Marcelo Wanderley's 'Gesture – Music', both in Marcelo Wanderley and Marc Battier (eds.), *Trends in Gestural Control of Music* (Paris: Ircam, 2000).

<sup>113</sup> Marcelo M. Wanderley, Bradley W. Vines, Neil Middleton, Cory McKay and Wesley Hatch, 'The Musical Significance of Clarinetists' Ancillary Gestures: An Exploration of the Field', *Journal of New Music Research*, 34:1, 2005, p.98.

It was very difficult for players to completely suppress their learned motor programs when instructed to perform in an immobilized manner. The clarinetists made many of the same movements that they would have used in a standard performance, but on a smaller scale (the magnitude of the movements was reduced). We may infer from this finding that certain movements are so ingrained in a clarinetist's mental representation of a piece that it is not easy to completely inhibit or alter them.<sup>114</sup>

This is the case of a learned piece, where we see certain motor movements binding to certain musical gestures. I propose that even when we move away from learned movements and the sort of automatic behaviours we may find from a clarinetist playing the same piece, and put ourselves with unfamiliar instruments playing improvised music, the act of playing and the movements we make upon our instrument become an active probing, a making-sense-of-sound which involves the whole body and the instrument we are using. I notice this even when composing on the laptop without any midi controller: as soon as the lion's share of my attention is captured by the musical task in hand and I am fully engaged in listening, I will sway, twist and nod, little dances distributed about my body, that become potentially embarrassing when working on trains and in cafes. Embodied listening lets us consider how all of these 'superfluous' or non-musical actions that make up our musical experiences, whether they be dancing with flailing arms to funky house or passionately playing air guitar to black metal, can be seen as essential to the listening process and the lived totality of the music as it is experienced by an embodied mind.

### **Laptop Performance and Gestural Legibility**

We can now bring this notion of the embodied nature of our musical encounters to a consideration of some approaches within contemporary performance practices utilising new musical technologies. We often find a certain anxiety amongst many performers using instruments which lack the cultural familiarity of traditional instruments; performance set-ups that might involve laptops, sensor instruments or amalgamations of sequencers, effects processors, table top guitars and mixing desks. This anxiety often centres around concerns about how some 'other' - be it the audience or another performer - will be able to comprehend the intent of the performer, understand the 'instrument' and be sure that some human agent is making decisions. This is often couched in terms of 'gestural legibility', and manifests itself in attempts to create and perform clear correlations between the performer's bodily movement and the causation or modulation of sounds.

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<sup>114</sup> Ibid., p.111.

What I will call, after Kim Cascone, the ‘concert hall tradition’ - having a performer or group of performers playing on some sort of stage to an entirely separate, attentive audience - contributes to this anxiety through perpetuating a series of expectations and assumptions about music and musical performances which has survived and permeated the way in which experimental, electronic and dance music performances are construed, presented and received.<sup>115</sup> As Cascone suggests, performances in such ‘concert hall’ scenarios (rarely literally in concert halls) foster the expectation of something visual - a spectacle - which can be problematic for a laptop performer, as it ‘invokes the standard performer–audience polarity, which places the performer in the role of a cultural authority. During laptop performances, the standard visual codes disappear into the micro-movements of the performer’s hand and wrist motions, leaving the mainstream audience’s expectations unfulfilled.’<sup>116</sup>

Of laptop performances, it has become a somewhat tired cliché to say ‘he could’ve just been checking his email’. Tired, but powerful nonetheless, and forever haunting laptop performances, underpinning many of the approaches taken in digital instrument design or ‘post laptop’ practices which attempt to extend or negate the laptop. In a paper given at NIME (New Interfaces for Musical Expression), Takuro Lippit (aka DJ Sniff) of STEIM describes some of the rationale behind his own turntable-controller-laptop set-up as being influenced by the ‘illegibility’ of laptop performances; ‘Building a system that was coherent to the audience was [a] strong motivation for this project. This was a reaction to the typical laptop musician and performance that was becoming prominent at the time.’<sup>117</sup> Another NIME paper discussing digital instrument design situates laptop performances as the flawed model against which digital instrument designers must work, writing, ‘These performances can lack a sense of active creation, as well as a visual connection between the performer’s actions and the audio output [...] A disconnect exists between the ostensible producer of the music and the music itself: there is no *visible causal link* apparent between the performer’s gestures and the resulting audio’.<sup>118</sup> For many, the problem is located in the lack of a moving body being seen to cause sound with gesture. Instrumental gesture, understood in terms of a moving body ‘causing’ sound, is seen as essential to an audience’s experience of a performance. Even Miller Puckette, the creator of Pure Data and hence perhaps a ‘godfather’ of live laptop performances suggests that some sort of gestural legibility would help audiences:

<sup>115</sup> Kim Cascone, ‘Laptop Music – counterfeiting aura in the age of infinite reproduction’, available at <<http://www.itu.dk/stud/speciale/auditorium/litteratur/musik/Kim%20Cascone%20Laptop%20Music%20v2.pdf>>, retrieved 12/09/2011, p. 1.

<sup>116</sup> Kim Cascone, ‘Grain, Sequence, System: Three Levels of Reception in the Performance of Laptop Music’, *Contemporary Music Review*, 22:4, 2003, p. 102.

<sup>117</sup> Takuro Lippit, ‘Turntable Music in the Digital Era: Designing Alternative Tools for New Turntable Expression’, *Proceedings of the 2006 International Conference on New Interfaces for Musical Expression (NIME06)*, p. 73.

<sup>118</sup> Mark Zadel and Gary Scavone, ‘Different Strokes: a Prototype Software System for Laptop Performance and Improvisation’, *Proceedings of the 2006 International Conference on New Interfaces for Musical Expression (NIME06)*, p. 168.

There must be a direct and comprehensible relationship between the controls we use and the sounds we hear. (This would not be a bad thing from the audience's point of view either.) A performer who pushes a button to start a sequence is not showing us how the music was really made; all we learn about the music is what our ears can tell us.<sup>119</sup>

With the weight of consensus against them, rarely does a performer want to be seen playing his music motionless behind a laptop, even if the music was composed whilst motionless behind a laptop, and even if reproducing it live demands little more than being motionless behind a laptop. Extending laptops through new interfaces, then, is often informed by attempts to create and then perform 'gestural legibility', linking a moving body to sound created or modulated.

However, when we think 'gestural legibility' through in terms of embodied listening, it emerges as something of a red herring. The movements a performer makes can be construed as being meaningful as part of the embodied totality of the music, regardless of whether they are triggering or modulating sounds. It is certainly one way of illustrating an understanding of how a new instrument might be working, but it must not be assumed to be an axiomatic principle of instrument design. Greg Corness complicates any ideas of there being clear, understandable relations between gesture and sound that contribute to musical meaning, citing as one example the way in which a group of his students all appreciated and 'understood' Ligeti's *Continuum*, believing it to be an electronic piece and ascribing meaning to it in this context, only later realising it was played on a harpsichord. As Corness notes, his students 'managed to form an understanding of the music with a false conception of its production. Such examples raise questions concerning [the] proposal that we understand music with the aid of the gesture that produced it.'<sup>120</sup> Further to this, Corness notes the way in which particular virtuosic performers are known for making their playing look easy. An understanding of how difficult a piece is, or how skilled a performer is at playing it, often relies on an understanding of both piece and instrument that many audience members do not possess anyway. During classical or rock concerts, a significant proportion of the audience may not be able to clearly observe how the performers are moving and creating sound: the actual hand movements of a virtuosic pianist may only be as clear as those of a virtuosic laptop musician. As Corness suggests, a lot of people's 'knowledge' about instruments and performances may be reliant upon acceptance of cultural norms and familiarity. The piano arouses less suspicions than the laptop: it's an established performance tool, far harder to check emails on than a laptop, wildly

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<sup>119</sup> Miller Puckette, 'Something Digital', version available at <<http://crca.ucsd.edu/~msp/Publications/cmj91-pierce.ps>>, retrieved 01/08/2011, p. 7.

<sup>120</sup> Greg Corness, 'The Musical Experience through the Lens of Embodiment', *Leonardo Music Journal*, 18, 2008. p. 23.

inefficient for word processing or annual accounting, whilst the laptop enters the stage accompanied by the stigma of being merely some jumped-up calculator.

Not only is ‘gestural legibility’ a problematic concept, but using it as an axiomatic principle risks predetermining the way in which new instruments are used and thus foreclosing avenues of exploration of their unique possibilities. The instrument itself, as well as the myriad codes of the concert hall, shape the music performed and the nature of the performance. As Thor Magnusson observes, instruments contain ‘knowledge systems’ encapsulated in their very design:

the piano keyboard ‘tells us’ that microtonality is of little importance (and much Western music theory has wholly subscribed to that script); the drum-sequencer that 4/4 rhythms and semiquavers are more natural than other types; and the digital audio workstation, through its affordances of copying, pasting and looping, assures us that it is perfectly normal to repeat the same short performance over and over in the same track.<sup>121</sup>

We can add to this, perhaps, that the ‘New Gestural Interface’ tells us ‘music should contain events and gestures!’, and thus expect to hear the traces of these design criteria in music performed upon such instruments. Of course, as Simon Waters notes, ‘what musicians tend to be interested in and good at is using devices in a manner which operates at the edges of or outside the design brief’.<sup>122</sup> Musicians may often subvert the ‘design brief’ and explore hidden affordances, the unexploited reservoirs of potential that these instruments possess. The piano affords being opened up and prepared in a Cageian manner, or retuned to just-intonation as La Monte Young on *The Well Tuned Piano* did; Autechre use volume data from analogue synthesisers to control drum sequencers in unusual ways that goes beyond the perceived confines of 4 / 4; the ‘digital audio workstation’ (or DAW, a computer coupled with music software and hardware) opens up the possibilities of minute and precise control of sounds, such that there is never any repetitions.<sup>123</sup> Nonetheless, the majority of users of a new gestural interface might be channelled into making gestural music, and whilst this isn’t a problem in and of itself, it risks foreclosing explorations of the unique and perhaps non-gestural potentials of these technologies.

As Francisco Lopez notes, the values and hierarchies of the concert hall tradition that result in an emphasis on gestural legibility can serve to prevent electronic performance practices from being assessed *on their own terms* and from realising their potential:

<sup>121</sup>Thor Magnusson, ‘Of Epistemic Tools: musical instruments as cognitive extensions’, *Organised Sound*, 14:2, 2009, p. 171.

<sup>122</sup>Simon Waters, ‘Performance Ecosystems: Ecological approaches to musical interaction’, <[http://www.ems-network.org/IMG/pdf\\_WatersEMS07.pdf](http://www.ems-network.org/IMG/pdf_WatersEMS07.pdf)>, retrieved 30/07/2011, p. 3.

<sup>123</sup>Paul Tinggen, ‘Autechre: Recording Electronica’, *Sound on Sound*, April 2004, <<http://www.soundonsound.com/sos/apr04/articles/autechre.htm>>, retrieved 01/03/2010.

From my perspective, electronic music doesn't need this. Of course it can have it, it can develop its own versions of it (as indeed it does). But it's not inherent to it, it's not a natural consequence of the practices and essential manners of the operations of electronic music, but rather a symbolic acceptance of a tradition of a very different nature (in this regard, probably an opposite nature). What is more important, I believe, is that by blindly following this tradition it wastes the potential for strengthening a most important breakthrough in music of perhaps historical proportions.<sup>124</sup>

Lopez, then, conceives of a 'breakthrough in music of perhaps historical proportions' that we might find in electronic instruments but that is hampered by a blind following of tradition. Instead of trying to fit new instruments into our notions of what music and performance is, we must treat them as 'actors', and try and explore the new affordances they may have.

Kodwo Eshun playfully discusses musical technologies as 'actors', suggesting that they have been manipulating and enslaving humans to their own musical ends, writing how 'In '87 the 303 discovers Acid on its own, uses Phuture to replicate. Marley Marl doesn't discover how to sample the break. Rather, in '81/2 the Emulator EI sampler discovers this for itself and then uses Marley Marl as a medium through which to replicate breaks'<sup>125</sup> He goes on to describe, 'All these new sound-worlds begin as accidents discovered by machines.'<sup>126</sup> A great deal of musical novelty has been borne out of such encounters with technologies, bringing forth their hidden affordances and the peculiar, compulsive characteristics of their own particular sound-worlds, such as the Roland TB-303, a synthesiser designed to play backing tracks for guitarists, but woefully bad at this. However, when Phuture started messing around with it in the studio after its initial commercial demise, they discovered the peculiar qualities of the 'squelching' filter, effectively birthing the acid house genre through their improvisations.<sup>127</sup> Whilst he might be exaggerating for effect, Eshun points us towards a view of musical technologies as objects or actors, which - through their constraints and affordances - can influence and shape our musical practices and the music we create, bringing about new sound-worlds and modes of musicking.

We can now turn to some approaches which do not 'blindly follow' performance traditions, instead approaching new instruments as 'objects' or 'actors', open to musicking as multiplicity, and in this way allowing for an exploration of the singular potentials of new instruments.

<sup>124</sup> Francisco Lopez, 'Against the Stage', <<http://www.franciscolopez.net/stage.html>>, retrieved 30/07/2011.

<sup>125</sup> Kodwo Eshun, *More Brilliant Than The Sun: Adventures In Sonic Fiction* (London: Quartet Books, 1998), p. 19.

<sup>126</sup> *Ibid.*, p. 19.

<sup>127</sup> Phuture, *Acid Tracks*, Trax Records, tx142, 1987.

## Alternative Approaches

John Bowers, Phil Archer, John Richards and Simon Waters are amongst contemporary performers, instrument builders and theorists who move away from a focus on such things as ‘repeatability’ and ‘perfectibility’, instead introducing elements of instability, unpredictability and amateurism into their performance set-ups. These individuals break away from approaches that use one element of the performance, such as gestural legibility, as an index of musical quality. From an Object Oriented point of view, we can see how these approaches do not treat instruments as inert or passive things that bend to the will of performing humans, but problematising and problematic actors, which through their affordances and constraints can impose ways of playing on human performers.

