# Interpreting Electroacoustic Audio-visual Music

**VOLUME ONE** 

Andrew Hill

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### Interpreting Electroacoustic Audio-visual Music Andrew Hill (May 2013)

#### Abstract

The basis of this research project stems from reflections upon the process of composition for electroacoustic audio-visual music. These are fixed media works in which sound and image materials are accessed, generated, explored and configured in creation of a musically informed audio-visual expression. Within the process of composition, the composer must decide how to effectively draw relationships between these time based media and their various abstract and mimetic materials. This process usually has no codified laws or structures and results in relationships that are singular to the individual artworks. The composer uses their own experience and intuition in assessing how best to associate sounds and images and they will use their own interpretation of the materials to evaluate the how successful they are in realising their intentions. But what is there to say that the interpretation made by the composer bares any resemblance to interpretations made by audiences?

The current research sought to assess any trends or commonalities in how people interpret such works. Utilising a combination of empirical research, composition and scholarly study, the project investigated various theoretical approaches to interpretation and the occurrence of correlation between compositional intention and audience interpretation. Models from different theoretical disciplines were combined in order to build up a picture of the processes involved in making interpretations, and to aid in the rationalisation of empirical data. The application of three methodological approaches allowed for the topic to be considered from a diversity of perspectives, and for triangulation to take place in confirmation of the research outcomes. The way in which individuals build up interpretations from non-codified abstract and mimetic materials also provided a suitable case study for the critique and assessment of various theoretical approaches to interpretation.

The project challenges structuralist approaches to interpretation, drawing together theoretical materials and empirical research findings in support of a post-structrualist model of interpretation that demonstrates the absolutely vital role played by context – the framing of the artwork in the consciousness of the individual audience member.

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- Disk One: Phase One Test Works [DVD]
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### Empirical Research: Research Question Index Tables

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### **Experienced Participants**

	Work A		Work B		Work C	
	Vol. 1	Vol. 2	Vol. 1	Vol. 2	Vol. 1	Vol. 2
P1DQ-2,3	p.120	p.4	p.148	p.26	p.172	p.50
P1DQ-1,4,5	p.122	p.7	p.150	p.29	p.174	p.52
P1DQ-6	p.127	p.13	p.153	p.35	p.176	p.58
P1DQ-7	p.129	p.16	p.155	p.39	p.179	p.60
P1DQ-8	p.132	p.18	p.157	p.41	p.182	p.62
P1DQ-9,11	p.134	p.20	p.160	p.43	p.185	p.64

### **Inexperienced Participants**

	Work A		Work B		Work C	
	Vol. 1	Vol. 2	Vol. 1	Vol. 2	Vol. 1	Vol. 2
P1DQ-2,3	p.121	p.5	p.150	p.27	p.172	p.51
P1DQ-1,4,5	p.125	p.10	p.152	p.32	p.175	p.54
P1DQ-6	p.128	p.14	p.154	p.37	p.177	p.59
P1DQ-7	p.130	p.17	p.156	p.40	p.180	p.61
P1DQ-8	p.133	p.19	p.158	p.42	p.183	p.63
P1DQ-9,11	p.135	p.20	p.160	p.44	p.185	p.65
P1DQ-10	p.136	p.22	p.161	p.46	p.186	p.66
P1DQ2-2	p.137	p.23	p.162	p.47	p.187	p.67
P1DQ2-1	p.138	p.24	p.163	p.48	p.188	p.68
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#### **Research Question Index Table**

	Phase T	wo Work	Phase Three Work		
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(Pn)DQ-2	p.220	p.82	p.259	p.104	
(Pn)DQ-3	p.222	p.83	p.261	p.105	
(Pn)DQ-5	p.223	p.84	p.261	p.106	
(Pn)DQ-1	p.224	p.85	p.262	p.107	
(Pn)DQ-4	p.226	p.87	p.264	p.109	
(Pn)DQ-6	p.227	p.88	p.265	p.110	
(Pn)DQ-7	p.229	p.88	p.265	p.110	
(Pn)DQ-8	p.230	p.89	p.266	p.111	
(Pn)DQ-10	p.231	p.90	p.266	p.112	
(Pn)DQ-9	p.232	p.91	p.267	p.113	
(Pn)DQ2-2	p.233	p.92	p.267	p.114	
(Pn)DQ3-2	p.234	p.92	N/A	N/A	
(Pn)DQ2-1	p.234	p.93	p.268	p.115	
(Pn)DQ2-3	p.234	p.94	p.268	p.116	
(Pn)DQ2-4	p.235	p.95	p.269	p.117	
(Pn)DQ3-1	p.235	p.95	N/A	N/A	
(Pn)DQ3-3	p.235	p.96	N/A	N/A	
(Pn)DQ3-4	p.236	p.97	N/A	N/A	

Interpreting Electroacoustic Audio-Visual Music

Volume One

#### **Chapter One**

#### Introduction

'If we can "understand" our relationship to the wide-ranging sound-world of electroacoustic music, then we shall be better positioned to arrive at a more comprehensive understanding of music and listening as cultural practices' (Camileri & Smalley 1998: 4).

This project investigated the interpretation of electroacoustic audio-visual music from three distinct perspectives:

- audience member,
- composer, and
- scholar.

It sought to shed light upon the processes of interpretation utilised by both experienced and inexperienced audiences, and to demonstrate how an understanding of interpretation might help to inform composition and the contextualisation of electroacoustic-audio-visual music.

Chapter one provides an introduction to the topic, presenting an overview of the project and a definition for the type of work with which this thesis is concerned (electroacoustic audio-visual music). Finally, a rationalisation for investigating audience interpretation of electroacoustic audio-visual music works is presented.

#### Outline

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#### Introduction

#### 1.1 - Overview of the Project

This research project investigated audience interpretation of electroacoustic audio-visual music works. The initial chapters of this thesis present, respectively, an introduction and definition of terms used within the research, discussion of the findings from previous empirical research projects, examination of various theories of interpretation from a range of disciplines and how these fit with certain cognitive models of perception.<sup>1</sup> The review of existing theoretical and empirical research provided a frame of reference for situating the current research project and provided critical insight to the key questions of the current research.

Later chapters detail the empirical study itself, constituted by three distinct phases, undertaken to collect audience interpretations for a range of electroacoustic audio-visual music works. Respectively these are divided into a chapter outlining the development of the research methodology and processes of data analysis, and three individual chapters presenting the individual methodologies, aims, results, discussion and analysis for each phase of the empirical study.<sup>2</sup> Finally, Chapter Nine presents conclusions drawn from the research, with discussion of potential future research outputs.<sup>3</sup>

The project initially planned to adopt the methodology employed within the Intention/Reception project of Leigh Landy and Rob Weale (Landy 2006, Weale 2005) to investigate the response of audiences to works of electroacoustic audio-visual music. However, early findings provided the opportunity to critique and develop these initial methodologies and to refocus the research aims.

Theoretical materials were consulted in order to help rationalise the empirical data and in the process highlighted a number of issues at the heart of the original empirical methodology. In turn, the findings of the empirical research were also used to examine and critique a range of theoretical materials and the findings of previous studies.

The first phase of the empirical research project investigated the interpretations, made by two audience group types, to three electroacoustic audio-visual music works. These works were selected to represent a diversity of audio-visual styles so that the impact of stylistic differences upon interpretation might be discerned. Analysed data from Phase One was utilised to inform the composition of an original work. This newly composed work was itself presented to a single type of audience group for interpretation, to further investigate and attempt to triangulate the findings from Phase One.<sup>4</sup> This second round of data collection constituted Phase Two of the empirical research. The responses recorded within the Phase Two research sessions were not

<sup>&</sup>lt;sup>1</sup> Respectively: the current chapter; Chapter Two, p.10; Chapter Three, p.29 and Chapter Four, p.67.

<sup>&</sup>lt;sup>2</sup> Respectively: Chapter Five, p.81; Phase One - Chapter Six, p.99; Phase Two - Chapter Seven, p.208; and Phase Three – Chapter Eight, p.251.

<sup>&</sup>lt;sup>3</sup> Chapter Nine, p.282.

<sup>&</sup>lt;sup>4</sup> 'Triangulation refers to the use of more than one approach to the investigation of a research question in order to enhance confidence in the ensuing findings. Since much social research is founded on the use of a single research method and as such may suffer from limitations associated with that method or from the specific application of it, triangulation offers the prospect of enhanced confidence' (Bryman n.d.: 1).

Introduction

only analysed and compared with the Phase One data, but also used to inform a process of adaption, and re-composition of the Phase Two test work. This process resulted in the creation of a second variant of the work, which was itself presented to participants for the collection of interpretations. This re-composition and final round of testing constituted Phase Three of the empirical project.<sup>5</sup> The integration of composition within the project allowed the triangulation of theories and hypotheses drawn from the results of the first phase: an action research model.

Such a methodological approach investigated the interpretation of electroacoustic audio-visual music from three distinct perspectives: audience, composer and scholar. The questionnaire responses completed by research participants constituted primary empirical sources from which the audience's perspective and processes of interpretation could be inferred. The process of composition with rich data from audiences and the comparison of compositional intent with audience interpretation data allowed for the interpretation of the composer to be contrasted with the interpretations of the audience. Theoretical texts hypothesising processes of interpretation were useful in seeking to rationalise empirical data and, in turn, critiqued against the research findings. Investigating audience interpretation of electroacoustic audio-visual music through a combination of these three perspectives afforded new insights and critical reflection upon the collected data and theoretical materials. The application of a range of methodologies and approaches — such as theoretical research, empirical testing and triangulation through composition — allowed for this investigation to gain a wider perspective on the issues in question and for empirical audience interpretation data to provide the focal point for validation of research outcomes.

Volume Two of this thesis contains direct transcriptions of the questionnaire responses recorded by participants within each of the three empirical phases, accompanied by initial categorisation and content analysis. Presenting the raw data within a second volume, affords the reader the opportunity to compare and contrast the discussion of data — outlined within this volume — and to link the data analysis process directly back to the raw, unmediated, participant responses.

#### 1.2 - What is Electroacoustic Audio-visual Music?

The desire to combine sound and image in a multisensory art form has fascinated and transfixed artists and philosophers for centuries. Sir Isaac Newton is suggested to have discerned seven colours in his prism experiment, so that light might correspond to the seven notes in the western musical scale (Collopy 2000: 356), and during the 18<sup>th</sup> and 19<sup>th</sup> centuries inventors sought to devise ever more complex machines for live audio visual performance.<sup>6</sup> The audio-visual associations embodied within these early designs represent the direct mapping of

<sup>&</sup>lt;sup>5</sup> Between each phase, the methodology was evaluated and adapted as appropriate. This was undertaken so as to enable the collection of unbiased, clear and relevant audience interpretation data (development and adaptation of the specific methodological approaches is discussed respectively at the beginning of the chapters regarding each phase of the research).

<sup>&</sup>lt;sup>6</sup> For example: Louis Bertrand Castel's *Clavecin Oculaire* and Bishop Bainbridge's *Colour Organ* (Peacock 1988).

parameters (pitch — or chroma — to colour). One of the issues with this direct mapping strategy was that it lacked the ability to reflect visually, larger forms or structures present within the music. A second challenge arose in that each individual composer, or designer, working with a unique instrument respectively devised their own individual colour / key mappings, creating a diverse array of varying interpretations and possible colour key relationships (figure 1), each of which was championed as the "true" mapping (Jewanski 2009: 345).

	Castel	Castel 1735	Krüger 1743	Field 1817	Preyer 1870	Goldschmidt 1901	Wilcox 1916
с	Violet	Blue	Red	Blue	Brown	Red	Blue
D	Indigo	Green	Orange	Purple	Red	Yellow	Indigo
Е	Blue	Yellow	Yellow	Red	Orange	Green	Purple
F	Green	Golden Yellow	Green	Orange	Yellow	Blue	Red
G	Yellow	Red	Blue	Yellow	Green	Indigo	Orange
Α	Red	Violet	Purple	Yellow Green	Blue	Red Violet	Yellow
в	Purple	Violet Blue	Violet	Green	Violet	Red	Green

Figure 1: An example of the array of colour key relationships, with the colour red highlighted (reproduced from Jewanski 2009: 345).

With the development of media technologies able to capture and play back both sonic and visual materials in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, artists were suddenly more readily able to link sound and image in such a way that was free of causal mechanical limitations and to introduce the compositional parameters of motion and form (structure) through time, alongside pitch and colour in the construction of audio-visual relationships.

In parallel with these technical innovations, the rise of Impressionism and Expressionism freed artists from mimetic depiction of the world and opened up the doors to abstraction.<sup>7</sup> Many of the members of the Expressionist movement were inspired by the abstract nature of music and aimed to emulate such forms within painting. Liberated from representational painting by the development of photography, artists turned to music for inspiration, admiring it as an abstract art form that provided rich potential for inspiration and emulation within an abstract visual art. This is epitomised by Oscar Wilde's famous assertion:

Music is the art in which form and matter are always one, the art whose subject cannot be separated from the method of its expression, the art which most completely realizes the artistic ideal, and is the condition to which all other arts are constantly aspiring (Collopy 2000: 355).<sup>8</sup>

<sup>&</sup>lt;sup>7</sup> This process can be observed in the paintings of Kandisky and in the transitions undertaken between his early works such as *Der Blaue Reiter* (1903) and *Lake Starnberg* (1908), through increasing abstraction in the 1910s with works such as *Cossacks* (1910) and into his most abstract works from 1923 onwards, for example the work *Swinging* (1925) (Alley 1981).