Bowers and Archer have an ‘infra instruments’ project, which posits itself against MIT’s ‘hyperinstruments’, the latter being a project which,

emphasises the concept of ‘instrument’, and pays close attention to the learnability, perfectibility, and repeatability of refined playing technique, as well as the conceptual simplicity of performing models in an attempt to optimise the learning curve for professional musicians.<sup>128</sup>

Hyperinstruments are intended to facilitate ‘rich interactive capability’, ‘engendering of complex music’ and ‘expressivity and virtuosity’. ‘Infra instruments’, on the other hand, foreground a ‘constrained interactive repertoire’, deploy ‘few sensors’ or ‘gestural measurements’, ‘engender relatively simple musics’ and are ‘restricted in their virtuosity and their expressivity’.<sup>129</sup> The point is not that rich interactive capability, virtuosity and so on are thoroughly bad things that should be avoided, but rather that they should not be unquestioningly taken as the markers of a successful or interesting musical performance or new musical instrument, for the multiplicity of performance cannot be reduced to such qualities. Through problematising any simplistic approach which presents ‘virtuosity’, ‘complexity’ or ‘legibility’ as a nexus of quality, we refocus attention on the whole ‘performance settings’, or what Bowers has termed the ‘performance ecology’; the totality of the performance. As Bowers and Archer note, ‘The whole performance setting becomes the unit of analysis, design and evaluation, not just the single “new instrument for musical expression”’.<sup>130</sup>

Bowers and Archer identify multiple areas where we find ‘infra instruments’, such as their own Strandline Guitar (driftwood and pebbles assembled into a makeshift guitar) and De Housed

<sup>128</sup>T. Chung Machover, ‘Hyperinstruments: Musically Intelligent and Interactive Performance and Creativity Systems’, *Proceedings of the 1989 International Computer Music Conference*, p. 186.

<sup>129</sup> John Bowers and Phil Archer, ‘Not hyper, not meta, not cyber but infra-instruments’ *Proceedings of New Interfaces for Musical Expression (NIME 05)*, p. 6.

<sup>130</sup> *Ibid.*, p. 10.

Home Keyboards alongside Vienna's Vegetable Orchestra (who make the 'obvious mistake' of making instruments out of fresh vegetables, as oppose to some hardwearing material).<sup>131</sup> They also look at some of the approaches of contemporary electro-acoustic and minimalist improvisers, who often appear to remove the gestural body from their performances, challenging ideas that 'virtuosity' and 'gestural legibility' are crucial factors in performance. Toshimaru Nakamura is one such improviser, who plays the 'no-input mixing desk' (a mixing desk connected back into itself in a web of feedback loops) who has described the importance to him of keeping very still when playing, because he feels that this is natural and honest.<sup>132</sup> Sachiko M, another minimalist improviser who often plays a sampler with an empty memory, producing only sustained sine tones, says of her contemporaries,

I think these musicians' focuses are on hearing the sound, not physically playing musical instruments. Sometimes the instrument is an obstruction. They just want to listen more to the sound.<sup>133</sup>

David Toop further describes this absence of the performing body amongst electro-acoustic improvisers, seeing it partially rooted in the sound-world they often choose to inhabit, and being bound up with what he sees as a *new mode of listening*:

Electronic sounds, particularly computer generated sounds, give some impression of being dissociated from activation. This can be as fractional as the small distance between musician and amplifier, or as significant as the minimal activity of a musician with a laptop [... ] This shift away from overt physicality and observable technique towards considered listening, placement, an immersion in the silence and feeling of rooms, can provoke a new kind of listening at its best, both for players and audiences. As Taku Sugimoto has said, sometimes he feels he is a member of the audience, even though he is playing the music.<sup>134</sup>

These musics challenge the ideas that gesture and event are essential qualities of music and performance, reasserting musicking and listening as multiple, diverse activities, which may then allow for an exploration of the novel possibilities of new instruments and technologies on their own terms. Furthermore, their work seems to assert the role of the instruments in the performance as objects or actors: mixing desks, samplers and vegetables are all removed from the networks of

<sup>131</sup> <<http://www.vegetableorchestra.org/>>, retrieved 30/07/2011.

<sup>132</sup> Clive Bell, 'Sachiko M: Ah, The Sweet Torture' in Mark Wastell and Brian Marley (eds.), *Blocks of Consciousness and the Unbroken Continuum* (London 2006), p. 79.

<sup>133</sup> *Ibid.*, p. 70.

<sup>134</sup> David Toop, 'The Feeling of Rooms', in Wastell and Marley (eds.), *Blocks of Consciousness and the Unbroken Continuum*, p. 325-6.

relations in which they serve ‘practical’ purposes, revealing something of their hidden affordances and singular voices. In particular with Nakamura and Sachiko M, the lack of gesture on the part of the performer suggests not a human agent controlling some passive tool, but of the instrument as a lively actor with its own agenda.

Furthermore, as these limited set-ups suggest, it can sometimes be in the apparent constraints of new instruments that we find some of their singular qualities that are worthy of exploration and may help us realise what Lopez described as the ‘most important breakthrough in music of perhaps historical proportions’.<sup>135</sup> These constraints may only be constraints when observed from the aspect of traditional modes of performance. Atau Tanaka describes how through engagements with perceived constraints and idiosyncrasies, creative relationships with these new musical tools might arise;

A computer is often thought of as a tool with no limits. When designing a sensorbased instrument, the standard response to queries about an instrument’s capabilities is that anything is possible. In reality, computers and interfaces to computers are in fact quite limited machines. Typical constraints include processor speed and degrees of freedom of an input device. As these are regarded as technical limitations, composers do not have the reflex to use the limitations as creative material, and instead wish for an amelioration in an ensuing version of the hard or software[...] Though development includes the pursuit of fewer such limitations, it can also be said that the lack of limitations creates an absence of boundaries against which a composer can play [...] viewing the situations from the standpoint of creative applications of limitations may yield more musical results.<sup>136</sup>

Whilst rooted in DIY electronics and in some ways the polar opposite of powerbook sterility, John Richards’s practice suggests different and useful ways in which we might consider the laptop in performance. He inverts the design ideas which try and model the instrument around the needs of the performer, instead effectively considering the instrument as an ‘actor’, looking at the way in which an instrument, through its affordances and constraints, can *impose* certain manners of moving upon a performer, writing, ‘Rather than thinking in terms of "mapping gesture," the design of electronic devices and their position on, for example, a tabletop can act as a way of dictating gesture and body movement in performance.’<sup>137</sup>

Following Richards, we might consider laptops not as being *limited*, but rather as dictating certain body movements, gestural languages and singular ways of playing that we might embrace.

<sup>135</sup> Francisco Lopez, ‘Against the Stage’, <<http://www.franciscolopez.net/stage.html>>, retrieved 30/07/2011.

<sup>136</sup> Atau Tanaka, ‘Musical Performance Practice on Sensor-based Instruments’ in Marcelo Wanderley and Marc Battier (eds.) *Trends in Gestural Control of Music* (Paris: IRCAM, 2000), p. 396.

<sup>137</sup> Richards, ‘Getting the Hands Dirty’, p. 30.

A particularly poetic investigation of the singular nature of the laptop as instrument, allowing gesture and bodily movement to be dictated by the device in a decidedly elegant way, is Hans Koch's *bandoneonbook*, which emerges out of a search for such singularities and utilises the specifics of a certain range of Apple laptop, playing it in a manner not too far from a 'squeezebox':

is it possible to find -besides clockspeed, cpu-power, more bit-depth on the ad/da converters, etc.- something specific to a certain machine, which can pass as an instrumental quality for that model [...] my research focusses on hardware-specific aspects of certain powerbooks and then goes on to make them playable with max/msp patches and interfaces [...] when apple introduced the titanium-powerbook series in 2001, the heralded big progress came with some minor sacrifices (no more audio-in) and one very special design-flaw: the microphone was put directly next to the left speaker and thus merrily feedbacking along with its fellow speaker as soon as one tried to use both. This sweet little feature/bug was the starting point for my piece *bandoneonbook*, which filters and tunes the feedback through a maxpatch, controlled by the keyboard and makes it dynamically playable via opening and closing the lid.<sup>138</sup>

Another, perhaps more obvious quality of laptops (and computers in general) is the absence of physical effort and gesture needed to produce and sustain sound, a 'distance' or 'detachment' from sound production that many interfaces try to overcome, for it is seen by many as one of the key problems with the laptop in a musical context. However, it may be something that can be exploited and explored as being in fact a singular and even desirable quality of the laptop. In 'Simple Interfaces to Complex Sound in Improvised Music', John Bowers and Sten-Olof Hellström introduce the concept of 'expressive latitude' as a principle in instrument design;

We [...] tend to use devices which are triggered by contact and are not continually coupled to the body. This enables performers to add emphasis to those gestures they make which are actually transduced. *Space is left free for expressive body movements which are not sensed and have no technically-mediated musical outcome.*<sup>139</sup> [emphasis my own]

As our thesis of embodied listening suggests, *the moving body remains an important part of the totality of the performance even if it is not triggering or modulating sounds*. Drawing on Bowers's and Hellström's work, we find a powerful suggestion for instrument design. We can think instrument design not just in terms of what movements produce sounds, but in terms of those movements the performer can make *without* modifying or producing sounds, movements that are still an essential part of the totality of the performance.

<sup>138</sup> <<http://www.hans-w-koch.net/video/trailer.html>>, retrieved 04/07/2011.

<sup>139</sup> John Bowers and Sten-Olof Hellström, 'Simple Interfaces to Complex Sound in Improvised Music', *CHI '00 Extended Abstracts on Human Factors in Computing Systems*, p. 125.

The laptop clearly contains a great deal of ‘expressive latitude’, for when it is not coupled to an interface or sensors, many of the performer’s movements will not be translated into sound, and the body might be seen to be at a certain ‘distance’ from the sound production. Joel Ryan from STEIM points out that this ‘distance’ provided by a computer would be construed as desirable by certain strands of thought within compositional practices, as he writes:

Many composers long to regain some sort of musical spontaneity. This was not always so. A great deal of effort in this century has been spent on the invention of distancing techniques for the composition of music. From the Serialists to John Cage to the experimentalists of the post war generation, the project has been to deny the habitual or the hackneyed by developing techniques to restrain or condition the immediate process of choice. Whether the problem was seen to be the limitations of traditional technique or the excesses of romantic self expression, the solutions were either to adopt a formal method to distance choice or to choose a medium for which there was no existing habit.<sup>140</sup>

The distance that the computer provides, ignoring the expressive physical gestures of the performing body, can be seen as a positive thing, *mediating* gestures that we don’t always want to translate into sound.

### **Laptop and ‘post- laptop’ approaches within my own practice**

Within my own creative research, I have explored various laptop and ‘post-laptop’ performance set-ups, from trying to make the laptop more responsive as a gestural instrument through coupling with midi-controllers to exploiting certain singularities of the laptop as a device that requires minimal interaction. Working with the iPhone as an instrument, my practice falls along a continuum of gesture and bodily involvement. At one end, generative patches almost remove the need for a performing body, whilst at the other, ‘expressive latitude’ is tensely limited as the performing body is ‘trapped’ by the accelerometers which cause even the slightest movement to affect the sound. In various ways, these have brought me to challenge my own playing habits and to explore different musical possibilities opened up the devices.

Towards the beginning of my research, I switched from using a bass guitar in improvisations to using the laptop instrument. This laptop instrument used a Max MSP software patch I developed, controlled by a commercially available midi controller, the Akai MPD. The Max MSP patch was based around live sampling in improvisation, and the possibilities of drawing large amounts of musical material from small amounts of sampled sound. The centre of the interface was 16 tactile

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<sup>140</sup> Joel Ryan, ‘Some Remarks on Musical Instrument Design at STEIM’, <<http://www.steim.org/steim/texts.php?id=3>>, retrieved 23/04/2010.

pads, which I used in a variety of ways: to record or playback sound which could be re-pitched; apply an instant ‘glitch’ effect to a sound-source by slicing it into small repeating chunks with a random volume envelope; suddenly trigger a reverb ‘stab’ on a source sound, so that the reverb unit itself could create percussive melodies. This instrument rendered explicit the way in which my own habit was inhibiting my explorations of the possibilities opened up by the laptop. When I nervously joined in with improvising ensembles I had previously played bass with, I was surprised by an overwhelming response that, despite my change in instrument, my playing sounded ‘the same’. Whilst there is no doubt something to be said for being able to maintain one’s sonic identity despite changing instruments, it suggested to me that I was not fully exploring the new set of affordances of the laptop instrument.

We have already encountered notions of habit informing and restricting how we approach and engage with objects throughout the thesis. In further exploring the relationship between habit, praxis and encounter in greater depth, the ‘Body without Organs’ is a concept of great use. It is a Deleuzian concept that can be understood in terms of concepts already deployed: a Body without Organs is described by the virtual multiplicity of one’s body, the space of possibilities and the unactualised modes of encountering the world that we harbour within ourselves as powers or potentials. The organs represent a certain ‘stratification’ of purpose. As Deleuze and Guattari describe, ‘the body without organs is opposed less to organs as such than to the organization of the organs insofar as it composes an organism’.<sup>141</sup> The Body without Organs is thus posited against stratification, which can also be understood as habit-formed behaviour or social norms. Deleuze and Guattari ask,

Why not walk on your head, sing with your sinuses, see through your skin, breathe with your belly: the simple Thing, the Entity, the full Body, the stationary Voyage, Anorexia, cutaneous Vision, Yoga, Krishna, Love, Experimentation. Where psychoanalysis says, "Stop, find your self again," we should say instead, "Let's go further still, we haven't found our BwO yet, we haven't sufficiently dismantled our self." Substitute forgetting for anamnesis, experimentation for interpretation. Find your body without organs. Find out how to make it. It's a question of life and death, youth and old age, sadness and joy. It is where everything is played out.<sup>142</sup>

The Body without Organs is ‘a practice, a set of practices’ and it is approached through experimentation.<sup>143</sup> According to Deleuze and Guattari, there are risks and we must proceed with caution. We need not aim for an outright abandonment of all ‘stratification’, and the damaged

<sup>141</sup> Deleuze and Guattari, *A Thousand Plateaus*, p. 30.

<sup>142</sup> *Ibid.*, p. 151.

<sup>143</sup> *Ibid.*, pp. 149-50.

bodies of the schizophrenic, the drug addict and the masochist are brought before us as potential risks of a reckless drive towards the Body without Organs.<sup>144</sup>

We have already touched upon practices of openness and experimentation in our earlier looks at the ‘hidden worlds’ of sound and improvisatory practices, and the Body without Organs extends this. In looking for our own Body without Organs in performance we can open ourselves up to multiplicities: the multiple modes of ‘listening’ and ‘playing’, allowing us to better explore the possibilities that might be harboured by new instruments, possibilities that our habits and may risk closing off from us. It is sometimes said that it can be harder for those with classical training to freely improvise, their relationship with the instrument sometimes constrained by their training. The evidence for this is mostly anecdotal, though in a recent paper Aaron L. Berkowitz and Daniel Ansari show that trained musicians may deactivate certain areas of their brain when performing improvisatory tasks. They suggest two related reasons for this. The first is that this would better equip musicians for goal-oriented behaviour, and one could speculate that in specifying a goal, this closes down potential avenues of exploration.<sup>145</sup> Their second suggested explanation is that musicians ‘strategized in a more top-down fashion, conceiving of and/or planning their improvised melodies [...] and thus inhibiting any sort of stimulus-driven response to what they played while they planned their next improvised sequence’.<sup>146</sup> In this way, the trained musicians in Berkowitz and Ansari’s study were less able to dynamically adapt to unravelling circumstances than non-musicians, their training constituting a certain stratification. Of course, discipline, technique and training may well serve trained musicians very well and open up more musical possibilities than are available to the untrained amateur, but one can see nonetheless how *habits of playing may foreclose open exploration of instruments*.