<sup>&</sup>lt;sup>8</sup> Wilde's comment may have been inspired by Walter Patter who wrote 'all art constantly aspires towards the condition of music' in 'The School of Giorgione' (1877) (Peacock 1988: 388).

Piet Mondrian, Wassily Kandinsky and Paul Klee were among the many artists of this time who utilised music as an inspiration for their works on canvas. But the new medium of film also provided opportunities for artists to explore the essential elements of visual form, colour and motion in the creation of silent works of Visual Music with a physical temporal dimension. Such work was also described as Absolute Film and was pioneered by artists such as Hans Richter and Walter Ruttmann within 1920s Germany.

The term "Absolute Film" was coined by analogy with the expression "Absolute Music" referring to music like Bach's Brandenburg Concertos which had no reference to a story, poetry, dance, ceremony or any other thing besides the essential elements — harmonies, rhythms, melodies, counterpoints, etc. — of music itself (Moritz 1999).

These film works took full advantage of the fact that their visual expressions could now develop and change in time, as opposed to simply in form and space as on a canvas. Such works were in some cases projected simultaneously with music, either live or recorded, but full synchronisation of sound and image was not possible until the medium of sound-film was developed at the end of the 1920s (Geduld 1975: 5).

With the development of the optical soundtrack, artists discovered the ability to synthesise sounds by drawing or painting upon it. It was possible to draw directly onto a single filmstrip and to generate both visual images and sounds.<sup>9</sup> The subsequent development and recent affordability of digital and computer technology has empowered ever greater numbers of practitioners to cross from music specialisms towards the visual, and vice-versa, creating a rich and expanding audio-visual community.

In his discussion of the development of absolute film, Richard S. James suggests that extensive experimentation with sonic manipulation technicallv precedes Pierre Schaeffer's experimentation in the studios at Radiodiffusion-Télévision Française (RTF) (James 1986: 78), although there is no apparent presence of the conceptual leap in the practitioners to utilise concrete, mimetic, materials in a reduced way.<sup>10</sup> Interestingly, there is also suggestion of an aesthetic exchange between visual music and the new proponents of a sound based perspective to music. John Cage and Edgar Varèse had contact with, and may have been inspired by and influenced by conversations with, the visual music artist Oskar Fischinger during the late 1930s (Moritz 2004: 44).<sup>11</sup>

Developments in creative practice and thought led to the possibility of works built from abstract (or abstracted) sounds and images, in which the audio and visual elements could be related in almost any way. On canvas, form and musical tensions could be embodied by the interaction of

<sup>&</sup>lt;sup>9</sup> For example, the work of Norman McLaren (James 1986: 84).

<sup>&</sup>lt;sup>10</sup> The works remain more anecdotal in character.

<sup>&</sup>lt;sup>11</sup> Oskar Fischinger is most famous for his role in the development of the initial sequence of Disney's *Fantasia* accompanying the Toccata and Fugue in D Minor by Bach. He terminated his contract due to creative differences between his vision for an abstract visual and Disney's favour for more representational forms. Indeed the work that he had created for the film was either discarded or was later adapted by Disney animators to be more representational (Moritz 2004: 87). See also, Brown 2012.

points, lines and planes (Kandinsky 1947) and, with the development and availability of the moving image, these relationships could be constructed and developed through time.

Such a history has resulted in many varying forms of works that could be described as 'audiovisual music', including those that explore the interaction of sounds and images, or indeed silent images composed in a musical fashion. A result of the collision between two previously independent art forms has been that literature exploring the genre of audio-visual music has acquired a confusing plethora of theoretical terminology through synthesis or appropriation of terms from its related/parent disciplines. This is further compounded by the fact that, as Dieter Daniels and Sandra Naumann state, 'the speed of audiovisual praxis today far outstrips that of theory formation' (Daniels and Naumann 2010: 8).

#### 1.3 - Visual Music? Lumia? Visualisation? Or Audio-visual music?

It is essential to outline a set of definitions and distinctions for the various forms and types of sound and image works, so as to define the specific variant under investigation within this thesis.

Many different types of work might be classified as visual or audio-visual music works and the subjective nature of classification means that each individual will define works in reference to a unique *ideal* of visual music. Any work containing characteristics that might qualify or suggest it to be visual music from a specific perspective should be able to be defined within the classification system.<sup>12</sup> Arising from this, it appears to be most useful to separate the overall art form into four main sub categories:

A) A purely visual approach - visual music. For example Thomas Wilfred's Lumia, or some of the works of Kandinsky or Klee. Works that aim to emulate music, or contain structures and forms inspired by those within music but contain no sonic content themselves.

B) Visual composition to pre-existing musics, such as in some of the early works of Oskar Fishinger, the artistic interpretations of Walt Disney's animators in the 1940 film *Fantasia* or music videos of the type found on MTV.

C) Audio-visual music, the composition of both sound and image informed by traditions of music. This form is here defined as audio-visual music, because the works contain both sonic and image elements which are regarded as equal components, joined in the context of a work, and structured according to musical principles.

D) The synthesis of visual materials from sound (and vice versa) and the representation of sound visually. This includes visualization software such as those within media players, oscilloscopes and computer algorithms that render visually spectral and waveform images of sonic material (Hill 2010b).<sup>13</sup>

<sup>&</sup>lt;sup>12</sup> A certain degree of flexibility is necessary within any categorisation system so as to make it as useful as possible to the widest range of scholars or artists.

<sup>&</sup>lt;sup>13</sup> For more detailed discussion about other systems of categorisation and classification for electroacoustic audio-visual (and visual) music see Hill (2010b) and Ox, J.; Keefer, C. (2006).

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In each of the above categories, artistic practices involved in the creation, and the final resulting characteristics, of the works will differ. Therefore it is possible that the way in which audiences interpret works within each category might also differ. In order to begin narrowing the potential variables within the project it became essential to identify and limit the works in question to be of a similar type. As such, the current project investigates works that fall within category C as it is described above.<sup>14</sup> Furthermore, the works studied within this project were fixed media compositions existing in a set physical form. Works of this type change little between subsequent performances, and the fixed form affords composers greater opportunity to construct complex hierarchical associations within the temporal development of the work, unrestricted by physical mechanical or real-time computational limitations.

#### 1.4 - So Where Does The Electroacoustic Part Come In?

The works in question within the current project, possess sonic elements exploring and utilising the timbral nature of their audio materials, influenced heavily by the genres of *musique concrète* and *elektronische musik*. Despite the experimentation of filmmakers with sound, such as Walter Ruttmann,<sup>16</sup> it was not until Pierre Schaeffer's work in the studios of the GRM from 1948 and the subsequent publication of the *Traité des objets musicaux* that composition with recorded sounds was liberated from the restrictions of pitch and representation, opening up the musical world of timbre as a major tool of musical expression. Just as painting had been liberated from representation, so had music been freed from the restrictions imposed by the absolute rule of pitch. Any sound could now be musical material, and the initial dogmatic schools of experimental sound based composition soon blended and exchanged techniques, with the umbrella term electroacoustic music emerging during the 1970s to decribe the diverse activity of composition that used technology to harness all sound (not exclusively notes) as musical material (Austin 2002).<sup>17</sup>

Within electroacoustic audio-visual music, the textures and timbres, colours, forms and motions of materials (their spectromorphologies (Smalley 1997)) are explored in either abstract or representational discourses. Diego Garro, drawing upon Denis Smalley's theory of spectromorphology, constructed a system for analysing visual materials in an analagous way, thereby providing a tool for audio-visual composition and recognising that similar theoretical frameworks might work for the rationalisation of both sounds and images (Garro 2006). For the purposes of the current project a definition of electroacoustic music by Smalley and Simon Emmerson has been adapted in order to clearly define electroacoustic audio-visual works:<sup>18</sup>

<sup>&</sup>lt;sup>14</sup> Further issues of classification and the limitation of variable factors are discussed within Chapter Five: Developing an effective methodology, p.81.

<sup>&</sup>lt;sup>16</sup> In 1930 Walter Ruttmann released the film *Wochenende*. This film contained no images and was in effect an anecdotal piece of audio montage. For more information see (Kahn 1999: 131).

<sup>&</sup>lt;sup>17</sup> Frequent and recurrent discussions on the topic of a definition for electroacoustic music are common. The archives of the Canadian Electroacoustic Community online discussion list, and the multiple entries for electroacoustic music on the EARS website stand as testament to this. (CEC Conference 2004-2011; EARS 2002)

<sup>&</sup>lt;sup>18</sup> The original definition of electroacoustic music by Emmerson and Smalley is presented on the Electroacoustic Resource Site (EARS) website.

An electroacoustic audio-visual music work could be defined as a cohesive entity in which audio and visual materials are accessed, generated, explored and configured, primarily currently with the use of computer-based electronic technology, in the creation of a musically informed audio-visual expression. Electroacoustic audio-visual music works explore the possibilities that the combination of their two time-based media (sound and moving image) allow (Hill 2010a).

Electroacoustic audio-visual music is considered by some to be a subversion or rejection of acousmatic tradition, using many techniques from the field of electroacoustic music but polluting the sanctity of sound with visual accompaniment. However, as Andrey Tarkovsky wrote of film:

I want to dispel the widely held idea that [film] is essentially "composite". This notion seems to me wrong because it implies that cinema is founded on the attributes of kindred art forms and has none specifically of its own; and that is to deny that cinema is an art. (Tarkovsky 1989: 113).

The same is true of audio-visual music. The electroacoustic audio-visual works with which this thesis is concerned are not sound-based works with added video, nor visual works with added sound. They are intermedia art-forms which utilise both sonic and visual materials in their construction, and in which these media are co-dependent.<sup>19</sup> Audio-visual works should not be thought of as composite, but an independent type of art. They might be considered as related to acousmatic music, but not a perversion or hijacking of it.

In the entire history of its development, a culture of cross fertilisation and exchange has always been vital to the development of audio-visual music. Acousmatic and audio-visual musics — and the discussions that surround them — need not be entirely isolated or contradictory, but should continue to flourish in parallel. After all, as Michel Chion writes 'We never see the same thing when we also hear; we don't hear the same thing when we see as well' (1994: xxvi).

## 1.5 - Who Are The Audiences For Electroacoustic Audio-Visual Music? And Why Do We Need To Care What These Audiences Think?

The original Intention/Reception project sought to discover how audiences for electroacoustic music might be expanded, by investigating the way in which audiences responded to works of electroacoustic music (Weale 2005: 2). While the current project may have some outputs that are useful to developing an audience, the main focus of the project was not directed towards audience development. Instead the current project sought to explore the way in which individuals constructed interpretations for works of electroacoustic audio-visual music and how both the visual and aural components of the work affected them.

Philip Tagg outlined how the focus of the majority of contemporary musical study is directed towards the poietic processes, the actions of creation, as opposed to the aesthesic perception of musical works. He calls for a renewed focus upon the aesthetic, highlighting that, 'actual music-making process (poïesis) is visibly absent from most moments of musical perception

<sup>&</sup>lt;sup>19</sup> See the sub categories of electroacoustic audio-visual music outlined above, p.6.

(aesthesis)' (Tagg 2011: 2). Indeed, Barry Truax warned of a "parallel culture" in which composers create works for other practitioners and members of the electroacoustic community in a cyclical and isolated cycle (Truax 1999: 148), much like the ouroboros, moving only forwards only to consume itself.<sup>21</sup> In such a situation the work as perceived by audiences potentially carries less currency than the processes of creation. But as Denis Smalley asserts, '[t]he primacy of perception is unassailable since without it musical experience does not exist' (Smalley 1986: 63).

Indeed, in contrast to the general focus of the western classical tradition, Schaeffer paired up the two terms "making" and "hearing", stating "Music is made to be heard" [and thus emerges equally] from a pole of fabrication as a pole of reception' (Schaeffer in Chion 2009: 35). As Chion asserts, 'it is the constant aim of the *Traités des objets musicaux* to reconnect these in order to reestablish the thread which has often been broken in the development of contemporary music' (Chion 2009: 35). In order to realise this aim, Schaeffer called for 'a more informed, rigorous, attentive listening to inspire new musical creation and regulate making' (Chion 2009: 36).

Within the process of composing electroacoustic audio-visual music, the composer must decide how to draw relationships between sounds and images. This process almost always results in audio-visual relationships that are singular to the artwork. Without clear codefied structures there is little way for the composer to predict how their audience will interpret or respond to the work. Therefore, to investigate the ways in which many individuals make sense of electroacoustic audio-visual, and individual audio-visual events, would potentially be of great use to the composer, in that they might better understand the audience experience. Further, by modulating parameters within the compositional process and presenting the various outcomes to audience participants, the project seeks to highlight the ways in which certain compositional decisions might affect audience interpretation, and to focus compositional aims and intentions in the moulding of coheasive and coherent works.

Such a process does not reject experimentation or the application of conceptual methodologies in the poietic processes, but instead seeks to raise aesthesic processes to a position of equal importance and consideration. As the following chapters outline, the ways in which individuals interpret works holds a significant bearing upon the properties of the resultant work perhaps even eclipsing the significance of the poietic.