Even though part of improvisation is, or at least should be, an inherent openness, my own improvisatory practice began to constitute a set of habits and a relative stratification. My playing was often based upon ‘momentum’ over ‘commitment’: fast, gestural playing which gave less attention to the sounds themselves than to the momentum of successive events. Whilst there is nothing inherently wrong with such a manner of playing, it seemed to prohibit avenues of exploration upon instruments, as was revealed when I sounded the same on bass guitar or laptop. Listening back to recordings of material I knew had felt good to play, I was often deeply annoyed by my own playing, full of gestural ‘glitches’ and rhythmic bursts. These were clear sonic traces of the gestures I made and of the gestural-nature of the instrument, but detached from the embodied act of performance I found them sonically uninteresting. I recalled a conversation with my

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<sup>144</sup> Ibid., p. 150.

<sup>145</sup> Aaron L. Berkowitz and Daniel Ansari, ‘Expertise-related deactivation of the right temporoparietal junction during musical improvisation’ *NeuroImage*, 49, 2010, p. 717.

<sup>146</sup> Ibid., p. 717.

supervisor, Bennett Hogg, when we had discussed all those sounds that were exciting to play or make, but much less satisfying to listen back to on recordings.<sup>147</sup>

This manner of playing was bound up with my own embodied immersion in the music. Throughout the development of the patch, I would sit still and sensible at my desk with headphones on, triggering and manipulating sounds, practising using the set-up and tweaking the programming. I was often surprised to be informed by my colleagues and fellow researchers in the room that I hadn't been still at all, but swaying and contorting like a man possessed as I hammered away at the pads on the controller. Similarly, watching videos of my performances, I observed myself diving into and manipulating the tactile pads, constantly in motion, and was genuinely surprised by my own embodied responses to the music. Presented with a percussive interface, much as I would resist it, it seemed far more likely that my constant movement would involve me playing the pads and, if anything, playing too much.

Through the clear affordances of being-hittable they presented, the 16 tactile pads projected a gestural language and performance style which was difficult to escape when combined with my own performance habits, resulting in music I was unhappy with and which seemed to fail to explore fully the possibilities of the laptop-as-instrument. Rather than attempt to negotiate alternative approaches to the MPD interface and explore its hidden affordances, I chose to remove it from the set-up altogether in order to explore the laptop itself, as the MPD was originally introduced to make up for some perceived shortcomings in the laptop. What if these shortcomings were embraced? In line with Ryan's approach, I began to consider the laptop as a device that provided a helpful distance which 'mediated' my performing body, a body that quite often performed too much and *needed* mediating. The easy affordances of drum pads to trigger sounds was replaced by just keyboard and mouse. The on-screen interface allowed not for the instant triggering of sounds but for the automation of processes. Many of the modules from the MPD version of the patch were kept, with the addition of a signal router at the heart of the patch, which allowed for multiple different routings to be saved and faded between in a way that would be extremely difficult, if not impossible, with hardware. In this way, long and precise automated parameter changes, 'controlled' randomisation processes and the maintenance of static notes and textures for 'inhuman' durations replaced gestural triggers and opened up onto musical possibilities which began to constitute some of the more unique and singular affordances of the laptop and the graphical programming environment.

This can be heard on 'Duo for Imagined Valves' (CD5 track 1), a solo laptop improvisation, which was briefly available through the now defunct 7things. Its sound-world began as an homage

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<sup>147</sup> Some of the more successful of these recordings can be heard on CD6 tracks 10, 11, 12 and 13. These were also in part an attempt to bring a certain sound-world from 'glitchy' electronic dance into free improvisation.

to the glorious *Valved Strings Calculator* album made by the trio of Rhodri Davies (harp), Robin Hayward (tuba) and Taku Unami (laptop); an utterly compelling album utilising a minimal canvas of abrupt rasps, hums, and silences.<sup>148</sup> It also drew inspiration from a performance by saxophone player Seymour Wright at the Instal Festival in Glasgow, 2009, which involved a saxophone being dismantled, with individual parts being blown through, vibrated and rattled, producing a similar soundscape of gargles and splutters.<sup>149</sup> In ‘Duo for Imagined Valves’, the laptop imitates some imaginary spitting, spluttering valved instrument played in a similar manner through extended and deconstructive techniques. It is constructed from a single short sound – a recording of me rasping into my computer’s built in microphone – which is sent through a variety of software effects within my Max MSP patch. Performing the piece was a concerted effort in restraint: I limited my control-interface to the mouse and keyboard of the computer, setting up different effects routings and making them audible at appropriate times. All sounds had to be committed to, and once a fateful mouse click released a sound into the web of textures, I forbade myself from withdrawing it or absorbing into sheer rhythmic and gestural motion, negotiating my own habits. I thus attempted to challenge my own instincts to want to play gesturally, whilst utilising certain affordances of the hardware and software: the built in mic on the computer, the sounds of clipping within Max MSP, the ability to automate long, ‘inhuman’ fades within Max MSP and most importantly the mediation of gesture that the computer facilitates when it is decoupled from any expressive midi controller.

Similar performance tactics are undertaken in the more recent piece ‘In Extension’ (edited version on CD5 track 2), which uses a very basic, open ended and ‘unfinished’ Pure Data patch; a patch of such minimal functionality that it borders on being a software ‘infra instrument’, consisting of an oscillator and a white noise generator. This then introduces an element of ‘live coding’ (the real-time writing and execution of code during performance) as I add to the patch during the course of the piece, creating new oscillators or building envelope generators to control modules. Here, along with its synthesis capabilities, the affordances of Pure Data for automating very slow parameter changes are utilised, subtly shifting the frequencies and volumes of square waves, or the cutoff frequency on some filtered white noise. Furthermore, ‘live coding’ opens up possibilities that would be less likely, if not impossible, in hardware set-ups. When performing on a more traditional electronic instrument such as an ARP synthesiser, if one realises mid-performance that another square wave oscillator or noise generator is needed, but all the oscillators on the synth are already being used, it might be laborious and even a little preposterous to build a new oscillator ‘on the fly’.<sup>150</sup> However, Pure Data almost *invites* the user to build a new synth. It is one of the affordances

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<sup>148</sup> Rhodri Davies, Taku Unami and Robin Hayward, *Valved Strings Calculator*, Hibari 15, 2009.

<sup>149</sup> <<http://www.arika.org.uk/instal/2009/artists/view/14>> retrieved 01/07/2011.

<sup>150</sup> No reason not to do it, though!

of the software - and therefore of the laptop-as-instrument when running this software - that it is very quick to make new oscillators and automate them to fade into the overall mix.

### Using the iPhone as an instrument

I have also been investigating a 'post-laptop' approach, utilising the sound-world of a laptop whilst removing the laptop itself from performance. This has involved developing an instrument which runs on the Apple iPhone or iPod Touch. It consists of synthesisers and samplers built in Pure Data which run on the iThings by way of the RjDj application. Through RjDj, one has access to control data from the three-dimensional accelerometer and the touch screen, and one can somewhat painstakingly construct a graphic interface which is limited to moving a dozen or so 'ping' images around the screen. Patches are prepared on a laptop before hand, with specific samples loaded in if need be, then moved over to the iPhone. I came to the device by accident, having little interest in Apple's iPhone until I realised that, via RjDj, everything that I used my laptop and Max MSP for in improvisations could be carried out by two of the devices. I was curious about the effects of the removal of the laptop itself, and the possibilities opened up by the tilt sensor for capturing, monitoring or limiting bodily gesture, and drawn by a long standing obsession with mobility and portability in my music making tools.<sup>151</sup>

I have adopted different performance strategies on the device, revealing different affordances of the devices. In solo and duo improvisations, the sensor capabilities of the device take a back seat and the device is used primarily as a small, portable computer. Another performance strategy on the device involves making patches which create generative music: music which is played or implemented by 'systems'. Sometimes I perform with these live, and on other occasions they manifest themselves as installations.<sup>152</sup> Finally, the duo with Atau Tanaka attempts to utilise the device as a sensor instrument, using the tilt sensor to manipulate samples. In some instances, the samples are gesturally 'played' by movement, in others, it is necessary to remain very still in order to maintain the desired musical output.

In solo or duo improvisations, a mixing desk is used to fade between and EQ two iThings. I tend to refrain from using the tilt sensors, instead using each device to generate a texture or tone, meshing and mixing the two with the mixing desk. A series of different patches are used to generate

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<sup>151</sup> My first ever experiences with Pure Data software (and in fact any musical programming language) was in its 'Pure Data Anywhere' release, made by Gunter Geiger to run on PDAs, and I purchased a cheap PDA in 2005, so compelled was I by the idea of such a versatile mobile music tool. My work with PDA never went too far, limited as I was by own understandings of Pure Data at the time and the limitations of the hardware. RjDj utilised much of Geiger's work, and presented an opportunity for me to return to mobile Pure Data, this time with more functional hardware and more advanced programming skills with which to realise my ideas.

<sup>152</sup> 'Colossal Peace Pipe' was exhibited at the Render 2010 exhibition in Newcastle.

or process sound. This include ‘rain synths’, based on Andy Farnell’s tutorials for sound design in computer games: I was instantly drawn to the crisp, crackling textures which these produced, as they echoed the crackles that the granulator within my Max MSP patch made, and so they became part of the sound-world of my iPhone improvisations.<sup>153</sup> Alongside this, there are several very simple sine wave generators, and the granular synthesiser described in depth in the *Atau and Adam* project. Vocoder and granular delays also make brief appearances in some performances.

The first documented improvisation on the device is ‘Live at Love’s Secret Domain’ by the trio RaM, consisting of myself, Mariam Rezaei (turntables) and Nick Williams (laptop), released on cassette by Entr’acte records (CD4, track 1).<sup>154</sup> My sound palette consists of crackling rain synthesisers, a (deliberately) badly tuned radio, low sine waves and occasional pockets of granular synthesis. Whilst not producing a soundscape as minimal as some of our influences (players such as Rhodri Davies and artists on the Another Timbre label), it was nonetheless a conscious attempt as a group to avoid gestures and events or call-and-response, conversational playing. Instead, we aimed at collectively producing a landscape of textures and tones into which individual performers disappeared. Perhaps the most successful document of the iPhones in an improvised context is *Altes Finanzamt*, an improvised duo with Robin Hayward (who performs on a microtonal tuba) recorded in Berlin, September 2010, and included on CD1. I am again working with sine waves, rain synths and, on a couple of occasions, the granular patch, and there is a continuation in playing style from the RaM recording, in the focus on slowly shifting textures and tones. Hayward and I put forth and exchange ‘blocks of sound’, each remaining in place for a few minutes, asking us to engage with it, accept it, reject it: in line with the ideas traced in Chapter I, this is sound and listening as a *challenge*. We exchange these blocks of sound as questions to each other, the audience and the space itself. At many points, the two instruments - both very different in their capacities, and only one (the iPhones) amplified through the PA - appear sonically meshed together, producing one texture which temporarily dissolves their identities into some higher-level sonic assemblage. At points I am working with indeterminate systems, grabbing fragments of the room sound using the built in microphone on the iPhone and stretching it with the granular synthesiser, with vaguely randomised parameters. It’s playable, but it can be unpredictable. I fade in a sound - disaster! - it’s not what I had expected. Rather than quickly fading the sound out, the only option is to stick with it. Listen to it, engage with it, *make it work*, as with ‘Duo for Imagined Valves’ (CD5 track 1). In improvisation situations such as this, every gesture, every sound becomes a decision and

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<sup>153</sup> Andy Farnell, ‘Practical Synthetic Sound Design’, <[http://obiwannabe.co.uk/tutorials/html/tutorials\\_main.html](http://obiwannabe.co.uk/tutorials/html/tutorials_main.html)>, retrieved 18/09/2011.

<sup>154</sup> it seemed somewhat fitting that what I presume is one of the first recordings of music created on an iPod should be released on a such a format.

commitment of the utmost importance, it feeling as though the less sounds one plays in an improvisation, the more critical each sound feels.

In a sense, the devices are used here simply as ‘small laptops’, but performing on them feels notably different to working with a laptop. Despite using a similar sound palette as I would when improvising with the laptop, I have far less agility in moving between different sounds than is afforded by the laptop. Working with two iPhones in this manner, one only really has the option of playing two different ‘sounds’ or components simultaneously. Playing then becomes a constant balancing act of figuring out how and when sounds can be brought out without losing whatever texture or momentum one might be aiming for. The mixing desk starts to play an important role, and I find my playing is more likely to involve subtly changing the equalisation on the mixing desk, often pushing one to pay very close attention to the precise frequency balance of the sound being produced, and to the musical effects and possibilities of EQing. Unlike working with Pure Data on the laptop, oscillators and such things cannot be built ‘on the fly’ when performing on the iPhone, as one only has access to a GUI and not the underlying Pure Data patch. This adds to the sense of entering an improvisation with a strict, limited ‘toolkit’ of sounds, but wanting to draw every musical possibility from them.