<sup>&</sup>lt;sup>21</sup> 'The living being had no need of eyes when there was nothing remaining outside him to be seen; nor of ears when there was nothing to be heard; and there was no surrounding atmosphere to be breathed; nor would there have been any use of organs by the help of which he might receive his food or get rid of what he had already digested, since there was nothing which went from him or came into him: for there was nothing beside him. Of design he was created thus, his own waste providing his own food, and all that he did or suffered taking place in and by himself. For the Creator conceived that a being which was self-sufficient would be far more excellent than one which lacked anything; and, as he had no need to take anything or defend himself against any one, the Creator did not think it necessary to bestow upon him hands: nor had he any need of feet, nor of the whole apparatus of walking; but the movement suited to his spherical form was assigned to him, being of all the seven that which is most appropriate to mind and intelligence; and he was made to move in the same manner and on the same spot, within his own limits revolving in a circle. All the other six motions were taken away from him, and he was made not to partake of their deviations.' (Plato 'Timaeus' 360B.C.)

### Chapter Two Previous Empirical Research Projects

This chapter introduces and discusses the findings of previous empirical research projects that have investigated the interpretation, or perception, of audio and visual materials.

The exploration of previous research projects provided insight into the diversity of empirical approaches taken in audience studies and the range of methods available for the interpretation of research data. Each of the projects outlined below impacted significantly upon the development of the current research project.

#### Outline

2.1 - The Intention/Reception Project (Landy 2006 and Weale 2005) - p.12

2.2 - Language of Electroacoustic Music with Moving Images (Coulter 2007) – p.14

2.3 - Effects of Musical Soundtracks on Attitudes to Animated Geometric figures. Marshall and Cohen 1988) – p.15

2.4 - Musical Soundtracks as a Schematic Influence on the Cognitive Processing of Filmed Events. (Boltz 2001) – p.17  $\,$ 

2.5 - Effects of Music with Video on Responses of Non-music Majors (Geringer et al. 1996) – p.19

2.6 – Non-music Majors Cognitive and Affective Responses to Performance and Programmatic Music Videos (Geringer et al. 1997) – p.20

2.7 - The Relationship Between Musical and Visual Components in Film (Lipscomb and Kendall 1994) – p.21  $\,$ 

2.8 - Making Sense of Contemporary Dance (Glass and Stevens 2005) - p.23

2.9 - The Audience Experience: Measuring Quality in the Performing Arts (Radbourne et al. 2009) – p.24  $\,$ 

2.10 - Music Analysis and Reception Behaviours: Sommeil by Pierre Henry (Delalande 1998) – p.27

2.11 - Summary – p.27

#### **Previous Empirical Research Projects**

Audience research has been undertaken in many disciplines during the last century, both academically and commercially. The most widely publicised form of commercial audience research occurs in film, cinema and television, in which preview audiences are asked to comment on the presented work, providing feedback to the directors and producers on the marketability of the product.

Film music has enjoyed scrutiny from a wide range of academic research disciplines for many years. These studies range from theoretical discussions (e.g. Chion 1994), to empirical psychological research (e.g. Hodges, Hariston and Burdette 2005), to theories on cognitive models of film music interpretation (e.g. Cohen 2001). Most previous audience-based studies can be generalised into two categories: those that seek to investigate human sensory perception of individual audio-visual events (e.g. Hodges, Hariston and Burdette 2005, Lipscomb and Eugene 2004, etc.) and those that seek to investigate audience interpretation for sections of, or entire works (e.g. Marshal and Cohen 1988, Lipscomb and Kendall 1994). The former type of study tends to be more focussed upon investigating human sensory responses, seeking to explore how different streams of sensory information influence one another, while the latter study type tends to investigate human cognition of audio-visual correlates, taking into account context in the form of both mimesis<sup>1</sup> and diegesis.<sup>2</sup>

Many of these audience studies (both types) demarcate between what they classify as "music" and "sound". They consider them as different entities, or, more often than not, ignore entirely the non-orchestral sonic content. For example, '[...] the original soundtrack was erased [and] the musical score from the compact disk soundtrack was then dubbed directly onto the videotape, eliminating this extramusical noise' (Lipscomb and Kendall 1994: 65). However, other researchers demonstrate that the entire sonic content has the potential to influence audience interpretation (Boltz 2001). <sup>3</sup>

Previous research projects can provide great insight into the methodologies and practicalities of audience research, even if they themselves investigate different art forms or materials. The examination and comparison of previous projects outlined within this chapter helped to provide insight upon, and clarity to, the research questions for the current project.

<sup>&</sup>lt;sup>1</sup> Mimesis refers to the imitation not only of nature but also aspects of human culture not usually associated directly with musical material (Emmerson 1986: 17).

<sup>&</sup>lt;sup>2</sup> Diegesis refers to the telling of a story. The diegesis may concern elements, such as characters, events and things within the main or primary narrative (Prince 2003: 27)

<sup>&</sup>lt;sup>3</sup> In response to the division between "musical" and "non-musical" audio, Chion categorises sound into diegetic and nondiegetic (1994). Diegetic sound is part of the primary narrative discourse (e.g. sound of a musical performance accompanying images of the same musical performance), while non-diegetic sound is not part of the primary narrative (e.g. mood music). Electroacoustic audio-visual music works do not tend to possess such a divide between diegetic and non-diegetic sonic content, instead possessing a cohesive audio component of organised sound. However, related research projects focussing upon audience interpretation of film music frequently deal with this divide.

#### 2.1 - The Intention/Reception Project (Landy 2006 and Weale 2005)

The intention/reception project involves introducing sound-based works that are unknown to the listening subjects, and then evaluating their listening experience. Through repeated listening and the introduction of the composers articulations of [...] listening responses are monitored. The purpose of the project is to investigate to what extent familiarity contributes to accessibility and appreciation and to what extent intention and reception meet in the very particular corpus of electroacoustic music. (Landy 2006: 29).

Leigh Landy and Rob Weale's Intention/reception (I/R) project was driven by a desire to investigate accessibility and appreciation of electroacoustic music. The terms "Intention" and "Reception", respectively, refer to the ability of audiences to make an interpretation of electroacoustic works and for them to recognise and respect the investment and creativity that is involved within the development of such works (Weale 2005: 90). Their methodology gathered qualitative audience response data for electroacoustic music, seeking to investigate three main variable factors: the impact of work type, experience and contextual information upon audience reception of works (Landy 2006, Weale 2006). Their research was a significant inspiration for the current project, which thus sought to investigate the impacts of these same three factors upon interpretation. As a result, the initial methodology for the current research was largely based upon that of the I/R project.<sup>4</sup>

The I/R methodology asked audience members to complete qualitative questionnaires detailing their interpretation of the test works and whether they would like to hear similar compositions in the future. The entirely qualitative nature of the questionnaires allowed the researchers to solicit an enormous amount of detailed response data. Three levels of participant experience were defined within the project: experts and practitioners constituting the highly experienced set, college students and undergraduate music students the middle set and those with no formal musical training constituting the inexperienced set. All three of these experience groups were asked to record real-time responses while listening to the test work and to "flesh out" these responses in a detailed "directed questionnaire". Each session presented a single test work three times:

- 1. Firstly without any contextual information,
- 2. Secondly accompanied by the title of the work,
- 3. And finally with detailed dramaturgical information from the composer.

Thus, each participant completed three directed questionnaires per work, the responses from which were used in order to compare the impact of increasing levels of dramaturgic information upon interpretation.

The results of the project indicated that inexperienced audiences found it more difficult to interpret, identify and appreciate abstract works.<sup>5</sup> "Real-world", recognisable, sonic

<sup>&</sup>lt;sup>4</sup> Certain assumptions were also carried forwards from the I/R project which later had to be critiqued and exorcised, for example: the explicit demarcation of individuals into experience categories and assumptions about the nature of compositional intention.

<sup>&</sup>lt;sup>5</sup> Participants were asked to record: 'a desire to keep listening and hear more'. Within Weale's findings, seventy-five percent of inexperienced participants responded positively to the "real world" soundscape music, while only sixty percent responded positively for the two more abstract works (Weale 2005: 219). Landy's results showed an equal

characteristics were identified as the most significant "something to hold onto factors",<sup>6</sup> along with imagery established through sounds and a sense of trajectory/narrative. Weale also discovered that electroacoustic works were interpretable by a diversity of audience types, even by inexperienced audiences, and that a large percentage of audiences were interested in hearing more electroacoustic music in the future.<sup>7</sup> Eighty-eight percent of audience participants stated that they believed dramaturgic information was an important factor in interpreting the works (Weale 2006: 194). With abstract works requiring a greater level of contextualisation than works made of "real-world" materials.<sup>8</sup>

The I/R project presented an ambitious model for audience research, outlining three significant variable factors worthy of exploration within the context of electroacoustic audio-visual music: work type, audience experience and contextual information. In the development of methodology for the current project the focus upon access and appreciation, which had formed a keystone of the I/R project, was supplanted with a focus upon the question of interpretation and how the three variable factors of work type, audience experience and contextual information.

Audio-visual works demand that consideration is given to the interaction of sound and image. This therefore directed attention to the question of how objects relate to one another and are perceived by an audience. Thus, within the current project the focus of the investigation shifted from a question of 'do audiences like electroacoustic audio-visual music?' (as in the I/R project) to 'why do audiences like electroacoustic audio-visual music' and 'how do they rationalise the relationship between sound and image'. This shift brought the complex details of the qualitative empirical data to the forefront and instigated an investigation into the very processes of interpretation.

proportion of inexperienced participants responding positively to both the more mimetic and abstract works (67%) (Landy 2006: 49).

<sup>&</sup>lt;sup>6</sup> The concept of "something to hold onto" was originally presented by Landy: 'the creators of a work offer their public something to hold on to in terms of appreciation in word and deed. [...] It is [...] an aspect of the work which helps one feel more comfortable, providing a greater understanding of the work' ('Something To Hold On-to' definition on EARS n.d.) Weale took this concept and from it developed a more detailed taxonomy of "something to hold onto factors" (Weale 2005: 223 & 271).

<sup>&</sup>lt;sup>7</sup> Such results were described as demonstrating that potential appreciation was much higher for electroacoustic music within inexperienced groups than previously imagined (Landy 2006: 49). Access statistics for inexperienced participants within both Landy and Weale's I/R data sets average out at around sixty-six percent (Weale 2005: 231, Landy 2006: 49).

<sup>&</sup>lt;sup>8</sup> However, a complication caused by the research methodology undermines the potential significance of this particular finding. In order to be "scientifically" accurate, a methodology should only affect one variable at a time. Participants should all experience the same work in the same environment and have their responses compared only with participants of their same experience level, et cetera. To investigate the impact of contextual information upon interpretation, only the level of information should be altered. But within the research sessions of the I/R project, not only was the level of information changed, but the works themselves repeatedly presented (three times). As a result, participants were not only presented with varying levels of contextual information, but were also afforded two repeat presentations of the work. In such a situation it is impossible to apportion the empirical findings to changes in contextual information alone, because audience familiarity with the work also increases through repeat presentation. Max Meyer presented to the listeners twelve times and his results show that the participants rated the works higher the more times the heard them (Meyer 1903). David Huron dedicates a chapter of his book to this area of music psychology dubbed "Prediction Effect" (Huron 2007: 131). Therefore, it may be that increased familiarity with the work, through it is most likely that a mixture of both factors contributed to the findings.

#### 2.2 – Language of Electroacoustic Music with Moving Images (Coulter 2007)

John Coulter (2007) sought to compare audience responses to electroacoustic works with and without images. From the findings of his study, Coulter concluded that audio-visual music and audio-only music engender two distinct experiential modes (Coulter 2007: 7).

The participants were postgraduate students studying electroacoustic music and so already experienced with regard to audio-visual or acousmatic electroacoustic music. Participants were asked to attend to the test examples that were presented multiple times:

- 1. Firstly with audio alone (achieved by participants closing their eyes),
- 2. Secondly with the sound and images together (eyes open),
- 3. And finally, to switch between the two modes (with participants opening and closing their eyes as they felt appropriate).

Excerpts from two works were: 'selected for testing based on their juxtaposed audio and visual contents' (Coulter 2007: 2). The first chosen work contained transformed concrète sounds and referential visual materials, while the second contained abstract animated visuals accompanied by instrumental music. Participants responded that they heard more when attending only to the audio, for both works, and that all participants (ten out of the ten participants) recorded a change in the quality of the audio when attending to the sounds and images, less than half of which were positive (four out of the ten participants).

Coulter then undertook a second study in which participants were presented with audio and visual materials synthesised from a single algorithm. He found that the audience response in this new situation was identical to that of the first, with the majority of participants reporting that they heard more when their eyes were closed. Coulter's study suggested that the processes of interpretation for electroacoustic music and electroacoustic audio-visual music are therefore quite different. If so, results from the I/R project (Landy 2006, Weale 2005) might not be serve as a reliable model for developing accurate hypotheses within the current study.<sup>9</sup>

Coulter's project appears to suggest that audiences attend to sounds in a more detailed way when they are presented acousmatically. However, a potentially significant influential factor is that all audience participants within Coulter's study were electroacoustic composers; therefore highly experienced, very familiar with electroacoustic musics and likely inclined towards the acousmatic condition. Within the I/R project, participants of differing experience levels were demonstrated to respond to works in different ways and with differing vocabulary, but with an overall trend towards positive engagement. The small sample size and consistently high experience levels of the sample group in Coulter's study cannot represent a fair and objective, insight into audience response for electroacoustic audio-visual works or the question of preference for audio only and audio-visual modalities due to the common experience and training of the test participants.

<sup>&</sup>lt;sup>9</sup> The conjecture of a variation in experiential modality is a complex but interesting question, and is touched upon in the two subsequent research projects (Marshall and Cohen 1988) and (Boltz 2001) which investigate the influence of sonic and visual elements upon one another and upon audience interpretation.

Coulter's results also suggest that despite diversity in audio-visual style between test works, audiences consistently respond in a similar fashion. Such a finding might appear to suggest that all audio-visual works are equally interpretable, regardless of their materials or compositional style. But, it is important to highlight that such responses may have been unduly influenced by the test procedure itself. If a question is phrased: 'do you hear more with your eyes closed?', audiences might be directed, or encouraged to respond in a more specific (limited) way than if the question were phrased openly, for example: 'are there any differences with regard to what you hear when your eyes are closed or open?'. Coulter's study also provided a useful case study for a critical assessment of methodology with attention drawn to the phrasing of research questions and the diversity of participants taking part in the empirical study.

Contradictions between the findings of the I/R project and Coulter's study present a clear necessity for further investigation. How do inexperienced audiences respond to electroacoustic audio-visual works? Do they respond to a diversity of audio-visual works in a uniform fashion? And, will hypotheses developed from a study on electroacoustic music amply reflect the findings of a study on electroacoustic audio-visual music?

## 2.3 - Effects of Musical Soundtracks on Attitudes to Animated Geometric figures (Marshall and Cohen 1988)

Sandra Marshall and Anabel Cohen's study is one of the most frequently cited research projects investigating the interaction between sound and image and the influence of music upon audience interpretation of visual scenes. Marshall and Cohen took a two-minute abstract animation and investigated audience responses to three different versions of it: silent video and video with each of two specifically composed original scores. Within this research they expanded a previous experiment by Thayer and Levenson (1983), which in turn built upon an earlier experiment by Heider and Simmel (1944). These two preceding projects will be discussed before the research findings of Marshall and Cohen are recounted.

In the original research, by Heider and Simmel, an animation was developed and used to test human response to abstract animated forms (1944). Three animated abstract shapes were presented — a large triangle, a small triangle and a circle — along with a stationary box. When watching the silent film, audiences were generally found to interpret the larger triangle as aggressive and intimidating to the small triangle and circle, while the smaller triangle and the circle themselves demonstrated favourable social relationships — they were "friendly" to one another. '[I]t is reported typically that a pair of friends (the small triangle and the circle) are antagonised by a "bully" (large triangle) who in failing to achieve his goal takes out his anger by destroying his home' (Marshall and Cohen 1988: 99).

In Thayer and Levenson's study, pre-existing musical materials were applied as alternative soundtracks to the film (an allegro and an adagio movement from Prokofiev's 5<sup>th</sup> Symphony). Audiences were then asked to assign interpretations, and rate the work through a range of

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semantic differential scales.<sup>10</sup> Audiences were presented, and asked to rate, the appropriated audio soundtracks and video, first independently and then in combination. Results showed that participants responded to the music in a way that was 'idiosyncratic and varied from a description of note patterns, to past experiences in playing of hearing music, statements of emotions and sometimes a partial or complete narrative' (Marshall & Cohen 1988: 97). However, trends within responses emerged with regard to the *adagio* and *allegro* musical works, each eliciting their own character or mood from participants. Furthermore, these connotations in the music (*allegro* = agitated, *adagio* = calm etc.) were subsequently applied to interpretations of the film when the respective music track accompanied it.

Evaluating the results and methodologies for the research by Thayer and Levinson, Marshall and Cohen developed their own research project. Instead of applying pre-existing music to the film, they composed two original scores with motifs appearing at specific points during the piece. '[A weak musical score] used a major key played at a moderate uniform tempo [... and] had a single-note texture including grace notes, [... while] the strong music incorporated a minor key, no grace notes, a slow but accelerating tempo and a multi note texture' (Marshall and Cohen 1988: 102). The "strong" music was evaluated to be significantly more potent than the "weak" music when the two compositions were rated independently of the film.

Marshall and Cohen asked participants to rate their responses to each of the three animated characters within the film, using three scale groupings: activity, potency and evaluative. Participants responded in a unique way to each of the musical scores and to the silent film. But when the scores and the film were combined, unlike in Thayer and Levinson's Study, the musical scores were demonstrated to be engaged in a far more detailed web of interaction between sound and image. While the music was found to impart a specific character in terms of potency and activity, in the evaluative dimension the audio track rated to be most effective on its own (strong music) was rated lower when presented in combination with the film. This was suggested to be a result of the intensity of the experience when the film was combined with the strong music (Marshall and Cohen 1988: 105).

Another unexpected finding was that, in terms of activity, the small triangle was evaluated to be significantly more active with the strong music than for the weak and non-music situations. 'It is suggested that temporal congruence between the music and the activity of the small triangle may have brought attention to or accented the behaviour of the small triangle' (Marshall and Cohen 1988: 109). The outcome is that, 'changing the meaning of the film and its components on the activity dimension does not depend upon changing the overall salience of that dimension in the background music. Changed meaning however, may depend upon perceived temporal congruence between music and the film. [...] [C]ongruence between internal structure of film and music alters the attentional strategy to and subsequent encoding of information in the film'

<sup>&</sup>lt;sup>10</sup> A semantic differential scale presents two opposing terms and asks the subject to rate the object on a continuum between these two terms. For example: Dynamic \_\_\_\_\_ Static, Happy \_\_\_\_ Sad, etc. (Osgood, Suci & Tannenbaum 1957: 26)

(Marshall and Cohen 1988: 110). They cite Embler who supports this thesis in stating, 'music and film each depend upon the phenomena of movement and are thereby allied esthetically [...] sound movement reinforces visual movement' (Embler in Marshall and Cohen 1988: 110). These findings therefore suggest that the introduction of music to a filmic discourse does not simply ascribe its own characteristics or sense of mood upon the visual scene, but that it acts to direct attention to various aspects of the visual discourse. Thus, echoing Chion's observation<sup>11</sup> with their finding that 'the pattern of attention to music alone or film alone is altered under conjoint presentation' (Marshall and Cohen 1988: 110).<sup>12</sup>

The findings of Marshall and Cohen also appear to confirm Coulter's results – although from a visual perspective – indicating that audiences respond differently to visual materials when alone and when accompanied by audio. They also suggest certain archetypal forms or structures are able to engender responses within a significant portion of the audience groups, and that these archetypal associations concur with those of the researchers. Finally, their results suggest that the associations between sound and image are based upon temporal congruence.

The following research project (Boltz 2001) demonstrates a further development of these theories, suggesting that the differences between audio only and audio-visual situations are not simply a result of temporal congruence, but the fact that both sound and image elements contribute to the construction of meaning within the audio-visual scene.

## 2.4 - Musical Soundtracks as a Schematic Influence on the Cognitive Processing of Filmed Events (Boltz 2001)

Marilyn Boltz outlines how music can influence the emotional responses of audiences to filmic events, but suggests further that music is involved in the interpretation of the story and discourse itself, not just in encouraging an emotional response to the scene. 'Foreshadowing music encourages an audience to extrapolate a future scenario of events that is consistent with the implied mood of the music' (Boltz 2001: 429). Further:

'the effects of accompanying music [...] involve a somewhat different set of underlying mechanisms. Here, musical affect is assumed to direct a viewer's attending toward those aspects of a film that display a similar connotative meaning.' (Boltz 2001: 430).

Therefore she asserts that music performs functions further than just contributing to the emotional content and embellishing filmic scenes. It actively contributes to the individual's conception of the diegetic action and the individual's interpretation of the work.

Boltz refers to music as acting within certain perceptual schema, by which she means an 'interpretative framework [...] that contain[s] knowledge on how to perform different types of

<sup>&</sup>lt;sup>11</sup> Chion asserted, 'we never see the same thing when we also hear; we don't hear the same thing when we see as well' (1994: xxvi).

<sup>&</sup>lt;sup>12</sup> This insight provides a link between the frequent psychological studies which investigate perceptual phenomena and those which investigate the interpretation of artistic works. It does so by demonstrating that close synch points and psychoacoustic or perceptual phenomena can provide great opportunities for the composer in the creation of their works (Marshall and Cohen 1988: 111). For example: the fluxus flicker films that make use of phantom imaging or musical works that utilise Sheppard/Risset glissandi or beating.

activities and how people in different social and vocational roles typically behave' (Boltz 2001: 430). The use of schemata reduces the individual's need to repeatedly record the total stimulus and allows individuals to focus upon changes within perceived objects as opposed to static similarity. In addition, schemata appear to be able to influence the perceived signal:

'When experiencing a given event, the invoked schema serves to guide selective attending toward those actions and objects consistent with the adopted interpretation [...], it is also very common to erroneously remember new information that never occurred but nonetheless is consistent with the activated schema. This not only includes particular objects from the relevant event but also inferences about people's motives, actions, and behaviors' (Boltz 2001: 431).

Therefore by evoking certain schemata, music is able to direct attention towards various objects within the film and to engage external references.<sup>13</sup>

In the empirical research, participants were presented with three ambiguous film clips (five minutes in duration) accompanied by three different soundtracks: positive, negative and no music. 'In general, the negative music displayed a minor mode, atonality, and an irregular rhythm. Conversely, the positive music displayed a major mode, a consistent tonality scheme, and a very predictable rhythm.' (Botlz 2001: 434). The arrangement of film clip and music was repeatedly swapped and tested with new participants, thus resulting in nine response sets (3x3), one to each film clip accompanied by each soundtrack. (Botlz 2001: 433). Additionally, half of the participants were asked to respond immediately after being presented with the examples, while the other half were tested one week later.

Three main types of information were recorded: interpretative responses, adjective ratings and recognition memory data. Interpretative responses were condensed into a quantitative score between plus and minus three. These scores corresponded to what was ascribed to be the degree of perceived positive/negativity within the piece. Alongside these quantitative scores, content analysis was used to investigate any trends within the qualitative response data. Responses therefore provided both a quantitative score, as well as highlighting any trends or commonality between audience responses to the works. Responses demonstrated a clear tally with the assigned nature of the musical soundtrack (i.e. the positive soundtrack produced positive results and the negative soundtrack produced negative responses). Recognition memory data demonstrated recall of positive and negative elements within the work and discovered a correlation in the influence that the respective positive and negative soundtracks had on the retention of this information by participants.

Methodologically, the use of content analysis, through which data is condensed into quantitative categories, presents a suitable and effective way of encoding more open responses while providing an analysis that has statistical relevance. Of course, the preconceived notion of "positive" and "negative" qualities being encoded within the works simplifies the process of quantifying the data within Boltz's study because the researcher only wishes to condense the

<sup>&</sup>lt;sup>13</sup> It is presumed that the same might also apply to visual materials with regard to the audio.

responses into two categories. In the current project no preconceived judgement was enforced upon the works, thus a greater diversity of interpretations could be accommodated, although this plurality led to further complexity in the process of content analysis and statistical evaluation.

The results of Boltz's study clearly demonstrated that stimuli affect audience response through the activation of different interpretative schema, highlighting certain visual elements within the work that corresponded with the musical mood.<sup>14</sup> The introduction of schemata provided useful insight into the nature of audience response and the rationalisation of trends and patterns occurring within data. Further, schemata were hypothesised to be highly significant for understanding the processes of interpretation for electroacoustic audio-visual music works in which mimetic materials stimulate external associations.<sup>15</sup>

The suggestion that both the aural and visual components of film contribute to the perceived meaning supports Tarkovsky's assertion of the "non-composite" nature of film and lends weight to the argument supporting the definition of different types of visual music works as outlined within the previous chapter (see above p.6). Boltz's findings further provided a rationalisation for the discrepancy in audio and audio-visual perception in the findings of Coulter – that the presence of the visual medium completely alters the perceived meaning, and to a greater extent than just simply highlighting or accenting points of synchronisation. This observation further heightened the need for the current study to be undertaken, so that the interpretation of whole electroacoustic audio-visual works might be investigated.<sup>16</sup>

## 2.5 - Effects of Music with Video on Responses of Non-music Majors (Geringer et al. 1996)

John Geringer, Jane Cassidy and James Byo undertook two research projects investigating inexperienced audience response to instrumental music that had different types of visual accompaniment (1996, 1997). In their first study, non-music students were presented with two audio-visual clips taken from Disney's *Fantasia* or the according instrumental music in isolation (audio only clips). The audio-visual clips were three minutes in duration and extracted from two different movement sections of *Fantasia*. The clips were taken from J.S. Bach's *Toccata and Fugue in D Minor* (Leopold Stowkowski's orchestral arrangement) and Dukas's *The Sorcerer's Apprentice*. Within *Fantasia*, the Bach work is accompanied by a collection of abstract visual scenes, while a short film containing the character Mickey Mouse, with representational mimetic visuals and a clearly narrative story, accompanies Dukas's *The Sorcerer's Apprentice*.

Three minute clips were presented in order to capture what the researchers termed, affective

<sup>&</sup>lt;sup>14</sup> A potentially interesting project would be to analyse the impact of the visual medium upon the interpretation of music, as opposed to the common situation in which the filmic element forms the basis of the project. In this vein see the projects of Geringer, Cassidy and Byo (1996, 1997).

<sup>&</sup>lt;sup>15</sup> Schemata are discussed in greater detail within Chapter Three, p.40.