Another mode of working with the device involves using the multiple generative patches I have written for it. For these patches, I create several different ‘behaviours’ for the granular engine (such as a certain sequence of values to be sent to a certain parameter), and then have these turn on or off in a semi-random fashion. Different behaviours may overlap and run simultaneously, resulting in complex and unpredictable playback of the samples within a broad set of parameters I have chosen. These patches run either as ‘standalone’, passive music generators to plug into a hi-fi; installations, housed in a box on a wall with headphones coming out; or I use them in solo improvisations, taking the risk to start one up without complete knowledge of how it will sound, tweaking the EQ, but mostly standing by whilst my machines perform, somewhat like a needle dropping DJ. Performance becomes almost completely ‘disembodied’ in terms of any explicit physical, causal connection I might have with it, though the iPhone might make relatively gestural music as it churns up short drum loops, for instance. My role as a performer becomes one of standing back but ‘admitting responsibility’ for the sound (through my stage presence), and choosing when it should end or how it might blend it with other sounds I am using. The *ColossalPeacePipe* iPhone patch submitted demonstrates this generative, granular engine put to work on samples taken from Alan Stivell’s *Renaissance of the Celtic Harp* and the Taiwanese ‘muzak’, *Drifting with the Clouds*, mentioned in Chapter I. The samples amount to only 1.14 minutes of music, but they are endlessly remixed, reconfigured and recombined by the granular engine, sometimes failing, perhaps, but nonetheless drawing out different affordances and possible

musics from this limited selection of sounds, as well as exploring the affordances of the one granular engine for being able to produce such variety from such limited materials, through factors such as its ability to ‘freeze’ on any one microscopic moment.<sup>155</sup>

As Atau and Adam, Atau Tanaka and I perform as a duo on iPhones in a manner quite different to the improvisations and generative work I have described, exploring different affordances of the device through much more extensive use of the accelerometers. The duo can be heard on CD4, tracks 2, 3, 4 and 5, all edited from a performance at Charm of Sound Festival in Helsinki, November 2010. The phones run a granular synthesiser, a version of Nobuyasu Sakonda’s ‘legendary’ granular patch for Max MSP, which I rewrote and modified to run on the iPhone.<sup>156</sup> The patch will play back samples, with pitch and speed both being independently adjustable, and with a ‘freeze’ mode, which captures and repeats small fragments of the sample buffer, allowing any sound to be expanded into a shimmering drone, as was touched upon in Chapter I. In regular playback mode, the speed and direction of sample playback can be adjusted using the ‘x’ axis of the accelerometer. There is a ‘sweet spot’ that keeps the speed around zero, effectively ‘freezing’ the sample playback within a certain part of the buffer, and incredibly difficult to maintain, and one oscillates between moving slowly backwards or forwards through the grains. In freeze mode, the point of the buffer which the sampler is playing can be adjusted using the ‘x’ axis of the accelerometer, allowing one to ‘scrub through’ the sample by moving the device through 360 degrees. If enabled, the ‘y’ axis controls the pitch of the sample. Further variable parameters controlled through the touchscreen, and represented on the GUI with are the pitch quantisation, which affects the pitch relations between the different grains allowing for very rich, melodic textures to be drawn from the materials; pitch randomness, which affects the value range for pitch quantisation and enables arpeggiator-type sounds; the grain duration; a resonant lowpass filter. The third ‘z’ axis of the accelerometer is difficult to move independently of the others, and is used to control the end point of the section of the buffer which is played back in freeze mode, with a limited range, having the effect of introducing subtle variations into the sound unless the device is held extremely still. These subtle variations become part of what differentiates the iPhone instrument from a computer running the same engine, or the way in which the iPhones are used in the improvisations with RaM or Robin Hayward. Certain singular affordances of the technology are harnessed, and contribute to its very sound-world.

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<sup>155</sup> Alan Stivell, *Renaissance of the Celtic Harp*, Philips, 6414406, 1971 and *Cloud Water, Drifting With The Cloud*, BAC6601.

<sup>156</sup> maybe not the stuff of traditional legends, but nonetheless an influential patch with a unique sound, using ‘delay line’ rather than ‘cloud’ granular methods, and having a very different sonic identity because of this. The patch formed the basis of the granular engine in LLOPP (<[http://ppool.klingt.org/index.php/Main\\_Page](http://ppool.klingt.org/index.php/Main_Page)>, retrieved 09/08/2011), and was important in shaping the organic-but-digital sound-world of some of the first generation of laptop improvisers, such as Christian Fennesz. My own work involved adapting a Pure Data Extended patch to run in the stripped down Pure Data vanilla which runs on the iPhone, and developing a primitive but functional graphic interface to control it.

The granular patch does not afford percussive sounds very well, as the granular engine itself often removes the attack from such sounds (though sometimes this itself can be interesting, and enough crunching beats can be heard on the *Atau and Adam* recordings). It better affords subtly shifting ambient textures, though to play such textures can require great balance and stillness on account of the effect that the accelerometer has on the stability of such sounds. We perform with an iPhone in each hand and two stereo volume pedals each, the volume pedals effectively functioning as a foot operated mixing desk, also meaning that we are constantly holding the iPhones during the performance: the body's movements are therefore constantly being monitored by the accelerometers. Using the accelerometers to keep the granular engine playing just a certain part of the buffer, or at a very specific pitch or speed, one has to remain very still, with the accelerometers therefore defining a tense area within which one can gesture. When the iPhones' accelerometers are bound to the granular engines in this way, the iPhone affords far less 'expressive latitude' than the laptop, and this contributes to creating an intense space of physical expression as the body is 'trapped' by the iPhones, and all the movements that one wants to make, when 'feeling' and embodying the music, are bound within a small range. In this way, the iPhone instrument can be used to *force* the body rather than to transmit the body's generative gesture, as other interfaces or sensor instruments may tend to do. Gestures emerge pragmatically out of this tension over the course of a performance, intimately tied to the sound they are modulating or producing. It is often a little twitch one makes; when coupled with the granular engine, the accelerometer and the performing body, a little part of the sample reveals some musical affordance through these exploratory gestural probings. Listening, moving and playing are revealed as intimately bound in such situations, when one feels one's way through the sample, contorting one's body around some expressive millisecond in the buffer, embodying the whole music whilst manipulating it and at the same time being pinned to the spot by it, unable to move beyond certain constraints for fear of losing the sound.

## Summary

In approaches to performance on new and unfamiliar instruments and technologies, I argue that we must avoid a reductive focus on 'gestural legibility', because the theories of embodied listening that I have outlined here suggest that the role played by gesture and the body can still have musical meaning even if it is decoupled from causing sound. Being able to see a moving body trigger or modulate sound must be seen as only one aspect of the way in which a performer's movement might function in the totality of a performance, and whilst clear causal links between physical gesture and musical event can be valuable in their contribution to the performance, placing

too much emphasis on this gestural legibility takes attention away from many of the other things that make up the totality of a musical performance. We must instead open ourselves to musicking as multiplicity, and the many different modes of performing and listening, especially those opened up by these new instruments.

Contemporary performance practices which abandon pianos and guitars in favour of laptops, biosensors, iPhones, driftwood and hollowed out turnips should not be judged on the basis of what they lack in relation to older instruments and practices, but on the basis of their *unique and singular capacities*: unique affordances which might manifest themselves as apparent constraints or flaws if we are assessing the instrument on the basis of traditional practices. Let us assert that these new instruments and technologies are objects or actors, exceeding what we might first make of them and possessing their own particular tendencies which might remain virtual and unactualised, but which we should attempt to explore.

### Chapter III: Listening, Dancing and Remembering

Chapter I laid out an Object Oriented approach to musical encounters and focused on practices for engaging with the ‘hidden worlds’ of sounds. In Chapter II, this approach was combined with a theory of ‘embodied listening’ to discuss how we might approach new instruments. In this chapter, I will extend the approach to the domain of dance music and memory. I will initially investigate dance as presenting a new and unique mode of listening and musicking, the epitome of the ‘embodied listening’ discussed in Chapter II, a music consumed and performed in new ways which acts through the dancing body, creating a listening experience rooted in this explicit physicality. As I will discuss, for some critics, this becomes the prime function of dance music, and to move away from this - or to see dance musics functioning in other ways - is construed as reactionary in the face of such radical novelty, succumbing to the weight of traditional musical values and hierarchies. However, as Object Oriented Philosophy and the logic of multiplicities should lead us to consider, sounds or songs are objects and any single listening experience does not exhaust their potential. The sounds, songs and signifiers of dance music can operate in very different manners, constituting virtual multiplicities or their ‘hidden worlds’.

To these ends, I will discuss some of the roles that memory plays in our listenings, looking at musics which deliberately manipulate memory and attempt to sonify time and distance, resonating with the Bergsonian thesis that perception is infused with memory. I will then return to dance musics, and consider musics which appropriate and reconfigure the sound-world of dance to become a vessel for half-forgotten or even fabricated memories, and those that explore these materials of dance in a way that implicitly treat such materials as withdrawn objects harbouring new qualities that emerge as they are brought into new relations, even as they lose some of their ability to move bodies on dance floors. Much of my own work is heavily influenced by the sound world of dance, and whilst some of it is aimed to function on the dance floor, I have also attempted to utilise these sounds and sensations in different manners.

The examples of my own creative practice which are referenced in this chapter serve in part to demonstrate certain ‘listenings’ and ways of engaging with different materials and forms of musical materiality. *OPN Jams* (CD6 tracks 3, 4, 5, 6 and 7) are a series of mixes combining the ‘synth jams’ of Oneohtrix Point Never with various footwork or chopped and screwed tracks; a collection of pastoral house tracks entitled *The Dovestones EP* (CD2); a collection of electronic dance tracks I have made, some of which are remixes; an album of dusty, crackling loop-based improvisations entitled *Glass Faced Man* (CD3). Also included are tracks aimed squarely at the dance floor, part of my long standing interest in and engagement with dance music (CD6 tracks 1 and 2).

Through exploring some of the ways in which we may discuss, experience, utilise or create dance music, I hope to open up insights onto dance, music and memory, as well as outlining some of the creative and critical potentials of an account of listening influenced by Object Oriented Philosophy and the logic of multiplicities.

## Dance and Difference

Whilst having historical precedents in musics associated with the body, dancing, pleasure and carnality, the electronic dance music and culture which has arisen in the past thirty years - which we may identify in terms of genres such as techno, house, rave, jungle and dubstep - should also be seen as containing genuine novelty and new modes of listening. Loudspeaker and amplification technologies brought a new volume, depth and physicality to such musics; the music's focus upon the physicality and bodily affect of sound has opened up a whole 'science' of sound design and the effects of such sounds on human bodies. The technologies which are generally used to make the music - turntables, drum machines, synthesisers, samplers and DAWs - are far removed from 'conventional' instrument technologies (such as electric guitars or acoustic drum kits), and as such traditional notions of musicality, virtuosity and the role of live performance do not serve as viable grounds for critique or evaluation.

Within the massively diverse array of rock musics we do find many of the defining aspects of electronic dance. Rock and roll finds some of its origins in blues dance styles, and throughout rock we find the utilisation of repetition (the riff), often the abandonment of narrative or development in any classical sense, and on occasions an extreme physicality of sound. Vocals may be reduced to a few repeated slogans screamed into a microphone, and the music may be seen to tend towards a carnality rooted in bodily engagement as opposed to the more passive listening we might find at the classical concert. Nonetheless, we find many departures from the musical traditions of rock in electronic dance music, and very different value systems in operation. In his discussion of electronic performance practices, Francisco Lopez notes that there are more kinships and similarities between rock and classical practices than with newer electronic modes;

What rock / pop shares [...] with classical music is the visible intricacy of instrument playing. The degree of appreciation of a violin soloist or an electric guitar solo come to a common ground for both the classic music and the rock / pop aficionado, and this actually indicates a relevant shared area in the system of values in music for both of them. Masterful skills resulting from years of practice, discipline, knowledge of the instrument and, in the best case, a touch of genius for its control and expression<sup>157</sup>

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<sup>157</sup> Francisco Lopez, 'Against the Stage', <<http://www.franciscolopez.net/stage.html>>, retrieved 30/07/2011.

The performance in rock and classical this sense is reassuring as another place to locate musical meaning, and rock is dominated by ‘the spectacle’ and charismatic front-men, by individuals, and a whole mythology of troubled artists. As has been discussed in our considerations of electronic instruments and laptop performances, electronic music has an uneasy relationship with the traditions of spectacle and performance or the ‘concert hall tradition’. Electroacoustic practices and some laptop musics have removed the performers from the stage, often losing the notion of spectacle and of real-time reproduction of music, and replacing the performing individuals with the playback of pre-recorded compositions, though these have tended to be marginal, experimental cultural practices. In contrast, electronic dance music has been a relatively mainstream, popular and even populist practice which has moved a focus from the spectacle of performance to that of the dancing crowd, with the virtuosic performer being for the most part an unnecessary component. When this shift in focus is coupled with an electronic sound-world, dance music clearly departs from rock traditions and it becomes harder to locate ‘musical meaning’. The sonic content combined with the context of reception arguably makes electronic dance a site of genuine musical novelty, engendering and demanding new modes of listening.

The discourses surrounding this radically different aspect of electronic dance music reveal something about the way in which we react to novelty and ways in which approaches to music can be reductionist, and mark a culturally-embedded failure to acknowledge or strive to find the hidden potentials possessed by sounds that Object Oriented Philosophy might alert us to. One place where this is made explicit is in the writings of Simon Reynolds, Ewan Pearson and Jeremy Gilbert. Reynolds’s work is particularly valuable because he describes a certain ‘Damascus’ moment he experienced through his embodied encounters with dance music that opened him up to the alternative modes of listening and musicking brought about by dance. Initially, Reynolds had taken what he describes as a ‘rockist’ approach to dance music, judging it according to points of identity with rock, rather than on its own terms;

my take on dance music was fundamentally rockist, in so far as I had never really engaged with the milieu in which the music came into its own: clubs [...] Barely acquainted with how the music functioned in its ‘proper’ context, I tended to fixate on singular artists [...] But dance scenes simply don’t work like this [...] I finally got it ‘right’ in 1991, as one drop in the demographic deluge that was 1991-2’s Second Wave of Rave, carried along by the tide of formerly indie-rock friends who’d turned on, tuned in and freaked out. It was some revelation to experience this music in its proper context - as a component in a system. It was an entirely different and un-rock way of using music<sup>158</sup>

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<sup>158</sup> Simon Reynolds, *Energy Flash* (London: Picador, 2008), p. xx - xxi.

As Reynolds describes it, his rock-critic background belongs to a discourse which situates ‘musical meaning’ in terms of vocal narratives or melody, of frontmen and songs, as opposed to considering factors such as bodily affect and faceless artists who don’t perform live. He moves away from this towards a functionalist understanding of dance. Dance is a music which is ‘used’ within a ‘milieu’, as a ‘component in a system’, towards specific ends.

Reynolds’s initial ‘rockist’ response to dance music is illustrative of Gilles Deleuze’s conceptualisations, put forth in *Difference and Repetition*, of how habit informs our receptivity to novelty. As Brian Massumi writes,

Habit is the body’s defence against shocks of expression. It “recognises” every arriving perception it can as being “like” an impulse the body has already integrated as a functional life content.<sup>159</sup>

When confronted with something genuinely different, our attempts to accept it are on the basis of recognition and representation, part of what Deleuze terms the ‘Image of thought’, wherein,

the past is treated as a reservoir of singular events that have happened only once, and are thereby singular, while the future is understood in terms of generality or the form of possibility [...] it is none other than the assumption that the future will continue to resemble the current state of affairs, that the future will continue to be recognizable. It is in this respect that the moral Image of thought is essentially conservative.<sup>160</sup>

A further look at Reynolds’s early reactions show us this pattern. He approaches dance on the basis of identity-with-the-known, with the ‘difference’ subsumed beneath a search for recognition: those unique, singular differences that make dance music what it is are neglected in favour of those points of identity and recognition where dance music can be seen to resemble other musical forms. Such an approach ends up seeking out the traditional musical values and modes of listening within dance. When his criticism was ‘rockist’ and sought out points of resemblance between the known and the new, Reynolds notes how he

accordingly celebrated groups like 808 State, The Orb, The Shamen, Ultramarine, on the grounds that they were making music that made sense at home and at album length... this divide between so-called ‘progressive’ electronica and mere ‘rave fodder’ has since become for me the very

<sup>159</sup>Brian Massumi, ‘Like a Thought’, in Massumi (ed.), *A Shock to Thought: Expression After Deleuze and Guattari* (Routledge: London, 2005), p. xxxi.

<sup>160</sup>Levi Bryant, *Difference and Givenness: Deleuze’s transcendental empiricism and the ontology of immanence* (Evanston, Ill.: Northwestern University Press, 2008), p. 89-90.

definition of ‘getting it completely wrong’.<sup>161</sup>

‘Getting it right’ for Reynolds involves abandoning this search for ‘albums’, figure heads, personalities and performers, and instead immersing himself in a the throbbing crowd, seeking out the increasingly ‘hardcore’ and the least explicitly ‘musical’ (in a traditional sense) areas of dance music.

Similarly, in *Discographies: Dance Music, Culture and the Politics of Sound*, cultural theorist Jeremy Gilbert and dance music producer Ewan Pearson are critical of those dance musics and music critics who seek out the presence of traditional musical forms and values, epitomising an approach rooted in recognition, inevitably neglecting the singular differences and unique qualities of dance musics. Along with Reynolds, they are critical of the less explicitly embodied operations of dance musics, such as we find in the rather unpleasantly named ‘intelligent dance music’ (IDM), ‘intelligent techno’ and ‘post club’ ambient musics. They assert;

Despite some fine records favoured as ‘chill out’ and ‘post-club’ material by dance fans, the discourses around the movement which ensued appeared to remove techno from the dancefloor and back into the mainstream of the metaphysical tradition; musics to listen to, musics to sit still to, electronic avant-garde music by and for (although not exclusively) white middle-class men. Such unfortunately titled labels as ‘intelligent techno’ signalled the removal of these musics from the zone of the body towards those of the intellect and ‘art’.<sup>162</sup>

These musics are seen as part of a reappropriation of elements of dance by the forces of tradition which, confronted by the alternative mode of listening within dance, attempt to ‘intellectualise’ it and make it more palatable for traditional modes of listening. We see a similar criticism of IDM by Reynolds. IDM is characterised by highly complex and intricate sounding compositions utilising the sound-world and processing techniques of rave and jungle musics, but generally favouring continual rhythmic variation over loops and repetition. In its heyday, IDM was represented by artists such as Squarepusher, Aphex Twin (also known as AFX), Autechre and Plug and through labels such as Warp, Rephlex or Planet Mu.<sup>163</sup> Whilst there are exceptions, a good degree of IDM can be reasonably described as ‘dance music that cannot be danced to’, an intellectualisation of dance music which reduces some of the materiality and physicality of the sounds to mere representation, signifiers of dance deprived of their base functionality. Reynolds somewhat venomously asserts, that “‘parasitic’ is the right word to describe this downward mobile

<sup>161</sup> Reynolds, *Energy Flash*, p. xxi.

<sup>162</sup> Jeremy Gilbert and Ewan Pearson, *Discographies: Dance Music, Culture and the Politics of Sound* (London: Routledge, 1999), p. 76

<sup>163</sup> See, for instance, Squarepusher, *Big Loada*, Nothing Records INTDE 90257, 1998 or AFX, *Hangable Autobulb*, Warp Records WAP 67, 1995.

dependence on ‘street sounds’ for stylistic rejuvenation; for instance, it’s highly unlikely that the idea of accelerating and chopping up breakbeats would ever have independently occurred to Plug / Squarepusher / AFX without jungle’s prior example.<sup>164</sup>

As Gilbert and Pearson note, it is often within the discourses surrounding these musics, and the way in which they were presented by their advocates, that we see the explicit return of traditional hierarchies. The name IDM was thrust upon the music by fans, apparently originating as a mailing list, and is rejected by many of those musicians - such as Aphex Twin - who find themselves burdened by it. Merely positing it as ‘intelligent’ dance music clearly has negative connotations for those common-or-garden dance musics which are, by implication, ‘stupid’, or at best ‘not-intelligent’. Nonetheless, it is easy to see why the ‘intelligent’ label should be attached to the music. IDM’s complexity functions as an (albeit false) index of virtuosity and skill; it is perceived as evidence of a talented and expressive human agent behind otherwise faceless machine-music. Whilst the skills and talents required to make good jungle, techno or dubstep may be less easy to recognise than conventional notions of, say, ‘a good pianist’, Squarepusher’s fast, jazz-tinged drum programming is much easier to recognise as being ‘virtuosic’ in a conventional sense, even if the reasoning behind this does not stand up to scrutiny.<sup>165</sup> As Simon Emmerson describes; ‘We know the rhythm track is programmed as it has been for more than 20 years. But the perceiver’s ear still associates extraordinary bpm rates, superhuman hit rates and impossible drum sound combinations as ‘virtuoso’’.<sup>166</sup> Complexity and variation is conceived as being superior to the functional repetition generally demanded by the dance floor; a point which we even find being made in a somewhat amusing manner by Karlheinz Stockhausen himself, when he was asked to comment on some of the earlier, more repetitive (and far more like ‘regular’ dance music) work of Aphex Twin (amongst others);

I wish those musicians would not allow themselves any repetitions [...] I know that he wants to have a special effect in dancing bars, or wherever it is, on the public who like to dream away with such repetitions, but he should be very careful, because the public will sell him out immediately for something else, if a new kind of musical drug is on the market.<sup>167</sup>

<sup>164</sup> Reynolds, *Energy Flash*, p. 399

<sup>165</sup> Gilbert and Pearson, *Discographies*, p 117.

<sup>166</sup> Emmerson, *Living Electronic Music* (Aldershot: Ashgate, 2007), p. 85. The problems with associating such sounds with virtuosity have been deepened even further by the recent emergence of automatic beat-slicing software, often based upon Nick Collins BBCUT library for Supercollider, which allow any basic rhythm track to be fed through and remixed, automatically given the sort of complexity that one associates with Squarepusher: the latest versions of the ‘Livecut’ VST plugin even feature a Squarepusher preset which automatically transforms the simplest of rhythm tracks into a close approximation of Squarepusher.

<sup>167</sup> Stockhausen interviewed by Richard Witts, ‘Stockhausen vs. the “Technocrats”’ *The Wire* 141 (November 1995).

With such a perspective in mind, one can understand Reynolds et al's resistance to IDM and the traditional hierarchies it appears to instil. However, what is revealed in their critiques appears also to be a resistance to dance music being used in any way other than on the dance floor, with a bare utilitarian functionality of moving bodies. In this way, they - like Stockhausen - bring an *a priori* system of values to the contingencies of musical experience. Reynolds, Gilbert and Pearson assume that the new highly embodied mode of listening present in dance music is the *only* way to engage with such sounds, revealing a reductionist view of listening which assumes that a music style or genre can only function in one way: *dance music has to be danced to*. As a logic of multiplicities would imply, not only must we resist subscribing to any hierarchy which values narrative, progression, variation and development over 'simple' repetition; we must be equally suspicious of the inverse. In the ways in which Gilbert, Pearson and Reynolds respond to those 'dance' musics which possess more of the trappings of 'traditional' musical values from the rock or classical canons, we also see a reductionism at play. Dance music is reduced to its dance floor functionality, any functioning of the sounds of dance in different contexts is seen as 'wrong', and the potential for these songs and sounds to reveal further untapped capacities through being brought into different networks of relations is ignored.

Reynolds, Gilbert and Pearson's vindication of the body over the mind - dancing over some sort of refined, thoughtful listening - still reinforces a mind/body dichotomy, a dichotomy which the theories of embodiment addressed in Chapter II problematised. All listening is embodied, though the degrees of bodily engagement may differ. Kodwo Eshun proposes that we

talk about dance music simultaneously as a kinaesthetic and a headmusic, because it tends to be both. As soon as you listen to dance music at home, its repetitiveness becomes headmusic- like. I've never understood why they can't be, why they *aren't* the same thing.<sup>168</sup>

I would like to follow Eshun here. Many of the things that make dance music powerful and affective on a dancefloor and over a pounding, powerful sound-system in a club, can be equally powerful yet utterly different in other listening scenarios, working on the body even when it isn't dancing and moving. Whilst music may be seen to do a certain work in a certain context, and it might be valuable to consider the specifics of its functioning in such a context, we should not limit it to these contexts nor assume that there is a 'proper', superior way of appreciating it: this applies to dance as much as any other musics.

I have already outlined what an Object Oriented approach to sounds might be, in which any object (such as a dance track) can never be exhausted no matter how many different encounters

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<sup>168</sup> Eshun, *More Brilliant Than The Sun*, p. 182.

there are with it. This might take the form of dancing or embodied listening but always a listening and an encounter conceptualised as a multiplicity, as a nexus of different modes of engaging with sound. Such an approach can be productively brought to bear in a critique of the reductive position on dance music taken by Reynolds, Gilbert and Pearson. Considering the ways in which objects exceed what we encounter, Object Oriented Philosopher Levi Bryant makes a distinction between an object's 'local manifestation' and its 'virtual proper being'. Bryant describes local manifestations as

Actualizations of powers of objects in the form of qualities or properties. There is no requirement of a sentient witness for local manifestation to take place. Local manifestations are local because they actualize a quality in a particular time and at a particular place. They are manifestations because they actualize a quality or property.<sup>169</sup>

Local manifestations, then, are the presence of objects we encounter. The 'virtual proper being', on the other hand, can be understood in terms of the virtual multiplicity of the sound-as-object, the withdrawn potential it harbours and the different possible musics outside of any one, individual actualisation. This is a distinction we have already seen, but making it in these terms allows for Bryant to indicate a very specific 'error of thought', namely, the extent to which a local manifestation (how something appears to us, or its presence) is frequently mistaken for the 'virtual proper being' or withdrawn whole of something. According to such an analysis, Reynolds makes the error of mistaking local manifestations (of dance sounds and songs) for the virtual proper being of the music: the assumption is made that they are exhausted by and only exist to fulfil some dance floor functionality. An Object Oriented approach can, then, ground a position from which this music need not be reduced to its ability to function as 'dance' music. Whilst we can experience it operating in such a context, we must be aware that the music has unrealised capacities, a virtual proper being, with qualities that will only emerge through the changing specifics of different contexts and relations.

Reynolds's and Gilbert and Pearson's work is highly valuable in identifying and critically discussing the individuation of new and different modes of listening in rave music. However, they undermine the radical potentialities of this shift by assuming this to be the *only* mode of listening to such musics, reducing the music to a specific, functional tool worthy of performing that task and that task only. Different modes of listening are mistakenly thought to supersede each other, rather than co-exist as different possible viewpoints of the same object. In taking such an approach, one risks ceasing to remain open to the possibilities in sound and the possibilities of new musical experiences and encounters. Reynolds's account also functions as a reminder that encounters with

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<sup>169</sup> Levi Bryant, 'A Lexicon of Onticology', <<http://larvalsubjects.wordpress.com/2010/05/22/a-lexicon-of-onticology/>>, retrieved 03/05/2011.

sound-objects have the ability to change us. Experiencing music in new and different ways no doubt affects our old listening practices and habits, perhaps rendering them obsolete or inaccessible, even embarrassing in certain circles, but nonetheless they remain demonstrative of a certain affordance offered by the sound, a certain possible relation. The ‘listening position’ we once adopted, back when we were naive enough or interested enough to enjoy what we may now reject, still exists as part of the virtual multiplicity of that sound-object: it remains a possible way to encounter and enjoy the music.

## Memory and Perception

Object Oriented Philosophy does not reduce the world to tangible, physical objects - atoms or discrete units - and such a materiality turns out to be paradoxically rather more idealist than it is realist, projecting onto the world a limited mental image of its operations that fails to grant sufficient reality to many of the less tangible but equally real components of the world.<sup>170</sup> An Object Oriented approach has to be able to account as much for the reality of unicorns and ideologies as it does for pebbles and quarks: whilst their materiality may be harder to pin down, unicorns and ideologies nonetheless intervene with and influence reality.<sup>171</sup> The material dimension is interwoven with an expressive or signifying dimension, and music engages with both, and neither aspect should be neglected: therefore, whilst dance music may be encountered in a very physical sense which explicitly engages with a certain materiality of sound, it nonetheless cannot be reduced to that physical component, and the signifying realm that is bound up with this materiality must be considered. An Object Oriented approach should therefore be able to account for the circumstances which can bring about different local manifestations of sounds which actualise their different signifying potentials. This signifying potential is often tied to and embedded in the operations of our own memories, and the ways in which the past might be said to resurface within the present. To these ends, I will now move away from dance music in particular and sketch a Deleuzian-Bergsonian account of the role of memory in our sonic encounters, considering musics which make this role most explicit as they deliberately aim for memory-drenched manifestations of the sounds they use, before bringing this back to dance musics and looking at the ways in which the sounds of dance can operate well beyond the dancefloor functionality that Reynolds, Gilbert and Pearson identify.

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<sup>170</sup> Harman, *Prince of Networks*, p. 74

<sup>171</sup> Graham Harman, ‘Realism without Materialism’, *SubStance* 125, 40:2, 2011 p. 71.

In *Bergsonism*, Deleuze guides us through Henri Bergson's analysis of our encounters, describing them in terms of the intersecting and intermingling of two 'lines', the first line being *perception*, the second, *recollection*. Of this first line, Deleuze writes:

the brain does not manufacture representations, but only complicates the relationship between a received movement (excitation) and an executed movement (response). Between the two, it establishes an interval [...] By virtue of the cerebral interval, in effect, a being can retain from a material object and the actions issuing from it only those elements that interest him. So that perception is not the object plus something, but the object minus something, minus everything that does not interest us.<sup>172</sup>

Our perception is neither therefore disinterested nor 'objective', nor does it merely construct ideal mental representations. Perception is inherently interested and active, and the 'perception-image' produced by the encounter is in this sense a 'translation'. We can see how this resonates with our Object Oriented consideration of sounds: the sound is a withdrawn object, and it is only ever encountered by way of translation or distortion, so that we neither encounter it fully nor exhaust the totality of its being.

The 'second line' in Deleuze's Bergsonian perception is that of recollection, which introduces the subject's memory and is embedded in a Bergsonian notion of time and the past which sees the past existing as a pure virtuality, contemporaneous with the present. There is a 'psychic repetition' on multiple, virtual levels: 'The whole of our past is played, restarts, repeats itself, at the same time, on all the levels that it sketches out.'<sup>173</sup> According to Bergson, the subject 'leaps into' this pure virtuality of the past to find the relevant memory that the encounter in the present demands, and a 'recollection-image' is actualised in the brain:

The appeal of the present is such that they [the memories] no longer have the ineffectiveness, the impassivity that characterized them as pure recollections [virtual]; they become recollection-images, capable of being "recalled." They are actualized or embodied.<sup>174</sup>

Recollection and perception are intertwined, our memories are forever before us as we perceive the world, informing that perception. Deleuze describes as the 'Bergsonian revolution' the idea that '[w]e do not move from the present to the past, from perception to recollection, but from the past to the present, from recollection to perception.'<sup>175</sup> The idea of perception being filtered by memory in this manner resonates with an Object Oriented approach and the idea of affordances, for it is our

<sup>172</sup> Gilles Deleuze, *Bergsonism* (New York: Zone Books, 1991), p. 24-25.