<sup>&</sup>lt;sup>16</sup> Coulter's study neglects the non-composite nature of electroacoustic audio-visual music highlighted by Boltz and instead is content to divorce the sonic and visual components from an audio-visual work, presenting them to audiences as independent works (as opposed to the mutually dependent and cooperative fashion in which they were first intended to be presented).

responses,<sup>17</sup> while a series of short segments ranging in duration from twelve to thirty-one seconds were utilised in order to capture more cognitive audience responses to the work.<sup>18</sup> Responses were recorded with Likert-type scales and the longer clips were also accompanied by two open ended guestions.<sup>19</sup>

Results from the cognitive listening tests taken by inexperienced, non-music students were found to provide improved results for the audio-visual situations over the purely sonic, indicating that individuals were able to respond to individual events more effectively when both sound and image stimuli were present. Interestingly, the inclusion of the visual element was also found to increase the emotional engagement with both works (Geringer et al. 1996: 249). Such results might suggest that the addition of a visual element both acts to direct cognitive listening and provide a framework for interpretation of otherwise abstract sonic forms. With regard to the current study, these results might suggest that appreciation levels could be even higher for electroacoustic audio-visual music than for electroacoustic music.

Another significant finding of interest for the current study, was that Dukas's piece was favoured for contextualisation as a result of its clear narrative, while the Bach piece evoked a more significant proportion of emotional responses from the participants. Such results suggest a difference in audience approach to representational narrative forms, for example the animation of *the Sorcerer's Apprentice* film, and those of more abstract "visual music" presentations, such as that accompanying the Bach *Toccata and Fugue in D minor*.

## 2.6 – Non-music Majors' Cognitive and Affective Responses to Performance and Programmatic Music Videos (Geringer et al. 1997)

In a second research project, Geringer et al. investigated the variation in responses from inexperienced audiences to two versions of the same instrumental work. For their first test example they again chose to use an excerpt from Disney's *Fantasia*, this time opting for Beethoven's *Symphony No. 6 in F major, op.68.* conducted by Leopold Stowkowski, and accompanied by an animated narrative film. The second test example presented the same work but this time performed by Leonard Bernstein conducting the Vienna Philharmonic, accompanied by video footage of the orchestra playing in a concert hall.

The methodology was largely identical to that of the previous project, collecting both affective and cognitive responses to the work. Cognitive responses indicated that the Bernstein performance – with video of the orchestra – was most effective at soliciting what the researchers termed to be "accurate" responses from the audiences, while the Stowkowski version – with animated video accompaniment from *Fantasia* – was the least effective.

<sup>&</sup>lt;sup>17</sup> Emotional responses to the work.

<sup>&</sup>lt;sup>18</sup> 'Cognitive questions addressed the [audience responses to] elements of music, including tempo, meter, texture, instrumentation, melody, harmony, and dynamics.' (Geringer et al. 1996: 243). It is important to note that the researchers identified "correct" answers to these cognitive questions.

<sup>&</sup>lt;sup>19</sup> Likert scales are similar to semantic differential scales but are constituted by a number of questions or statements that the subject must rate on an annotated scale (a Likert scale must contain multiple questions). For example: How strongly do you agree? Strongly Agree, Quite Agree, Neither Agree or Disagree, Quite Disagree, Strongly Disagree (Likert 1932).

Audiences scored lower on the cognitive questions when this animated video was present (Geringer et al. 1997: 229). The results therefore suggest that where temporally congruous source bonding occurs between sounds and images in a piece, as within the video of the Bernstein Vienna Philharmonic performance, audio-visual associations increase cognitive attention to elements of the work, thus supporting the findings of both Boltz and Marshall and Cohen with regard to temporal congruence and the added perceptual emphasis placed upon synchronous audio-visual events.

Affective responses however, were higher for the music accompanied by the *Fantasia* animation than any other, suggesting that participants were able to relate, perhaps through familiarity, to the narrative discourse of the visual animation and utilise this to interpret the musical form of the work. Once more the question of overall form is significant because only short segments of the work were presented to the audience groups. Within these short test segments the larger musical forms (structures) of the work may have been obscured, and thus in order to make sense of the test examples audiences may have sought to employ interpretations of the visual discourse in understanding the work.<sup>20</sup>

While Geringer et al. reject the non-composite nature of the audio and visual components, their focus upon the sonic content of the work as opposed to the visual presents a refreshing change from the visual-centric focus of much of the literature. Their two research projects highlighted the differences between the interpretation of sound and image constructed within the context of narrative films and those of more abstract audio-visual music situations, with their findings suggesting that abstract discourses might engender more emotional responses than discourses that are mimetic.<sup>21</sup> These findings were most useful in defining the criteria for the selection of works within the current research project, by demanding further investigation of audience interpretations for primarily mimetic and primarily abstract discourses.

## 2.7 - The Relationship Between Musical and Visual Components in Film (Lipscomb and Kendall 1994)

Scott Lipscomb and Roger Kendall's project investigated audience responses to twenty-five examples, created from extracts out of a Hollywood film. Five film extracts were taken out of the film and the sound replaced with recordings containing only the orchestral score (thus all diegetic sonic material was removed). Students of film composition were then enlisted to swap the non-diegetic audio between the five extracts, thus creating twenty-five test examples. The film composition students were asked to align the non-diegetic audio in the new clips so as to synchronise the sound and image as best as possible. This process therefore resulted in a series of five composer-intended audio-visual examples and a larger collection of twenty audio-visual examples made up of musical and visual combinations not intended by the original

<sup>&</sup>lt;sup>20</sup> However, it should be noted that in this second research project the chosen segments were whole movements of the larger work, and thus might have a more cohesive form than that of an arbitrary section.

<sup>&</sup>lt;sup>21</sup> Such results might bring the findings of the I/R project into question. In contrast to finding mimetic works more engaging (as demonstrated in the I/R project), perhaps participants are merely able to describe the content of such works more readily.

composer (Lipscomb and Kendall 1994: 65).<sup>22</sup> Thus, these new audio-visual examples could be described as having been "re-composed". Audiences were asked to judge which example clip contained the most appropriate orchestral score, and to rate the clips in order of effectiveness. The researchers' goal was to investigate if what they termed the "composer intended audio" was consistently recognised as the best fit.

When Lipscomb and Kendal had received their test examples they conducted two experiments. The first asked audiences to assign a "best fit" categorisation response, and the second asked audience members to rate the example clips on a semantic differential scale. Results for the first experiment demonstrated that audiences significantly, and consistently, identified the "composer-intended" score as the best fit for four out of the five film clips, however results for the most abstract visual clip were less significant. This was attributed to the fact that the "best-fit" becomes harder to judge for abstract scenes, with each audio track able to render a different interpretation of the scene, rather than being judged as inappropriate (Lipscomb and Kendall 1994: 69).

Such a conclusion hints at a discrepancy in the way that composer intention was assessed for the project in question. Intention was judged as that which was the original audio-visual condition, rather than through a more detailed assessment of intended meaning, emotive content or context. In the process of re-composing the original clips into the audio-visual examples for testing, the music students also applied their influence in selecting and making the most appropriate alignment of sound and image for the examples. Thus, these "re-composers" might also be described as having imposed their own intentions upon the work. The spread of "best fit" audience responses within the most abstract film clip may be reflective of a preference for the intentions of these "re-composers" rather than the intention of the original composer provided through the orchestral composition. It is essential that further attention is paid to the question of intention and that the meaning of this term is examined further.<sup>23</sup>

Lipscomb and Kendall's second experiment demonstrated that ratings given by individuals on a semantic differential scale varied significantly when the musical content was changed. "Composer-intended" audio scored highest on the evaluative ratings within this scale, suggesting that '[e]valuative judgement is affected by the appropriateness of the pairing of musical and visual components in the context of an audio-visual composite' (Lipscomb and Kendall 1994: 77). This second experiment also indicated that the audio component of an audio-visual example had a more significant impact on the evaluative rating than the visual content.

As in Coulter's study, Lipscomb and Kendall's project discovered that audiences attributed a significant role to the musical soundtrack in the interpretation of audio-visual examples (1994: 77). However, the removal of all diegetic sound from within the audio-visual examples may have

<sup>&</sup>lt;sup>22</sup> Lipscomb and Kendall termed their test examples "audio-visual composites" but for the purposes of this paper they will be referred to as audio-visual examples.

<sup>&</sup>lt;sup>23</sup> Such a detailed examination takes place in Chapter Three, p.60.

acted to focus attention upon the non-diegetic soundtrack, creating an artificial listening situation by focussing sonic attention fully upon the orchestral score.<sup>24</sup> It is also possible that the orchestral composer took cues from the diegetic audio materials, which in turn informed choices for the non-diegetic audio, and without which certain gestures or motifs may have lost their significance. This is ironic due to the researchers' insistence on wanting to use "real" examples. They cite:

Since we are looking for elements of music we must be sure that the material provided for observation represents real music and not merely elements trimmed down for experimental purposes (Hevner 1936: 248).

Hevner's assertion highlights the impact that methodology might inadvertantly have upon the collected data through the use of short work extracts as test examples. Use of an extract might obscure formal structures important to the original work, potentially reducing a multidimensional aesthetic experience to a binary perceptual test.<sup>25</sup>

Electroacoustic audio-visual composers rely on both the audio and visual elements in the construction of their works, with an equal emphasis often applied to both sound and image. As a result, concerted effort was employed to ensure that the current test procedure did not emphasise one element over another. Further, the current study utilised actual electroacoustic audio-visual music works as test examples, so as to ensure that the results did indeed reflect audience interpretation of full works, and not audience's interpretations of simple audio-visual examples.<sup>26</sup>

#### 2.8 - Making Sense of Contemporary Dance (Glass and Stevens 2005)

At first glance, a study investigating audience interpretation to contemporary dance performances might seem to be rather distant from the audience investigation of electroacoustic audio-visual music, but the aims of the project, and the nature of the art form in question, possess many similarities. Renee Glass and Kate Stevens' research presented findings on the impact of contextual information upon interpretation, and the methodological evaluation afforded by its use of both qualitative and quantitative data collection methods. Their project sought to investigate the level of insight that audiences were able to gain from contemporary dance performances and how they could help audiences to achieve a greater understanding of the works. Dance, like electroacoustic audio-visual music, explores the interaction between visual forms and sonic events, structured in time.

Ninety percent of audience members were reported as holding some level of insight into the work, and for the ten percent that did not interpret the piece, a lack of intellectual engagement was deemed as responsible. Such a finding suggests that audiences are readily able to make sense of works of contemporary dance. Further to this, the visual element of the presented

<sup>&</sup>lt;sup>24</sup> Which might have been involved in a more complex interplay with diegetic sound in the original film clip.

<sup>&</sup>lt;sup>25</sup> As Susan Langer declared, 'the selections usually employed in the experimentation would be more likely to irritate than to sooth or inspire a musical person' (Langer 1957: 212).

<sup>&</sup>lt;sup>26</sup> For example, asking an audience group to rate a stereo rendering of an eight-channel piece would likely not provide the same responses as if the same audience group were presented with the full eight channel version.

dance works was reported to be the most significant reason for audience enjoyment, while the aural component was reported to be (on average) the fourth most significant reason, behind dancer characteristics and movement (Glass and Stevens 2005: 7). With the inclusion of both visual and aural elements in the works of electroacoustic audio-visual music, it was anticipated that the results of the current project would also find that a high percentage of participants were able to record an interpretation to the work.

The research methodology provided three participant groups with varying types of preperformance information: no contextual information, programme notes, or a lecture from an academic or expert on dance providing context and background to the work.<sup>27</sup> Results indicated that the provision of contextual information did not significantly impact the audience's tendency to interpret the piece, however, '*specific information* sessions did impact on the *content* of interpreted response [...] participants [...] were more likely to interpret the work consistent with those ideas expressed in the information session' (original emphasis, Glass and Stevens 2005: 6). Thus, the provision of contextual information encouraged audiences to interpret the work in a specific fashion. The results of Glass and Stevens' study therefore suggest that contextual information itself provides what might be termed a schematic framework for interpretation.

Of primary significance to the current empirical research, are the assumed expectations of the researchers with regard to interpretation. If, according to the researchers, a successful interpretation is defined by use of a specific schematic framework, then alternative interpretations are valued as less significant. In such a situation, participants may end up being judged as failing to have made an interpretation, when in reality the audience interpretations simply do not conform to those anticipated by the researchers. Participant interpretations must be valued for their diversity, and assumptions or expectations on the part of the researchers must not be allowed to influence the evaluation of the data.

Further, if audiences simply replicate contextual information from experienced sources then perhaps the provision of contextual information is partly detrimental to the diversity of unique interpretation. Perhaps audiences should be encouraged to make their own interpretations instead of receiving the interpretation of the composer or expert? To investigate this question within the current project, participants were asked to evaluate the contextual information provided to them and to indicate their desire to receive further contextual information.

## 2.9 - The Audience Experience: Measuring Quality in the Performing Arts (Radbourne et al. 2009)

The research project undertaken by Jennifer Radbourne, Katya Johanson, Hilary Glow and Tabitha White sought to investigate four aspects of audience response related to engagement: knowledge, risk, collective engagement and authenticity (Radbourne et al 2009: 19).<sup>28</sup> Their study recorded the responses of experienced and inexperienced participants (subscribers and

<sup>&</sup>lt;sup>27</sup> The information about the work was subjectively constructed by the aforementioned experts and edited for representation to audiences. Thus, the presented contextual information is in-fact an interpretation of the work itself.