<sup>173</sup> *Ibid.*, p. 59 - 61

<sup>174</sup> *Ibid.*, p. 63.

<sup>175</sup> *Ibid.*, p. 63.

habits and memories, from the fundamental *physical* habits and behaviours (we walk around, we climb stairs, we turn door handles) to more *culturally-informed* habits (we know that guitars are playable, we know that fridges keep things cold) that structure the affordances we perceive, and therefore what qualities might be actualised in our encounter with an object.

Deleuze introduces the concept of the ‘crystal-image’, a very particular phenomenon emerging from this account of perception wherein ‘the object itself merges with a pure virtual perception, at the same time as our real perception merges with the object from which it has abstracted only that which did not interest us.’<sup>176</sup> Deleuze writes about the ‘crystal-image’ primarily in *Cinema II: The Time-Image*, and the concept refers to certain strands in postwar cinema, the ‘crystalline’ nature of which emerges partly through certain cinematic techniques: filmmakers such as Godard layered and montaged different coexistent realities, and overlaid narratives, often using deliberately disjointed cuts, creating a specifically cinematic perception, possessing the unique power of showing the very operations of a certain way of seeing and being. With the crystal-image, Deleuze does not provide us with a catch all theory which we can easily map over from cinema to music, as it does refer to a specific affect of cinema. Nonetheless, in trying to identify listening situations wherein we seem to perceive both an ‘actual’ and a ‘virtual’ sound or melody co-existing in close circuits with each other, we are able to do work uncovering possible perceptive and psychological mechanisms at play in certain musics and certain listenings. One place where we find such ‘sonic crystals’ is within musics which combine samples or stylistic appropriations with certain effects and distortions so that the sound or melody is heard in a fragmented or out-of-focus way, such that the fragmented actual sound seems to coexist in perception with the virtual ‘complete’ it evokes.

One artist whose work seems to make manifest such sonic crystals is Ariel Rosenberg, who records as Ariel Pink; a contemporary LA musician whose earlier music is always shrouded by a thick fog, the detritus of a very focused but utterly lo-fi approach to production. The tracks are often in mono, and many of the specific qualities of Ariel Pink’s earlier music are in fact the audible traces of his eight track cassette recorder which often appears to have stripped the music of certain frequency registers. Muffled drums created by human beat boxing (but bearing very little relation to the use of the technique in hip hop) are intended to ‘sound like a Steely Dan tenth generation copy from the mixer’s desk’.<sup>177</sup> When questioned about his vocal percussion, Rosenberg describes it as ‘actual and identifiable sonic patterns masquerading as a sensibility that’s pretending to be rock and roll but embodies rock and roll’s truth far more than anything previous’: through a seemingly playful mimicry of ‘rock and roll’, the music can actually powerfully evoke some singular ‘essence’

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<sup>176</sup> Ibid., p. 25

<sup>177</sup> Mike Barnes, ‘Ariel Pink: Invisible Jukebox’, *The Wire* 305, July 2009, p. 25.

of ‘rock and roll’.<sup>178</sup> Ariel Pink’s music is able to powerfully allude to some epic, golden pop record behind the fizz, fuzz and distortion; when I listen to his songs, I am often shocked by how lo-fi they actually are: not because of some audiophile inclinations I possess, but because when one of his songs occupies my mind for a day as I go about my routines, humming, whistling and imagining it, I am often humming, whistling and imagining the forgotten nugget of MOR gold that Ariel Pink somehow evokes. In various ways, then, the ‘lo-fi’ actualisation of the music seems to exist in close, crystalline circles with some forgotten ‘classic’ pop song that remains virtual, but nonetheless seeps into our perception.<sup>179</sup>

Similar techniques are at work in the music of James Kirby, who has several recording projects which explore half hinted at melodies placed at some dusty distance, making audible some sense of time or distance in the songs. Recording as The Caretaker, he uses old ballroom music collected from a record store in Stockport, quite often the work of Al Bowlly, a popular wartime singer who was killed by a parachute bomb outside his house. The project references the haunted ballroom in the Overlook Hotel in Stanley Kubrick’s *The Shining*, conjuring up some of the disjointed operations of time and memory - and evil - in that film. With The Caretaker project, one gets the simultaneous absence and presence of melodies and themes which are very evocative of particular eras and contexts (early twentieth century ballrooms); one finds oneself listening to ‘virtual’ melodies that, upon close inspection, don’t actually appear to be there. In this way, we find again what we might identify as a sonic crystal, as the ‘actual’ music co-exists in close circuits with its ‘virtual’ counterpart, and we are listening to both a ‘presence’ and an ‘absence’.<sup>180</sup>

The deliberate play with memory undertaken by artists such as Ariel Pink and James Kirby has been termed ‘hauntology’, and is related to a whole continuum of musics which over the past few years have creatively engaged with the presence of memory in perception through the repurposing and manipulation of specific samples or sonic signifiers of other genres and a sense of temporal distance implied through fragmentation or surface noise.<sup>181</sup> The word ‘hauntology’ comes from Jacques Derrida’s 1993 text *Specters of Marx*, and was originally used in response to the ‘end of history’ argument popularised by writers such as Francis Fukuyama, with Derrida challenging their claims that liberal capitalism had solved the world’s ills, suggesting instead that Europe was still ‘haunted’ by Marx, much as Marx himself had described the haunting of Europe by the spectre of communism in the opening of *The Communist Manifesto*. Hauntology was intended as something of a pun on the word ‘ontology’ (and the effect is heard when one puts on one’s best

<sup>178</sup> ‘Ariel Pink: Interview. Who Said Anything About Pop Music?’, *Tiny Mix Tapes*, January 2006, <<http://www.tinymixtapes.com/features/ariel-pink1>>, retrieved 22/05/2011.

<sup>179</sup> See, for instance, Ariel Pink, *House Arrest*, Paw Tracks Paw 008, 2006.

<sup>180</sup> The Caretaker, *Selected Memories From the Haunted Ballroom*, V/VM Test Records OFFAL02, 1999.

<sup>181</sup> the term was first used in musical context in 2006 by Simon Reynolds, writing on his *Blissblog*, <<http://blissout.blogspot.com/2006/01/mike-powell-evocative-and-thought.html#links>>, retrieved 19/09/2011.

‘French’ accent), pointing to the tricky ontological issues surrounding spectres and hauntings, the things that aren’t ‘here’ but nonetheless exert some sort of presence, even if it is a paradoxical presence-of-absence, such as we find with ‘sonic crystals’.

As Fisher and others conceive it, hauntological musics deploy specific aesthetics which evoke both older styles or genres *and* the context within which these musics existed, in particular the conceptions of the future that may’ve existed in such contexts: often, this may be used to conjure up past notions of collectivity and the lost utopias of the past: the lost futures of these pasts are evoked as a virtual contemporaneous to our own present. There might be a layer of distortion, distance or fragmentation which reveals its absence from the present, presenting this older context as being in the past. Musicologist Adam Harper describes these two ‘layers’:

The first layer is ‘inside’ the second layer (‘the past inside the present’). The first layer (‘the past’) can only be seen through the medium of the second layer (‘the present’) so that we can’t be entirely sure of the image portrayed by the first layer. This process of obfuscation is a metaphor for memory (or more specifically an allegory of memory), and more broadly an allegory of any sort of representation of the world or any inadequately (‘untruthfully’) symbolic or imaginary conceptualisation.<sup>182</sup>

In this way, hauntology foregrounds the materiality of the medium through the ‘second layer’, and allows us to see how the first sonic layer can function differently, having different ‘local manifestations’, according to the network of relations or ‘regime of attraction’ within which we encounter it. In hauntology, the local manifestation is presented as ‘lacking’, whilst the being of some virtual whole is implied, revealing the fragility of presence whilst alluding to virtual possibilities.

Fisher and other writers such as architectural theorist Owen Hatherley perceive potential for critique within hauntological works. As Fisher tells us, ‘it is by comparison with those lost virtual futures that the present must be judged harshly.’<sup>183</sup> One example of this is the work of the label Ghost Box which utilises imagery and sounds evocative of the pre-Thatcherite, post-war years in Britain. Brutalist housing estates, polytechnics colleges and the BBC Radiophonic Workshop all serve as reference points for a lost modernist future, evoking ‘a benign, bygone paternalist socialism in the face of an increasingly dystopian hypercapitalism.’<sup>184</sup> Ghost Box refers to the ‘many possible beginnings that became dead-ends in the 45-79’, existing now as virtual alternatives

<sup>182</sup> Harper, Adam ‘Hauntology: the Past Inside the Present’, *Rouge’s Foam*, <<http://rougesfoam.blogspot.com/2009/10/hauntology-past-inside-present.html>>, retrieved 20/07/2011.

<sup>183</sup> Mark Fisher, *K-Punk Blog*, <<http://k-punk.abstractdynamics.org/archives/011148.html>>, retrieved 01/08/2011. For Ghost Box music and aesthetics, see <<http://www.ghostbox.co.uk>>, retrieved 28/05/2010 and Belbury Poly, *The Willows*, Ghost Box GBX003, 2004, or The Advisory Circle, *Mind How You Go*, Ghost Box GBX013, 2010.

<sup>184</sup> Owen Hatherley, ‘A New Career in a New Town’, *Perforations 29*, <[http://www.pd.org/Perforations/perf29/perf29\\_index.html](http://www.pd.org/Perforations/perf29/perf29_index.html)>, retrieved 28/07/2010.

to our own present that are somehow evoked through the music.<sup>185</sup> However, it is not a simple nostalgia (if there is such a thing) that we get with Ghost Box, and if some supposed golden age is evoked, there is a simultaneous sense of foreboding, as evocation of rural occult practices and strains of horror are bundled in with the references to secondary moderns and Penguin paperbacks.<sup>186</sup> Following Slavoj Žižek and Fredric Jameson, Fisher notes how it is easier to imagine the end of the world than the end of capitalism, and how ideology functions by masking the contingency of the present as being the only way things can be, rather than the result of specific choices, a ‘capitalist realism’.<sup>187</sup> The virtual domain of lost futures illuminated by hauntological musics draws attention to this contingency by highlighting those lost alternatives and modes of collectivity that, like the ghost of Communism to which Derrida refers, continue to haunt the present.

### **Glass Faced Man**

My own Glass Faced Man recordings, found on CD3, are amongst several pieces I have made which demonstrate an attempt to engage with the aforementioned crystalline sonics, exploring how distance or time can be brought into music. The pieces are improvisations, each using small, pre-composed loops as source material, manipulating them on my laptop in different ways to fracture or fragment their surfaces. The most basic (though often most effective) techniques I have used to achieve this are low pass filtering, certain reverbs and slowing down samples, all having the effect of blurring, muddying and muffling sound. Another approach is through using a ‘malfunctioning’ granulator within my Max MSP patch, which adds layers of crackles to the recordings, created by various glitches (predominantly from trying to play from a buffer whilst writing into it, and ‘non zero crossovers’) which are then filtered. These are then reminiscent of rain or vinyl crackle, instantly ageing the recording or suggesting a physical space, a concert hall in the rain, with the music drifting in from somewhere distant.

Some improvisations have featured an FM radio, tuned very closely to Classic FM, but out of tune enough to give a rough, distorted edge. At some point during a set, I would turn on the radio, fingers crossed that I would not encounter an advert or the news (although prepared to make the most of either outcome), but on most occasions lucky enough to allow a couple of minutes of disfigured, grainy, distorted and normally somewhat saccharine classical music to drift through the

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<sup>185</sup> Owen Hatherley, <<http://nastybrutalistandshort.blogspot.com/2006/10/hauntology-and-historical-aberration.html>>, retrieved 11/09/2011.

<sup>186</sup> Adam Harper, <<http://rougesfoam.blogspot.com/2009/10/hauntology-past-inside-present.html>>, retrieved 11/09/2011.

<sup>187</sup> Mark Fisher, *Capitalist Realism: is there no alternative?* (Hants: O Books, 2009), p. 2.

set.<sup>188</sup> Wanting to extend these investigations, I also began incorporating cassette manipulations into my improvisations. A chance encounter in a charity shop resulted in me acquiring two wonderful warbling cassettes of *Romantic Piano Greats* and *Moods of Hawaii* which I feed through a compressor along with some home made rain-synthesisers running on iPhones (synths which create fields of crackles and pops designed to stimulate various weather conditions for computer games). The crackles function similarly to those created by the Max MSP patch, and depending on how the compressor is being used, can either sit on top of the music like some layer of dust, or burst through and fragment it. Removing the back from the cassette player allowed for the shorting of connections with my fingers: one can interfere with the smooth playback of the source material in various ways, sometimes affecting the volume or speed, occasionally and unpredictably removing the lower frequencies or interrupting the playback with an abrasive burst of square wave. Multiple square waves also playing through the compressor act to further squash and distort the warbling ukeleles or pianos. These approaches, then, illustrate a certain type of listening and a way of treating musical materials, exploring how deliberate degradation of the signal could paradoxically add to its ‘presence’, or illuminate some manner of virtual presence, attempting to create ‘sonic crystals’.

### Haunted Dancefloors

We can now bring these explorations of memory back to our consideration of the sounds and songs of dance. Within this canon of haunted musics, there are several which repurpose the signifiers of dance music, investigating not just their capacity to move bodies, but utilising their withdrawn potentials and their ability to evoke - or even implant - certain memories. Perhaps the foremost of these is composer William Bevan, who records as Burial, and whose music has provided several aesthetic blueprints that have migrated through to many other contemporary musics.<sup>189</sup> His work takes many of the signifiers of dance music (such as the cut-up and re-pitched vocal loops of rave, 2 Step and UK Garage, the sub-bass of jungle and dubstep, and the rolling, flickering percussion of jungle and 2 Step), but deploys them in a very non-dancefloor way, evoking and playing with the atmosphere, feeling and experience of raves without ever trying to compel bodies to dance.<sup>190</sup> In an interview Bevan states, ‘I’ve never been to a festival. Never been

<sup>188</sup> This tactic - detuned radios and Classic FM - can be heard on ‘lost \_returns’, *Glass Faced Man* (CD3 track 5) and RaM’s *Live at Love’s Secret Domain*, CD4 track 1, approximately 4 minutes in.

<sup>189</sup> Burial, *Untrue*, Hyperdub, HDBCD002 2007 and Burial, *Burial*, Hyperdub HDBCD001 2006.