<sup>&</sup>lt;sup>28</sup> These four factors of engagement are discussed with regard to their theoretical basis within Chapter Three, p.61.
non-attenders, respectively) to five live events. These were two musical concerts and three theatrical performances.<sup>29</sup> Their original intention was to compare the responses of experienced and inexperienced participants with regard to the four aspects of engagement outlined above. Their research did not seek to investigate the differences between responses to the art forms (theatre or musical concert), or individual performances (jazz or choral concert, for example) and thus the audience responses to the different works were evaluated collectively. Responses were collected through focus group discussions in which twenty-seven participants responded to structured interview questions (Radbourne et al. 2009: 22).

The responses demonstrated that both groups sought to positively fulfil the four aspects outlined above, although experienced participants were more likely to find these factors fulfilled in the works than their inexperienced counterparts. Each of the aspects outlined were also demonstrated to solicit both positive and negative responses from the participants.

In responses relating to knowledge, participants indicated that engagement with the works was a function of learning: 'the experience is significant if one can *expose* oneself to its educative message and *take something away from it*, something that develops what one's understanding of what is being listened to or watched' (Radbourne et al. 2009: 23, original emphasis). Thus, attendance at these live performance events was demonstrated to be associated with an implied learning experience. Inexperienced participants tended to respond negatively, outlining a 'discomfort with not being sufficiently *in the know* to value what they were seeing' (Radbourne et al. 2009: 23).<sup>30</sup>

The programme notes, and contextual information, were deemed to be insufficient for inexperienced audiences requirements. Though inexperienced participants did appreciate receiving programme notes, many called for 'information as an adjunct to the viewing or listening experience [...] to be given information relevant to the performance as part of the viewing experience' (Radbourne et al. 2009: 24). Further, the results from Radbourne et al.'s study suggest that audiences desire more detailed information about works than the fixed and "approved" message provided within programme notes, and instead perhaps desire the chance to enquire and to chart their own path of discovery in order to isolate the contextual elements that they themselves most connect with. Such a system of navigable contextual information could potentially be provided digitally through an interface or available on a website accessible via a specific Quick Response (QR) code printed on the programme itself.<sup>31</sup> These findings further highlight the need to investigate audience preferences for the type and style of contextual information provided within the current study.

<sup>&</sup>lt;sup>29</sup> 1. Jazz piano trio - *Benaud Trio*, 2. The touring choir of Westminster abbey, 3. Comedy play starring a famous television actor, 4. Comedy play, 5. An adaption of an Edgar Allen Poe short story.

<sup>&</sup>lt;sup>30</sup> Such an effect is likely to be prevalent amongst new audience members in an electroacoustic concert, in which the majority of regular audience members are already initiated and highly experienced.

<sup>&</sup>lt;sup>31</sup> See Chapter Nine, p.296.

Risk, second of the outlined aspects, was frequently recorded within responses and was identified as falling within three sub-categories: economic, social and psychological.<sup>32</sup> An unusual or unfamiliar concert setting was demonstrated to be one of the main factors of risk, with audience members feeling uncomfortable or exposed as a result of being in an unfamiliar situation. Collective engagement was cited as an important factor in reducing audience anxiety, with two types of interaction mentioned: that between the performer and audience, and that between audience members. Audience members reported a greater sense of fulfilment when they received communication from the performer about the performer's expectations for the audience. When this communication was unclear, and audiences received no encouragement from the performer(s), disappointment was often cited. As Radbourne et al. indicate, '[r]esponses suggest that the audience experience could be improved if the performers were somehow to acknowledge the audience's involvement in and contribution to a production' (Radbourne et al. 2009: 25).

More significant than communication between performer and audience was inter-audience communication. This was cited as perhaps the most significant factor in collective engagement, with audience members 'finding value in cultivating a shared interest in the particular art form [... while] respondents who felt that there was no opportunity for communication – that they were expected to "sit there and be quiet" – reported less engagement with the experience.' (Radbourne et al. 2009: 26). The act of being part of a collective audience can be seen to link back to social risk, in which individuals feel safer as part of a group.

The final aspect of audience response demonstrated to be significant by Radbourne et al. was that of quality, and the authenticity of the experience. For experienced participants, this related to the reputation of the performers and the clarity of the performance, demonstrating their experienced insight and the use of external knowledge and experience in judging the quality of the work. Inexperienced audience members responded on a more direct level to aspects of the performances, again citing clarity of performance but without explicit comparison to other performances or reference to the reputation of the performers. 'Respondents identified both the artistic authenticity of the performance and their own emotional perception associated with "reality" or "believability" as factors in their experience of quality' (Radbourne et al. 2009: 27).<sup>33</sup>

The findings of Radbourne et al. suggested that contextual information had a significant impact upon audience interpretation, with prior expectations demonstrated to play a significant role in the audience appreciation of works. Equally, their findings highlighted the potential bias that might have been induced as a result of the test situation. The potential factors of risk greatly informed the development of the research sessions in the current study and helped to eliminate undue bias that might otherwise have obstructed the clarity and reliability of the results.

<sup>&</sup>lt;sup>32</sup> Respectively risks associated with the cost of attending artistic events, risk associated with the potential isolation of the newcomer (feeling unengaged socially), and personal psychological fears (which often feed the larger social fears) the product poses a threat to the consumer's desired self-image' (Radbourne et al. 2009: 20)

<sup>&</sup>lt;sup>33</sup> The significance of authenticity is further supported by the neuroscientific research of Mengfei Huang et al. who identified a marked increase in pleasurable response when an artwork presented to individuals was perceived to be "genuine" and not a reproduction (Huang et al. 2011).

# 2.10 - Music Analysis and Reception Behaviours: *Sommeil* by Pierre Henry (Delalande 1998)

Francois Delalande's study investigated how certain musical material and forms within an electroacoustic (acousmatic) work elicited responses within a largely experienced audience group, and sought to discern any trends between these participant responses.

The findings of Delalande's study demonstrated significant trends within responses to the work, perhaps suggesting that certain features of the work might elicit specific and consistent responses across participants (Delalande 1998: 25). Such a finding might either suggest that some form of intrinsic meaning is encoded within the work, or that elements of the work stimulated schematic associations common to all of the participants.

Participants within Delalande's study nearly all possessed some level of specialised experience, and therefore may have been trained to interpret and describe works in a specific fashion.<sup>34</sup> As a result, it is possible that the trends identified within the data were not stimulated by any intrinsic meaning within the elements of the work, but due to the common experience and training of the participants and their use of a common interpretative schema.<sup>35</sup> However, because the study only elicited responses from eight individuals and did not clearly distinguish between them in the analysis the results may not be extrapolated reliably.

Critique of Delalande's study highlighted the importance of utilising a significant and diverse mixture of participants within an empirical project, because his research findings may have been skewed as a result of un-representative common experience in the small group of test subjects. The current project sought to explore the variation in responses between trained "experienced" participants and untrained "inexperienced" participants. Comparison of the responses for the two groups might then subsequently be used to assess the impact of specialist experience upon interpretation.

#### 2.11 - Summary

The examination of previous research projects highlighted areas of interest for the development of the current research project, provided insight and plausible assumptions for the development of research hypotheses and afforded the opportunity for reflection and critique of methodologies for data collection and analysis. The design and set up of the data collection session was suggested to potentially direct responses – both through the questions presented to participants, the structure of the research session and by the types and styles of work used within the test process.

From observing the methodologies of previous projects it became clear how vitally important it was to define the variable factors under investigation and whether it is audience interpretation of an entire work, or individual responses to a set of audio-visual examples that is being

<sup>&</sup>lt;sup>34</sup> Participants were found to utilise similar metaphors and descriptions to convey their interpretations of the work.

<sup>&</sup>lt;sup>35</sup> See discussion of the research findings of Coulter and Boltz discussed above, p.14 & 17

investigated. It is ironic that Lipscomb and Kendal (2004) discuss the use of "genuine" test examples in such detail and then fail to use "real" works in their own research project. Of the research projects discussed above, five presented excerpts or examples for testing, while the Intention/reception project (Landy 2006, Weale 2005), Glass and Stevens (2005), Marshall and Cohen (1988) and Radbourne et al. (2009) all presented full works as the object of interpretation in their studies. In order to get an accurate picture of how audiences seek to make interpretations of electroacoustic audio-visual music works it is essential that the current research project use whole works of electroacoustic audio-visual music within the research sessions.

Work type is also a significant variable factor that demands further investigation. The results of Geringer et al. (1996) appeared to suggest that audience interpretations could be correlated with the types and forms of the work materials; with abstract works engaging more emotional responses and mimetic works engaging more contextual responses. Such a finding is in contrast to the findings of the Intention/reception project, in which Landy (2006) and Weale (2005) appeared to show that mimetic works were more interpretable than abstract works. Other projects, such as that of Lipscomb and Kendall, suggested that abstraction might facilitate interpretation more readily than mimesis. Such a discrepancy within research findings presents a compelling justification for further investigation.<sup>36</sup> The types of archetypal responses demonstrated by Delalande (1998) are likely the result of social, cultural and physiologically inspired schematic associations, as suggested by Boltz (2001). The concept of schemata, introduced by Boltz, calls for further inquiry into the nature of experience and the impact that this might have upon the development of future research methodologies.

Compositional intention was also highlighted as an area ripe for further exposition. The I/R project placed significant emphasis upon communicating the intentions of the composer to audiences as a way to aid interpretation. However, the projects of Lipscomb and Kendall, Glass and Stevens, and Radbourne et al. all call into question the significance of contextual information and the impact of composer intentions upon audience interpretation of the work.

Finally, critique of the research by Delalande and Coulter highlighted potential issues with collecting data from a small sample group, especially when the test subjects all posess training in or familiarity with electroacoustic music. This further reinforced the need to investigate the role of experience in interpretation and to collect data from a wide range of participants.

The research projects discussed above presented varying conceptions of interpretation, experience, intention and contextual information. The following chapter details research into these areas by examining theoretical literature and, with reference to empirical findings, attempts to develop a coherent and appropriate model for the processes of interpretation.

<sup>&</sup>lt;sup>36</sup> Though it is of prime importance to first attempt to quantify the very nature of abstraction and mimesis.

# Chapter Three Theories of Interpretation

Exposition of previous empirical research projects exposed the need to clarify the terms and variable factors investigated within the empirical study. The current chapter presents an overview and introduction to various relevant theories of interpretation, leading to discussion of specialist experience within audiences, the role of compositional intention in the creation of a work and the role of intention within interpretation.

The question of how signification, meaning and interpretation operate has been posed by a diversity of disciplines and in relation to a wide range of practices, forms and media. Humans often find meaning in artefacts, to derive significance from them. Early romantic conceptions of interpretation attributed communication to an underlying and primitive intuition, a mystical truth understood by all humans. Structralist conceptions of communication sought to uncover rational and scientific rules by which communication might operate, while later post-structuralist conceptions have challenged such ideas, suggesting that general trends are a result of cultural bias and that interpretation operates on an unique basis for each individual.

The majority of literature on the subjects of interpretation, signification and meaning is focused upon language. Even where scholars have considered music they often consider only the notebased music of the western classical tradition. In some cases custom concepts and frameworks are translated directly from rationalising one media type to another, but in such situations there are often unforeseen complications and contradictions which emerge. In understanding the processes of interpretation for electroacoustic audio-visual music it is essential to rigorously critique and understand the existing theories so as to develop an understanding of interpretation that is appropriate for electroacoustic music.

The following chapter raises questions about the object of study and the nature of audience interpretation for works of electroacoustic music. Approaches to the transmission and interpretation of signals are discussed, and the use of linguistic theories and linguistic conceptions of communication questioned. Phenomenological theories from Merleau-Ponty (among others) are argued to present a model suited to the explanation of the process of interpretation, where lived experience and schematic association are demonstrated to play a pivotal role in interpretation. Common interpretations are explored within this same framework and the cultural contexts of interpretation examined. Objects and their interpretation by individuals are then discussed, before various perspectives upon hearing intentions and the listening experience are compared and evaluated.

Such a chapter cannot hope to present a discussion of all theoretical approaches to the process of interpretation, experience and intention. Further, the synthesis of materials from a diverse range of disciplines opens the potential for criticism with regard to complete exposition of the materials. However, such a synthesis of materials and concepts is essential to provide fresh insight and perspective upon the processes of interpretation, especially when the object of interpretation is an intermedia art form, that of electroacoustic audio-visual music.

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# Theories of Interpretation

# 3.1 - The Standard Model of Communication

The "standard model" of communication simply involves a producer communicating to a receiver via a directional signal. This model emerged from early communications theory and linguistics, and represents what might be described as a chain of "transmission".<sup>1</sup> Its implication is that meaning is directly encoded into the fabric of a signal itself (figure 2) and that communication is directional. The receiver simply grasps the signal and understands intuitively how to decode the message. Meaning is not negotiated, but received.

<sup>&</sup>lt;sup>1</sup> Such a system was developed in order to explain the processes taking place within radio transmission and was subsequently extrapolated and applied to attempt to explain the interpretation of language and artistic works (See: Shannon & Weaver 1949 and Jackobson 1960).



Figure 2: The 'standard model' of communication (Shannon & Weaver 1949: 34)

Roman Jackobson utilised this standard model of communication as a basis for the development of his own model of communication, highlighting how the message required a code fully (or at least partially) understood by both the addresser (transmitter) and addressee (receiver) for effective communication to occur (Jackobson 1960: 355). For both models, common understanding of a specific code is essential if communication is to take place.<sup>2</sup> However, such a system affords the 'receiver' little flexibility with regards to their interpretation of the "message".

To counter the impotent position of the audience, Jean-Jacques Nattiez presented a "tripartition" model, in which the producer and receiver approach the message from two distinct perspectives. The producer encodes and creates the message via poietic processes, while the receiver utilises esthesic processes to decode the message (figure 3) (Nattiez 1990: 12).<sup>3</sup>

This revised system of communication used the symbol, as opposed to a signal, as the tool of communication.<sup>4</sup> Thus, the physical signal is separated from the concept that it embodies.



Figure 3: Nattiez's 'tripartition' model of communication (Nattiez 1990: 17).

The reversal of the right hand arrow presents significant ramifications. The work (called "trace" in Nattiez's model) is no longer an intermediary in a signal chain along which intended meaning is directly transmitted. It is now the result of complex poietic processes in which both form and

<sup>&</sup>lt;sup>2</sup> Such codes might be defined as, 'organisational systems or grids for the recurring elements that go into the constitution of anything humans make, including signs, rituals, spectacles, behaviours, and representations of all kinds' (Danesi 2002: 42).

<sup>&</sup>lt;sup>3</sup> 'From: Poiesis – to make; Esthesis – to perceive. Nattiez's model is developed directly from the theory of Jean Molino.

<sup>&</sup>lt;sup>4</sup> Susan Langer explains, 'symbols are not proxy for their objects, but are vehicles for the conception of objects' (Langer 1957: 60).

content are significant, and is the 'point of departure for a complex process of reception (the esthesic process) that *reconstructs* a "message" (original emphasis; Nattiez 1990: 17). Therefore, within this tripartition model, the poietic and esthesic need not necessarily correspond (Nattiez 1990:17). The process is no longer that of direct communication, but of interpretation.

However, in keeping the terms "message" and "receiver" Nattiez retains the implications of a directional communication model, potentially inferring a transfer of explicit unequivocal meaning. He does attempt to position himself further from the directional model by adopting the term "trace" to replace "message" within his tripartition (figure 3). But when Nattiez uses the term "trace" he does not distinguish clearly between it and 'the material reality of the work' (Nattiez 1990: 15).<sup>5</sup> As a result, the "trace" that Nattiez describes is still conceptually close to the "signal" within standard model. This disjunction <sup>6</sup> presents significant challenges for the clarity of Nattiez's theory, and the enlightening elements that do exist within it. Of significant concern is the potential for theoretical contradictions and confusion to be amplified when his theory is itself abstracted and applied in other texts. As Dunsby identifies:

Nattiez has put forward a somewhat rigid idea about how we can best study music and that its conceptual background is both complex and, to some degree, a barrier against sympathetic approaches to his concrete proposals. This can lead to interpreting valuable analytical attitudes as wrongheaded theories (Dunsby 1983: 32).

#### 3.2 - Notes and Phonemes

Semiotic systems designed for the rationalisation of spoken language are often readily applied to musical forms. Philosophical thought has committed considerable energies to investigating the question of interpretation for the "word", as evidenced by the proliferation of the diverse array of 'linguistic sciences that relate to the question of word: phonetics, semiology, structural and generative linguistics and the diverse schools of semantics' (Ihde 2007: 4).<sup>7</sup> Don Ihde

<sup>&</sup>lt;sup>5</sup> Nattiez defines the "trace" as: 'an amorphous **physical reality** until it is entrapped by analysis' (emphasis added; Nattiez 1990: 16). The concept of the 'trace' originally stems from Jacques Derrida and Emanuel Levinas, who define the "trace" as a condition of associations and emergent meanings in the "receiver" (Derrida 1978:119). These associations are created by the sign or symbol within its immediate context, in relation with events that have just past and those that are anticipated, impacting upon and defining the nature of the trace within the frame of the "receivers" experiential knowledge. (For further expansion on this topic, see Husserl's concepts of "retention" and "potention" discussed in Chapter Four, p.72). Thus, the trace itself, as defined by Derrida and Levinas, is not the artifact (sign or symbol) itself, but the meaning that emerges through its interpretation. As Langer writes, '[I]n talking about things we have conceptions of them, not the things in themselves; and it is the conceptions, not the things, that symbols directly "mean" (original emphasis, Langer 1957: 60). In contrast, the definition provided by Nattiez links the trace with the physical properties of the signal. N.B. Derrida's *Writing and Difference* was originally published in 1967, prior to Nattiez's 1975 publication *Semiology of Music.* 

<sup>&</sup>lt;sup>6</sup> Retention of the absolute nature of the signal, contrasted with the absolute subjectivity of the esthesic process.

<sup>&</sup>lt;sup>7</sup> The prevalence of the written language significantly influences our cultural conceptions of the world. This influence is evidenced by the shift in ancient Greek conceptions of the idea of mimesis. 'Plato's ideas on mimesis and his critique of the concept relate to the larger social transition from orality to literacy. [...] Aristotle's analysis [occurring later] in terms of the categories of poetry art and music can [...] be understood only in the context of his 'literate" style of philosophising' (Gebauer & Wulf 1995: 26) The question of the mimetic and abstract is further discussed in Chapter Six, p.107. The transition to wider literacy and its influence upon subsequent thought, projects significant ramifications for the conception of mimesis and demonstrates the significant influence of linguistic structures on critique and conception. It is also possible that the visual centric focus of western society is a result of the written visible text and its superior position above oral cultures and traditions. It falls outside the remit of this thesis to discuss this topic in detail, but it is important to be aware of potential influences and assumptions that are induced by language and through the translation

highlights that many of these "linguistic sciences" investigate the word in its sonic form (for example: acoustics, phonetics), but in general afford little attention to the structures of sound, an aspect key to the potential development of semiotic theories appropriate for music. He asserts that within these linguistic sciences scholars either attend to individual sounds devoid of significance (focussing only upon the physical properties of sound), or the structures and forms of words (a "silent" approach regarding aural utterance as a neutral channel) (Ihde 2007: 4). These logocentric conceptions of communication – focussing upon the mechanical aspects of language – coupled with the preference of musical research and education to favour the poietics of music, often result in music being considered as a language (Tagg 2011: 3-4).

Traditional musical notation and language are often compared as both being linguistic forms, but from the vantage point of electroacoustic music studies Schaeffer highlights the fact that notes and phonemes respectively, encode "values" rather than "characteristics".<sup>8</sup>

In the same way as for the phoneme, which tends to be confused with its written representation, notation misuses the musical note by making us think of it as a sign which exists before it is played. [...] If we forget the system and the pertinent traits which it defines, and listen to the musical note with a fresh ear as a perceptible *sound object*, we discover, in addition to these pertinent traits which we shall call values, many other characteristics (Chion 2009: 47).

Traditional music is constructed from "the musical atom" of the note, an indivisible element that forms the foundation of larger musical structures.<sup>9</sup> The equivalent in written language might be the grapheme, a basic indivisible unit which is used to build larger structures which encode meaning. But, unlike language, which has 'permanent units of meaning which are combinable into larger units; [with] fixed equivalences that make definition and translation possible' (Langer 1957: 96-97)<sup>10</sup>. Music does not rely on such strict semantic codes as language. This is partly due to the fact that, for musical signification there does not need to be a distinction between signified and signifier. '[T]he perceptible properties of the basic musical element maintain a link with the musical "meaning" (Chion 2009: 84). The musical events are themselves the objects

of structural or formal concepts from one field to another. From a phenomenological perspective (discussed below, p.37) perceived objects are united entities that may consist of multiple sonic signal elements or a mixture of sonic and visual signal elements. The nature of the physical signal will direct conception / interpretation, but does not constitute exclusively the perceived object. Supported by the neuroscientific research highlighted by Miranda (Chapter Four, p.70), it is suggested that there are no physiological factors which make the visual perceptual systems superior to that of hearing or touch, but that such biases are a result of cultural conditioning through which the written word has significantly modulated the consciousness of all individuals within a literate society, and thus our approach to interpretation.

<sup>&</sup>lt;sup>8</sup> Experimental music is the term Schaeffer applies to what is elsewhere described as electroacoustic music in this thesis and was adopted by him as a replacement for the term *musique concrète*. This term is contrasted with that of 'traditional music' (Dack 2009: 39). 'When in 1948 I suggested the term *"musique concrète*", I meant, with this adjective, to signal a u-turn in the practice of music. Instead of notating musical ideas in the symbols of traditional music theory, and entrusting their realization to known musical instruments, I wanted to gather concrète sound material, wherever it came from, and extract from it the sonorous musical values which it potentially contained' (Schaeffer in Dack 2009: 39).

<sup>&</sup>lt;sup>9</sup> '[A]n idea confirmed by the conventions of the system, which take it as the unit of notation' (Chion 2009: 58 & 47). Electroacoustic music is not built upon the same foundations and is thus further distanced from the semiotic taxonomies defined for written language but frequently applied to traditional music.

<sup>&</sup>lt;sup>10</sup> Though the structures of words within this thesis will be conceived differently by each reader, and on each reading, the individual words have explicit meanings.

that hold relevance for the audience.<sup>11</sup> The primacy of timbre within contemporary musics firmly positions the material itself as the core focus, in contrast to the structuralist conceptions of language that are dependent upon an abstraction between material and content. As Susan Langer highlights, 'little noises [(speech)] are ideal conveyors of concepts, for they give us nothing but their meaning. That is the source of the "transparency" of language. [...] The more barren and indifferent the symbol, the greater is its semantic power.' (Langer 1957: 75).

The structuralist tendancies of a logocentric viewpoint, and the subsequent semiotic discourse, present significant complications for researchers seeking to apply logocentric semiotics to an alogocentric form. The primacy of spectrum and morphology within electroacoustic music further highlights the impossibility of describing works in a purely "Chomskian" structural fashion,<sup>12</sup> due to the lack of a defined and discrete fundamental unit. The spectromorphological properties of the sound objects within electroacoustic music can range continuously from distinct pitch/attack profiles to effluviual states (Smalley 1986: 67 & 72).

#### 3.3 - The Physical Signal and Perceived Object

As Delalande asserts, 'the analysis of electroacoustic music is obviously concerned with [the sonic ...] the object of analysis is sound' (Delalande 1998: 14). However, individuals might attend either to the "acoustic signal" or "the sound object in the Schaefferian sense" (Delalande 1998: 14). But what exactly is a 'sound object in the Schaefferian sense'?

The commonly accepted meaning for the Schaefferian "sound object" is that of a defined event, perceived in a reduced way and distinguished by its morphological characteristics (Delalande 1998: 14). However, in Chion's *Guide Des Objets Sonores* Schaeffer is quoted saying the 'sound object is the meeting point of an acoustic action and a listening intention' (Chion 2009: 27). Schaeffer defines the sound object as a phenomenon (a perceived object) as opposed to physical signal (a scientifically defined attribute of frequency and amplitude).<sup>13</sup>

In contrast to the widely held interpretation, reduced listening is presented as one possible method of interpretation and not one that is independent of other forms of listening;<sup>14</sup> 'Nothing can stop a listener from varying [their hearing intention] passing from one system to another or from a reduced listening to one that is not. [...] it is this swirl of intentions that creates connections or exchanges of information' (Schaeffer in Chion 2009: 27). As Roger Scruton writes:

<sup>&</sup>lt;sup>11</sup> Especially so for musics which are influenced by the notions of reduced or expanded listening. See: *écoute réduite* in Chion (2009: 30), and *expanded listening* in Harrison (1996: 16).

<sup>&</sup>lt;sup>12</sup> See, Chomsky (1956).

<sup>&</sup>lt;sup>13</sup> It should be noted that these concepts of the sound object are taken from the first book of the *Traité des objets musicaux*, and that in later books (three and four), where Schaeffer outlines typology and morphologies in an almost systematic fashion, he risks implying that the sound object is empirically classifiable. This potential contradiction is another area ripe for future research and exposition, see Chapter Nine, p.296.

<sup>&</sup>lt;sup>14</sup> *'*[*R*]educed listening [...] concentrates on the sound for its own sake, as *sound object*, independently of its causes or its meaning (although reduced listening can also take place, but with greater difficulty, in a direct listening situation)' (Chion 2009: 11).

[C]ompare the person who hears only the acoustical properties of sounds – their position, loudness, physical causes and effects – and is deaf to the virtual causality of the musical line, with the one who is absorbed in the musical line, but has no idea of where the sounds are coming from or how they are made. The second is hearing music (even if also missing something), while the first is not (Scruton 2009: 8).

Recognising different approaches to the perception of the same signal, Schaeffer calls for the investigation and definition of "hearing intentions" as fundamental to the investigation of the "sound object" (Chion 2009: 27).<sup>15</sup>

Because the sound object as defined by Schaeffer is distinct from the physical signal, it is not quantifiable, but a flexible constituent element dependant upon perception. Therefore, the idea of considering electroacoustic music as built from explicit discrete events, building blocks of physical signal, is contradictory.<sup>16</sup> This perceptual flexibility also leads to a system of complexity in which object and structure are divisible and non-discrete, uniquely defined by the individual perceiver.

#### 3.4 - Object and Structure

The "sound object" as set out by Schaeffer does not have a set temporal limit but is flexible according to the listener's perception. It is a negotiated unit, found within structures and divisible; 'every object of perception is at the same time an OBJECT in so far as it is perceived as a unit locatable in a context, and a STRUCTURE in so far as it is itself composed of several objects' (original emphasis; Chion 2009: 58). Interpretation of an event will be directed by its relationship with proceeding or subsequent events (both events that are within the work and those that are outside of it) as well as the audience member's previous experience.<sup>17</sup> As Maurice Merleau-Ponty describes, 'the perceptual "something" is always in the middle of something else, it always forms part of a field' (Merleau-Ponty 1962: 4).