<sup>190</sup> Bevan’s music has perhaps been over-theorised in the music press as the afterglow of rave, or a mourning for rave, and I do not wish to claim that this is the only thing his music ‘does’. Adam Harper has produced a compelling collection of alternative interpretations of Burial. Nonetheless, the ‘death of rave’ interpretations of Burial provides a compelling account of his music, and one which allows us to see ‘dance’ operating in different context.

to a rave in a field. Never been to a big warehouse, never been to an illegal party, just clubs and playing tunes indoors or whatever. I heard about it, dreamed about it.’<sup>191</sup> Bevan captures something of the social and material context of a club when he says ‘Sometimes you’ll go to a club, and before you go in you can hear it through the walls,’<sup>192</sup> and ‘when you walk down the stairs into a club and you start hearing the music, but there’s people talking around you and the music mixes itself in with real life. I like that sound... it’s like a memory of a tune.’<sup>193</sup> The muffled synth pads, vocal fragments and cavernous bass evoke a physical, architectural space and a physical and material distance from the music, as though it were a fading memory or half-forgotten dream.

Alongside The Caretaker, James Kirby has a ‘Death of Rave’ project which, like Bevan’s work, turns the warehouse rave into a site of mourning, utilising fragments of euphoric trance music, drenched in cathedral reverb and regularly collapsing into discord.<sup>194</sup> The misspelt sleeve notes articulate the listening experience quite accurately;

This is the sound of a distant Northern warehouse a now abandoned venue. A celebration of the death of the original rave movement. Stripped bare and oozing with sweat, ecstasy and constant smell of Vicks Vapo rub. The beat has long gone. You grab the odd fragment via the odd sound from time to time, mostly recollections are clouded.<sup>195</sup>

For both Bevan and Kirby, then, ‘rave’ is less about dancing and more a site of mourning. This mourning might be construed as being for some lost, forgotten or even imagined hopes that inhabited earlier rave tracks; it may be hope for some sort of social unity, as Bevan notes, ‘I hear this hope in all those old tracks, trying to unite the UK, but they couldn’t, because the UK was changing in a different direction, away from us.’<sup>196</sup>; it may also be a mourning for the commercialisation of club culture, and for an increasingly evasive underground (nowadays, the internet can quickly turn a nexus of local creativity into a worldwide ‘trend’), before it ‘all became like super-clubs, magazines, trance, commercialized.’<sup>197</sup> We can see how both Burial and the work of Ghost Box evoke what Fisher describes as ‘modes of collectivity that are either lost or dying’, whether we find that in public services and the welfare state or rave, with the lost futures of these

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<sup>191</sup>Mark Fisher interviews Burial for *The Wire* 286, December 2007, unedited transcript at <<http://www.thewire.co.uk/articles/347/?pageno=2>>, retrieved 30/07/2011.

<sup>192</sup>Emmy Hennings interviews Burial, *Cyclic Defrost*, November 2007, <<http://www.cyclicdefrost.com/blog/2007/11/24/burial-interview-by-emmy-hennings/>>, retrieved 20/06/2011.

<sup>193</sup>Nigel Long, ‘Interview: Burial’, *Fact Magazine*, January 2009, <<http://www.factmag.com/2009/01/01/interview-burial/>>, retrieved 20/06/2011.

<sup>194</sup>V/Vm, *The Death of Rave*, Vukzid VUKZID01, 2006.

<sup>195</sup><<http://brainwashed.com/vvm/micro/vukzid/vukzid01.html>>, retrieved 30/08/2010.

<sup>196</sup>Mark Fisher interviews Burial for *The Wire*, 286, December 2007, unedited transcript at <<http://www.thewire.co.uk/articles/347/?pageno=2>>, retrieved 30/07/2011.

<sup>197</sup>Ibid.

pasts existing virtually alongside our own time as a point from which to critically assess it.<sup>198</sup>

The sounds of dance as they are deployed by Bevan and Kirby act not to compel people to dance, but as dusty shrines to a lost age, an age that is powerful as a possibility immanent in the present, even if it is not *actually* remembered. In Eileen Wu's studies of nostalgia in the San Francisco Bay Area rave scene, she found that the participants, like Bevan, were mostly too young to have actually experienced those raves for which they were nonetheless nostalgic; she notes that 'nostalgia operated at a few different levels, and pointed to a slippery memory based on collectively imagined, as well as lived, pasts.'<sup>199</sup> For Wu, this nostalgia functions in different ways. In one sense, it helps unify the apparent confusion of the present, as she suggests, 'nostalgia was simply an interpretive tool to give coherence to an increasingly incoherent cultural experience. Nostalgia, in such a case, manifests itself around dissatisfaction in the present, and on the assumption of "an earlier time of cultural wholeness that is now at risk of fragmentation"'<sup>200</sup> More interesting, however, is Wu's assertion that this nostalgia- much like Fisher's hauntology and the music of Bevan and Kirby - could also function as a powerful critique. The nostalgia of young Bay Area ravers was not merely 'backwards looking', but could contain the germs of action and praxis; 'In re-imagining the past, these young people drew and re-drew the lines of a "dying" culture, and positioned themselves toward the future.'<sup>201</sup>

### Meaning and Memory in the Mix

One can also consider how the past haunts dance music even in its most functional forms, through 'the mix'. The act of mixing two records together is a technique which lies at the heart of dance music and cultures, and through its combination of the old and the new, can be construed as a way of interrogating collective cultural memories or reframing the past and the various narratives and becomings we may trace in it, creating new narratives and connections and letting the ghosts of the old stalk the new, as well as suggesting modes of listening to the sounds as materials, through the sonic flows and juxtapositions within the mix. As Hillegonda Rietveld, scholar and former member of the rave-orbiting Factory Records group Quango Quando, notes;

The practice of the DJ draws on archived banks of pre-recorded music to create a relevant mix that continuously recontextualises these recordings. Through the creation of the third record in the DJ's mix, the recombination

<sup>198</sup> Fisher, *K Punk* blog, <<http://k-punk.abstractdynamics.org/archives/008552.html>>, retrieved 07/06/2011.

<sup>199</sup> Eileen Wu, 'Memory and Nostalgia in Youth Music Cultures: Finding the Vibe in the San Francisco Bay Area Rave Scene 2002-2004', *Dancecult: Journal of Electronic Dance Music Culture*, 1:2, 2010, <<http://dj.dancecult.net/index.php/journal/article/viewFile/41/38>>, retrieved 30/07/2011, p. 65.

<sup>200</sup> *Ibid.*, p. 68.

<sup>201</sup> *Ibid.*, p. 75.

of (at least) two recordings, as well as a revision of disco's archival canon, house music may be perceived as a fluid musical archive, operating between the mediation of recorded musical production and lived cultural memory.<sup>202</sup>

Rietveld brings a Deleuze-infused analysis to the significations at play in Larry Heard DJ set, using the concept of deterritorialisation to look at how the context established by a mix frames individual tracks in a certain way. As the mix draws songs from different eras of the development of dance music, pulling aspects of Detroit techno (Chicago house's barer, cyborg cousin) and Disco (from which house originated), different histories and narratives are suggested. Rietveld describes how the continuous backbeat can serve as a way of unifying somewhat diverse elements, without homogenising them. The 'musical memories of underground disco are inscribed and re-enacted', in a 'rhizomatic' and 'nomadic' manner: that is, tangential connections are explored beyond any obvious linearities and the standard, 'major' narratives of 'what happened'.<sup>203</sup>

The mix can function as an invitation to listen in a certain way, and my own mixes and remixes function to suggest and point out certain ways of using or imaging the materials involved, at the levels of materials or signs. I have done a series of mixes which bring ambient Oneohtrix Point Never tracks into collision with DJ Screw re-workings, or Chicago 'footwork' tracks. DJ Screw was a Houston-based hip hop artist who in the mid-1990s made popular the 'chopped and screwed' style which principally involved playing 45rpm records at 33rpm, transforming them into bass heavy, syrup-like waves of psychedelia.<sup>204</sup> Footwork tracks are sparse yet frantic, with twitching drum machines set against wildly re-pitched youtube samples, which range from hip hop tracks to pretty much anything: Marvin Gaye and 'emo' rock group Quintessence are both playfully mauled and re-appropriated on footwork producer DJ Nate's most recent album.<sup>205</sup> They are an example of an almost brutalist, utilitarian dance floor functionality that operates within a very specific scene, predominantly located in youth clubs and school halls in suburban Chicago where it soundtracks highly technical 'dance offs' between rival crews. Oneohtrix Point Never produces otherworldly 'synth jams', sounding somewhere in between frozen infomercial muzak, Tangerine Dream and the original Terminator soundtrack.<sup>206</sup> My mixes serve as documentations of a certain listening and a certain way of approaching these rather diverse materials, amplifying the psychedelia of DJ Screw's mixes and focusing on how unusual the footwork is, losing its dance floor functionality and putting it to work in a different way. This is re-presenting a certain mode of encountering the sonic materials, and thus performing certain affordances within the sound

<sup>202</sup> Hillegonda C. Rietveld, 'Disco's Revenge: House Music's Nomadic Memory' in *Dancecult: Journal of Electronic Dance Music Culture*, 2:1, 2011, p. 5.

<sup>203</sup> Ibid., p. 7.

<sup>204</sup> DJ Screw, *The Legend*, Bigtyme Recordz, BTR 2001, 2001.

<sup>205</sup> DJ Nate, *Da Trak Genius*, Planet Mu XIQ280, 2010.

<sup>206</sup> Oneohtrix Point Never, *Rifts*, No Fun Productions NFP56, 2009.

materials themselves: affordances that may have been hidden until revealed by the mix and the approach to listening which it structures.<sup>207</sup>

### Probe Head of Dance

Returning to the IDM which was criticised by Reynolds, Gilbert and Pearson, as opposed to viewing it as some ‘parasite’, I propose that we see it as a *probe head*, moving the sound-world of dance music into different territories, exploring the different ways in which these sounds can function. This concept of the probe head was considered in Chapter I: it is concept found originally in Deleuze to described a ‘searching device’ created through the combination of something which generates many forms with a ‘sorting mechanism’. This probe head explores the different possible forms within the virtual multiplicity of an object, actualising different qualities and filtering them according to some criteria.

As a probe head, IDM functions as a potentially valuable exploration of some of the singular, hidden affordances and potentials of what were at the time new technologies used in the production of dance musics. In IDM, we find an exploration of the potential for manipulating detail in new ways that the DAW and editing software opened up; sequencer software such as Cubase or trackers such as Renoise allow for drum sequencing at much higher resolution than older analogue drum machines and hardware sequencers, and in an environment such as Cubase or Logic one is able to implement, manipulate and cycle through more effects at a far greater rate than was ever possible in conventional studios, or at least with the greater ease that a more improvisatory and playful relationship with such techniques opens up. Whilst a computer facilitates ‘copy and paste’ for endless repetition, it is also very easy to edit individual bars, introducing constant variations, and having a visual representation of a whole track that hardware does not provide.

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<sup>207</sup> Also worthy of attention are certain recent aesthetic trends related to ‘hauntology’, influenced by Burial and Ariel Pink’s impressions of forgotten pop, known by genres such as ‘hypnagogic pop’ and ‘witch house’, which use varying combinations of surface noise, processing and distortion of sampled popular musics and dance floor materials to create something which deploys such sounds to different effect than their original ‘use’, mining their virtual being for creative potential. Whilst the material potentiality of the song is explored, so is the representative and signifying role of much of its content. That is, sounds are re-appropriated both as material ‘substance’, and vessels for meaning, the latter being part of what Deleuze has termed a process of ‘deterritorialisation’, insofar as they are partially detached from the networks of meaning within which they usually reside. The tracks, mixes and remixes of these artists use source materials ranging from ultra-glossy 1980s pop to euphoric Euro-trance, the chart-pop of Lady Gaga or the commercial hip hop of Gucci Mane, as heard on Games’s ‘Heaven Can Wait’ mixes, Salem’s ‘RAVER STAY WIF ME’ mix and oOoOO’s ‘PCKRFCRMX’. Sometimes the source material is manipulated to reveal new affordances, other times it is simply recontextualised in such a way so as to expose some weirdness which may already be quite pronounced; as ‘witch house’ artist oOoOO notes, ‘Sometimes it's just about changing up the speed, slowing it down. Christina Aguilera's last album sounds real good 20 percent slower. But Britney's Black Out is strange enough as it is.’ (Robert McCallum, ‘Munch Ado About Something: An Interview With oOoOO’, *The Quietus*, 2011, <<http://thequietus.com/articles/05817-ooooo-interview>>, retrieved 30/07/2011).

Furthermore, IDM has served to generate certain sounds and musical traits which have migrated back to the dancefloor, and we hear some of the glitchy complexity initiated by IDM in musics which are much more unashamedly 'functional'. Artists such as Modeselektor, or others associated with Berlin's Bpitch Control record label, and certain purveyors of 'post-dubstep' sounds such as Debruit or Squire of Gothos throw 'virtuosic' programming and intricate drum breaks into their grooves, generally enhancing rather than detracting from the dancefloor functionality of the tracks.<sup>208</sup> Even recent hardcore tracks might feature 'intelligently' diced vocals, despite the fact that hardcore is often posited as the very antithesis of 'intelligent'. Plugins and effects such as 'Livecut' or Ableton Live's 'Beat Repeat' - 'auto-glitch effects' - were designed in response to the sound-world explored by IDM, allowing such sounds to make their way back into the production set-ups of those making more 'conventional' dance musics. Thus, whilst some attempt to present a dichotomy between 'mind' and 'body' musics, or posit dance music as being 'stupid' and IDM as being an acceptable reconditioning of it, the modes of listening within IDM need not be seen as directly opposed to the functional physicality of dance music, but as part of a migration and exploration of sounds and technologies, intimately related to dance musics in a two way dialogue, illustrating the potential of these sounds to exceed what we first encounter and the multiple, diverse nature of our musical encounters.<sup>209</sup>

### **Dovestones EP: Urban Detroit and Rural England**

My own 'Dovestones EP' reflects a very personal listening that I have with dance music, and very particular ways in which the electronic dancefloor sounds of Detroit have been used by electronica artists and imbued with a nostalgic, rural sensibility. The tracks on the EP owe a lot to my experiences of electronica, in particular the music of Boards of Canada, a Scottish duo who combine loping hip hop beats with hazy, pastoral synthesisers.<sup>210</sup> Their music can be at once utterly electronic, aware of the way in which beats move bodies and sometimes not out of place on a dance floor, yet at the same time incredibly dreamy and nostalgic, with the wavering, warm and fuzzy synthesisers evoking something eldritch or arcadian. With its vague echoes of Sesame Street and old wildlife documentaries, I used to only half jokingly remark that the music reminded me of my childhood in 1970s suburban America, even though I was brought up in the Pennines near Manchester in the mid-1980s. It evoked a powerful nostalgia, but it was a rather unusual nostalgia as it seemed to be for something I'd never experienced. When I first began to listen to Boards of

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<sup>208</sup> Squire of Gothos, *We Do Scorpion Things*, Rag and Bone, Totter 024, 2010, Debruit, *Spatio-Temporel*, civ012, 2010 and Modeselektor, *Hello Mom!*, Bpitch Control BPC115, 2005.

<sup>209</sup> Some of my early electronic improvisations - documented on CD6 tracks 10, 11, 12 and 13 - represent an attempt to move this sound-world of IDM into free improvisation, and an attempt to have access to the sound-world of Autechre, with the sensibilities of Derek Bailey.

<sup>210</sup> Boards of Canada, *Music Has The Right To Children*, Warp Records / Skam, WARPCD55, 1998.

Canada at the age of 16, it was intertwined with my own personal explorations of the countryside I grew up in, with its abandoned quarries, bleak heather-clad moorlands, and remote reservoirs, where brutalist concrete structures descend from the peat bogs. Accordingly, the tracks on the *Dovestones* EP are all named after areas around *Dovestones* reservoir, alluding to the balance of the pastoral and the industrial which characterises this landscape.

I am not alone in drawing such connections between techno and rural Britain. *Boards of Canada*'s cover art and the mythology around the band clearly invites one to make such connections, and throughout the whole genre of 'electronica' one finds constant references to rurality in song titles and cover art. Electronica is an offshoot of rave (though it clearly takes influences from other sources as well) and the relationship between the dancefloors and the fields of England is rather intimate: during the heydays of the rave movement, they were quite often the same place. The *Dovestones* EP is decidedly more house oriented than *Boards of Canada*, but nonetheless heavily influenced by their 'electronic ruralism', documents a certain listening, a certain possible functioning of musical elements (synthesised 808s and 909s, ersatz flutes and hazy synth pads), deterritorialising these elements of 'dance' and claiming them for the moors, exploring different aspects of their signifying potential.

## Summary

Within electronic dance musics we find new forms of musicking: new listenings, new musical experiences and new performance practices which in many respects depart from some of the defining attributes of the Western musical tradition. The embodied nature of our musical encounters is brought to the forefront, and tracks and sounds are designed specifically to move bodies around dance floors. Nonetheless, as has been argued, we cannot reduce dance music to its dance floor functionality. As our Object Oriented approach suggests, sounds have reservoirs of potential beyond any one actualisation and thus can function in ways beyond those revealed in our initial encounters with them. Without devaluing the functionality which may sometimes lie at the heart of dance music, dance can still possess powerful affects in different contexts where it is no longer moving bodies. The sound-world can be utilised and recontextualised, from the intensive, intricate sequencing of IDM to the ghostly works of mourning from *Burial* and *The Death of Rave*, the latter artists reminding us that perception is impregnated with memory, and that there is a virtual being behind those manifestations of objects we encounter.

Dance music can create a space where sounds can be interrogated, connections suggested and explored and aspects of the withdrawn being of sounds explored. In the first chapter we explored the powers of recontextualising sounds, and we have seen here further ways in which

sampling and mixing, essential components of dance culture, allow sounds to be put into different contexts where different capacities and qualities are revealed and they do a different sort of work in the world. On the dancefloor, the beat can provide an anchor and a unity of experience whilst at the same time facilitating myriad heterogenous individual listenings. The mix becomes a way of suggesting new narratives and connections between different songs and encouraging different listenings to certain materials, highlighting alternative possibilities and shining a flashlight into the ‘hidden worlds’ of these songs and sounds.

The material and embodied aspects of our musical encounters can be considered in tandem with the symbolic and signifying interplays. Dance music contains both. Dance music moves bodies, whilst the songs and sounds involved accumulate meaning at the level of signification, meanings which can be explored as they are brought into different networks of relations.

## Conclusion

We have explored a theory of encounters with sounds and instruments which asserts that these things always have reservoirs of potential - 'hidden worlds' - that might not be initially revealed to us, but that we might actualise through our listening and playing. Whilst being a relatively simple premise, this allows us to address issues within our praxis, looking at how certain reductionist notions of music, listening and performing can restrict our understanding of sounds and musical technologies.

In Chapter I, such an approach was developed and used to stage our musical encounters as a 'challenge': a challenge to find productive ways to engage with these musical objects in the world. It might involve the transformation of ourselves, an understanding of our own habits and the potentials of our 'Body without Organs' as we learn new modes of listening, as is reflected through the changing musical tastes or developing musical skills that many of us will have throughout our lives. Different material circumstances and 'regimes of attraction' might reveal previously hidden capacities or even agencies that a song or sound was secretly harbouring. Encountering dubstep or jungle upon a huge sound-system in a South London warehouse, listening to Bruce Springsteen on a New Jersey highway or hearing Sade whilst gripped by young love might reveal to us unforeseen affordances of these songs, reorganising our perceptive apparatus and opening us up to new modes of listening. Engagement with musical materials might involve a transformation of the materials themselves: we might bring them into collision with other objects such as samplers or songs that we mix them with, slowing them down or speeding them up, drenching them in reverb or putting a disco beat underneath them that brings forth the possibilities of a productive listening with them, and there is much interesting critical work to be done about the thresholds of identity of a song or sound and the transformations it can endure. In all instances, the shifting webs of relations that these multiple musical objects and actors are located in serve to reveal different facades of their being, with different affordances in ourselves or these objects allowing for new qualities to emerge. Improvisation and openness are essential elements of our praxis if we aim to productively engage with these musical materials of the world. The fostering of chance encounters, adapting to shifting sonic circumstances and being able to explore the potentials of sounds without stylistic or genre constraints increases the likelihood of stumbling upon and exploiting these hidden affordances or 'hidden worlds' of sounds.

According to the implications of Object Oriented Philosophy, let us approach new instruments and musical technologies - whether these be glossy and digital or dirty and hacked - as objects or actors: unique and singular things possessing their own particular potentials, affordances and agencies. Rather than applying a model of identity and recognition, comparing them to our

traditional performance practices and the ‘concert hall tradition’ or reductive and essentialist notions of what performance and music is, assuming that it must, for instance, include some degree of ‘gestural legibility’, we should attempt to explore these things on the basis of their own singular and unique qualities and capacities. We might again have to challenge our own habits and performance practices, open up to the multiplicities of listening and playing, and move away from models of performance and music that we already have, which are contingencies, neither eternal nor universal. In this way, the creative potentials and unique affordance of new musical technologies might be explored.

It is easy to be reductionist in the ways in which we talk about or conceptualise music: it might be through language, as one word is used to describe a whole multiplicity with many diverse manifestations, or through any implicit assumptions that we encounter things fully and exhaustively. As was seen in the considerations of dance music, sounds and songs should not be reduced to any one dimension of their being, for they possess untapped potentials, either as materials or vessels for meaning. Object Oriented Philosophy and the thought of Gilles Deleuze both become tools for negating these dangers: if we attune ourselves to multiplicities and remain open to the hidden worlds and secret lives of sounds, songs and technologies, we are better positioned to spot any assumptions that reality is as homogenous as a word or concept might imply, or any mistaking of a local manifestation for the virtual proper being of an object.

The work here opens up onto certain theoretical potentials: Object Oriented Philosophy is itself a larval school, and much work can be done on applying the toolset it is creating to questions of how we music. It opens up productive ways of discussing our interactions with different musical technologies, and the role of these technologies in our creative practice. There are discourses to be had with software designers and interface / instrument designers as well as the growing numbers of practitioners using such instruments about the roles of constraints and (hidden) affordances, and the way in which music and musical creativity emerges out of webs of interaction between human and non-human actors. Object Oriented Philosophy also has the potential to beget new discourses about art and creativity that reduces these to neither text nor materials: both of these domains play a role, and music contains signs, symbols and signifiers as well as vibrating materials. Whilst some critical approaches may favour one over the other, inherent within Object Oriented Philosophy is an understanding that both of these aspects may be present, and that any attempt to explain any one thing in terms of any one other thing will involve translation, distortion and reduction. Of course, such translations, distortions and reductions may be useful: the important thing is that we are aware of them.

There are many aspects of Object Oriented Philosophy as it manifests itself in the writings of Levi Bryant, Graham Harman and Timothy Morton that have not been mobilised here, but that could potentially be productive when brought into discourses on sound and music. Morton's concept of *hyperobjects* is used to describe objects which are 'massively distributed in time and space' such that our perception of them is distorted.<sup>211</sup> Morton considers the music of the minimalist electronic composer Eliane Radique, with its long durations, as being a hyperobject. This suggests that the concept of hyperobjects might open up ways of discussing the perceptive affects of musics which ask us to adjust to different durations: this is of particular interest to me as my own music is increasingly influenced by such practitioners.<sup>212</sup> A crucial aspect of Harman's thought which I have not used is the notion of intentional or *sensual* objects, used to describe an object as it is encountered by another. When encountering a pine tree, for instance, Harman notes that 'I am a real object but the pine tree merely a sensual one'. There is a real pine tree at large in the world, but the object of our encounter is sensual.<sup>213</sup> Harman's rich ontology cannot be easily summarised here, but his work on sensual objects points to whole ways of talking about the mental existence of sounds and songs and the complex relation this has with the 'real' sounds or songs, such as the issues of the identity of a song and how it might weather multiple remixes, covers, playback over different systems or being whistled or half forgotten.

Also not discussed here are many musicians and sound artists whose work foregrounds objects and carries out one of the aims of Object Oriented Philosophy not fully engaged with here: the decentring of the human. Artists such as the Korean improviser Choi Joonyong makes music using malfunctioning CD players and electric fans blowing tin foil: immersing himself in systems of interacting objects, he appears less a human performer 'playing' passive objects, but one actor amongst many, trying to coax the system into occasional pockets of relative stasis. Objects reveal untapped musical depths as fans and foil become noise generators and opening doors become low pass filters. Jana Winderen's field recordings involve hearing places and things that we would not normally hear: hidden places or secret worlds that are far removed from our own, such as '25 meters down in a crevasse of a glacier, deep into a river, ocean or lake; inside an ants' nest, or between the bark and the wood of a tree; listening to worms, beetles or other insects; or the sound of a caterpillar eating a leaf, the sound of cod or haddock communicating with each other, a sea snail dragging itself along a rock.'<sup>214</sup> Whilst there may still be a human recording and listening, the

<sup>211</sup> Morton, *Ecology Without Nature* blog, <<http://ecologywithoutnature.blogspot.com/2010/10/hyperobjects-are-viscous.html>>, retrieved 27/07/2011.

<sup>212</sup> Morton, 'Hyperobjects Lecture MP3', <<http://ecologywithoutnature.blogspot.com/2010/10/hyperobjects-lecture-mp3.html>>, retrieved 27/07/2011.

<sup>213</sup> Harman, 'Vicarious Causation', p. 198.

<sup>214</sup> Tobias Fischer, 'Interview with Jana Winderen', <<http://www.tokafi.com/15questions/interview-jana-winderen/>>, retrieved 20/09/2011.

work opens up onto planes of non-human sounds and non-human sonic interaction, and there may be productive syntheses between the artistic and the philosophical decentring of the human.

My creative practice as documented here has functioned in multiple ways, informed by and informing the theoretical approach. Early laptop improvisations (CD6 tracks 10, 11, 12 and 13) document the laptop used as a gestural device for live improvisation, later pieces such as 'Duo for Imagined Valves' (CD5 track 1) demonstrate attempts to move further towards the unique, singular possibilities that might be opened up by this new instrument. The development of the iPhone instrument is documented in various ways: from the patches themselves, to recordings of the work with Atau Tanaka (CD4 tracks 2, 3, 4 and 5) or improvisations with other players such as Robin Hayward (CD1). These illustrate different sonic possibilities for the device, and also document a certain approach to the sounds themselves which is informed by Object Oriented Philosophy: blocks of sound that function as a challenge to the performers and listeners, a challenge to draw out affordance. Other recordings, such as the *OPN Jamz* (CD6 tracks 3, 4, 5, 6 and 7) or *Mountain River Music* (CD6 tracks 8 and 9) document certain listenings and certain attempts to engage with sounds - songs produced by other people - bringing them into encounters with technologies or other songs which distort or transform them and reveal new affordances.

The same sounds and traces of electronic instruments migrate through different components of the creative submission. For instance, the Atau and Adam track 'Helsinki 4' (CD4, track 5) features the same guitar sample - taken from The Seekers '500 Miles' - which appears around nine minutes into RaM, 'Live at Love's Secret Domain', as well as a loop of synthesised flute from 'A Final Descent from Indian's Head' from the *Dovestones EP* (CD2, track 1). Taiwanese muzak loops appear in Atau and Adam 'Helsinki 1' (CD4, track 2) and on the *ColossalPeacePipe* generative patch on the iPhone. These samples start to reveal different qualities and affordances in these different situations: it is not just lazy re-use of samples on my own part, but rather a sense that these materials I accumulate, the sample libraries I make, are never exhausted by any one use, and there is always something more I can draw out from them. Similarly, the 'malfunctioning' granular synthesiser in the Max MSP software components of my laptop-as-instrument, leaves its traces - residues of the way it distorts those sounds it encounters - on 'Duo for Imagined Valves' (CD5, track 1), 'Mountain River Music' (CD6, tracks 8 and 9), Kevlar (CD6, track 1) and 'Yeoman Hay' (CD2, track 3).

The creative research projects documented here are on the cusp of potentially significant developments, most notably the iPhone instrument itself. The versions of Pure Data running on the iPhone have advanced, and newer versions soon to be available will allow for better visual feedback and access to many more objects and libraries. Similarly, there is the possibility to write these softwares for the iPad and other tablet computers. Whilst these developments might seem small and

uninteresting, mere technical nuances, it makes devices like smart phones and tablet computers increasingly capable of replacing laptops as ‘all in one’ musical instruments and DAWs. As the research in this PhD has asserted, such a replacement will not just give everyone slightly smaller, more portable digital instruments, but instruments with rather different affordances and qualities, creating possibilities for a new paradigm in digital music replacing that of the ‘laptop musician’. It should also be noted that tablet PCs such as the iPad offer very different possibilities to smart phones; devices such as the Reactable and the JazzMutant Lemur point towards the musical possibilities of touch screens.<sup>215</sup> As is no doubt clear, it is my hope that this paradigm does not feature too much of a focus on ‘gestural legibility’, abandoning fears that audiences won’t understand performances and focusing instead on the new possibilities of these instruments, pursuing instead the new affordances opened up by multitouch surfaces.

Through considering the domain of music in terms of actors, objects and encounters, we bring theory to practice but deprive neither of their unique richness, instead opening up a world of secretive actors influencing and affecting each other, sounds migrating through genres and transforming human practices, technologies and humans colliding together to produce new musics, and people discovering new modes of listening and interacting with the sonic materials of the world.

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<sup>215</sup> <<http://www.reactable.com/>> and <[http://www.jazzmutant.com/lemur\\_overview.php](http://www.jazzmutant.com/lemur_overview.php)>

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