This consideration of the "whole", and the impact that it has upon perception, is the central issue at the heart of Nattiez's critique of Schaeffer's theory of *écoute réduite*, in which Nattiez asserts that Schaeffer is focussed only upon individual events and not the context within which they are found.<sup>18</sup> As Nattiez continues to explain "ordinary" hearing [...] owes its characteristics to the *temporal* nature of music [...] and to the successive perception of events, whose "being understood" is continually called into question by new musical events that subsequently appear' (original emphasis; Nattiez 1990: 94).<sup>19</sup>

<sup>&</sup>lt;sup>15</sup> Hearing intentions are discussed below, p.50.

<sup>&</sup>lt;sup>16</sup> See also, the above discussion of notes and phonemes, p.32.

<sup>&</sup>lt;sup>17</sup> Chapter Four further expands upon the temporal context of events, p.72. But it is of key importance to note that the 'events' in question may be either sonic or visual or indeed synchronous audio-visual events.

<sup>&</sup>lt;sup>18</sup> 'Schaeffer has a conscious, idiosyncratic prejudice – the *Traité des objets musicaux* deals only with isolated soundobjects contemplated for their own sake, and not with sound-objects integrated into a musical work' (Nattiez 1990: 94). See also footnote <sup>13</sup>.

<sup>&</sup>lt;sup>19</sup> Nattiez shifts Schaeffer's écoute réduite solely to the poietic, and disregards any possibility of analytical listening taking place within the esthesic sphere.

However, in Chion's *Guide des Objets Sonores* quite a different perspective emerges within the object/structure dichotomy outlined by Schaeffer (Chion 2009: 58):

- Every object is perceived as an object only in a context, a structure, which includes it.
- Every structure is perceived only as a structure of objects which compose it.
- Every object of perception is at the same time an OBJECT in so far as it is perceived as a unit locatable in a context, a STRUCTURE in so far as it is itself composed of several objects.

(Chion 2009: 58)

Again, Schaeffer defines the "object" as a perceptual unit and not as an empirically classifiable individual sonic event. '[I]t is important to distinguish SOUND as a physical signal and thus measurable by machines, and SOUND as a sound object, which arises from a perceptual, qualitative experience' (Chion 2009: 15). Further to this, he indicates that the structural nature of the sound object is defined by the perceiver.<sup>20</sup>

At a certain level of phenomena, the (isolated and coherent) object was a structure fused together with continuous elements, which were not perceived separately. It was not itself perceived as a structure, but rather as an object taken from a structure higher up the chain [...] If it happens to be composed of discontinuous elements, these, in turn, will gradually take on the register of what was previously perceived. (Chion 2009: 69).

Spectromorphological analyses, or the identification of 'something to hold on to factors' can be useful in order to dissect and examine materials, to draw the attention of the composer to possible associations between materials inspiring or driving the creative process within electroacoustic audio-visual music, but they cannot be utilised in order to define explicit building blocks within which implicit communication can be constructed.<sup>21</sup> As Langer writes, 'the meanings of all [...] symbolic elements that compose a larger, articulate symbol are understood only through the meaning of the whole, through their relations with the total structure.' (Langer 1957: 97). Therefore, outside of the structures and larger forms of the work, these individual events either lose their meaning, or else their meaning is significantly altered. As Theodore Adorno writes, '[m]eaning can never be a product of the synthesis of the work [...] meaning is constituted by the totality of the work' (Adorno 1972: 220).

It is important to note that, just as object or structure are not empirical units, there is no empirically definable 'totality of the work'. Again, the sense of totality is entirely perceived. Thus, if excerpts are taken from larger works, audiences will take these excerpts to be whole units and interpret them as such. If participants are presented with the larger context for an excerpt or

<sup>&</sup>lt;sup>20</sup> The perceived sound object might be a melodic line, the attack, sustain and decay of an individual note within this melody or indeed an entire movement within the work. In the case of a melody it might be divided into its individual notes, and in the case of an individual note it might be divided into its morphological characteristics.

<sup>&</sup>lt;sup>21</sup> The "something to hold onto factor" was defined by Landy (1994), and subsequently used in the analysis of data in the I/R project (Weale 2005, Landy 2006). It is discussed within Chapter Five p.88.

movement, for example presented with the preceding and following sections of a larger work, then their interpretation is likely to be affected by the change in context.<sup>22</sup>

This same structure-object relationship operates between the physical signal streams within electroacoustic audio-visual music works. A structuralist perspective considers a final interpretation to be built from the perception of (and interaction between) two unique signal streams (sound and image). However, as identified in previous empirical studies (Boltz 2001, Marshall & Cohen 1988) and through Schaeffer's division, the final phenomenon will actually be a perceived object; directed by the properties of the physical signal streams but exclusive from them.<sup>23</sup> An object may be audio-visual, sonic or visual; but it will be defined by its occurrence within the discourse. Such audio-visual objects will be structures (consisting of audio and visual elements), just as they will form part of larger audio-visual structures. In this way, Schaeffer's object might be sonic, visual or audio-visual. As within Schaeffer's Subject / Object dichotomy, audio-visual objects may be perceived as structures (containing audio and visual elements) or as cohesive audio-visual objects within the discourse is such audio-visual.

#### 3.5 - Phenomenology and Consciousness

Recognising the distinct difference between physical signal and perceived event, it becomes clear that attempts to objectify the perception of stimuli — in which the stimulus is regarded as a purely physical signal — is erroneous and that it is essential to regard the totality of the phenomenon of experience itself. Edmund Husserl constituted the historical discipline of Phenomenology at the start of the twentieth century, 'the study of structures of consciousness as experienced from the first-person point of view' (Smith 2008). Schaeffer himself noted, 'For years we have been doing Phenomenology without realising it. [...] It is only after the event that we recognised in Edmond Husserl's heroically rigorous definition the concept of the object postulated in our research' (Chion 2009: 29).

Phenomenology is often invoked in literature regarding music and other arts as a method for discussing phenomena as perceived. From a phenomenological perspective, perception is intrinsically linked with the subject's consciousness and the consciousness is defined by the subject's experience of the world.

Insofar as, when I reflect on the essence of [consciousness], I find it bound up with that of the body and that of the world, this is because my existence as [consciousness] is merely one with my existence as a body and with the existence of the world, and because the subject that I am, when taken concretely, is inseparable from this body and this world (Merleau-Ponty 1962: 475).

<sup>&</sup>lt;sup>22</sup> Such an assertion was also expressed by Hevner within Chapter 2, p.23. Chapter Four further expands upon this idea with a discussion of temporality, p.72.

<sup>&</sup>lt;sup>23</sup> As Chion asserts, 'there is no image track and no sound track in the cinema, but places of images plus sounds.' (Chion 1994: 40).

As David Smith summarises: 'consciousness is embodied (in the world), and equally body is infused with consciousness (with cognition of the world)' (Smith 2008). Thus, it is impossible to divorce a subject and their interpretations from their world, because the subject creates their own interpretation of the outside world and provides themselves with their own 'window' through which they can then perceive it.<sup>24</sup> In this sense, the very act of 'perception becomes an "interpretation" of the signs that our senses provide in accordance with the bodily stimuli, a "hypothesis" that the mind evolves to explain its impressions to itself' (Merleau-Ponty 1962: 39). This is the oft-ignored foundation of a phenomenological perspective: that which is perceived is "true", not that which is objectified. As Lawrence Kramer writes, 'interpretation neither contributes nor hinders the knowledge of cultural works. It is that knowledge' (Kramer 2005: xiv).

Merleau-Ponty's perspective on phenomenology is developed partly from Jules Lagneau who suggested that 'perception is an interpretation of the primitive intuition, an interpretation apparently immediate, but in reality gained from habit corrected by reasoning' (Lagneau in Merleau-Ponty 1962:39). In this sense, Lagneau's theory of interpretation relies upon a certain undefined primitive intuition as its source, the outcome of which is then rationalised by the consciousness of the individual according to the context. Merleau-Ponty's leap is to abandon individual events in isolation and to recognise that all events are perceived within a context, both local (the context of surrounding events), and experiential (the context of the subjects lived experience).<sup>25</sup> This shift eliminates dependence upon a mystical and underlying "primitive intuition" as a controlling factor in interpretation, instead recognising that the act of interpretation is itself the act of perception. The following section examines the concepts relevant for a phenomenological approach to interpretation of electroacoustic audio-visual music.

#### 3.5.1 - Interpretation of Phenomena

Interpretative statements [...] are culturally and socially conditioned, context sensitive, and the product of education and dialogue. [... Subjectivity] is not to be understood as a condition of self-enclosed private existence, but as a condition of public relatedness, a position — or series of positions — in a network of practices and representations. (Kramer in Atkinson 2008: 89).

This negotiation of communication through human relationship, social conventions and situation is a frequent recurring theme throughout philosophy's obsession with the 'sublime' experience and the "primitive encounter",<sup>26</sup> most clearly embodied in Ludwig Wittgenstein's language

<sup>&</sup>lt;sup>24</sup> Thus rejecting the theory of Cartesian Dualism in which body and mind are separated.

<sup>&</sup>lt;sup>25</sup> The term *lived experience* will be utilised throughout this thesis to refer to the collective experiences of an individual, experienced throughout their lifetime. Though it might be argued that there is no non-lived experience, the term *lived experience* is retained in order to make a clear distinction for the reader between, the totality of experience constituting the subjects consciousness and the term *experience*, often associated with professional practice and training only.

<sup>&</sup>lt;sup>26</sup> Condillac describes the primitive encounter thus, 'He who suffered, by being deprived of an object which his wants had rendered necessary to him, did not confine himself to cries or sounds only; he used some endeavours to obtain it, he moved his head, his arms, and every part of his body. The other, struck with this sight, fixed his eye on the same object, and perceiving some inward emotions which he was not yet able to account for, he suffered in seeing his companion suffer. From that very instant he felt himself inclined to relieve him, and he followed this impression to the utmost of his power' (Condillac in Kramer 2006: 124).

games.<sup>27</sup> Within this discourse a common thread can be identified; that communication, in any form, must be negotiated.

Interpretation (and construction or authoring) of meanings is always selective contextualization, is always deploying a sign within a field of interpretive conventions that belong to some social order, complete with its history and its politics (Lemke 2011: 10).

The audience interprets the final artefact through the window of their own unique consciousness. As Chion notes 'it is not a simple "translation" by the ear of a physical signal, as a whole current of musical thought [...] encouraged people to believe. [...] There are very variable correlations between the physical signal and the perceived sound [...] which demonstrate that sound cannot be reduced to a linear translation of a stimulus' (Chion 2009: 14). As Martin Heidegger might have phrased it, the things "thinglyness" is endowed through interpretation, not by the creator's intentions or through some absolute encoded meaning.<sup>28</sup>

The relationship between the physical signal and the perceived sound was termed by Schaeffer as the "correlation", signifying that 'there is no regular and automatic similarity between one and the other, but that perception intervenes with its own character and specific laws and is not content to passively "imprint" the variations of a physical 'stimulus' (Chion 2009: 17).<sup>29</sup> This is encapsulated by Langer in the following:

The same concept is embodied in a multitude of conceptions. It is a form that appears in all versions of thought of imagery that can connote the object in question, a form clothed in different integuments of sensation for every different mind. (Langer 1957: 71)

Therefore, no two interpretations of a work will ever be the same. Even the composer's interpretation of the work will change through its development, and after its completion. Thus:

[I]t is never possible for two terms to be identified, perceived or understood as the same, for that would presuppose that their "this-ness" is overcome. They can only be indissolubly associated and everywhere substituted for each other [resulting in] the reduction of meaning to the misinterpretation of vague resemblance or to meaningless association by contiguity (Merleau-Ponty 1962: 17-18).

It is impossible for a discrete code of explicit communication to operate through an electroacoustic music work, because each individual audience member comprehends the work from their own unique perspective, built through the context of their unique lived experience.

But how is it possible to account for archetypal responses to objects and structures in sets of audience responses? The results outlined by Delalande (1998) demonstrated common

<sup>&</sup>lt;sup>27</sup> In the "language games", simplistic forms of language are used in conjunction with physical action or gesture. The process of simplifying communication in this way demonstrates a link between language and action (primitive gesture), as well as the development, and increasing complexity, of language, towards complete abstraction. Wittgenstein, L. (1953) *Philosophical Investigations*. Malden: Blackwell.

<sup>&</sup>lt;sup>28</sup> Heidegger describes the thing and searches for what defines its thinglyness in his essay *The Origin of the Work of Art* (Heidegger 1975).

<sup>&</sup>lt;sup>29</sup> Correlation and various correlates are discussed in detail below, p.44.

interpretations for specific works.<sup>30</sup> Initially this might suggest that the work's signal encoded explicit meaning, but it is important to recall that all of these participants possessed a common experiential background, all of them were composers or practitioners of electroacoustic music. As discussed by Merleau-Ponty, the context (field) will determine the interpretation.<sup>31</sup> This context is defined not only as the relationship between events inside the work, the object in question and the objects surrounding it (its situation), but also the relationship between the object in question and the subject's past experience.<sup>32</sup>

Cognitive science describes the processes of association through experience using the concept of schemata.

#### 3.5.2 - Schemata

Schemata were first defined by Immanuel Kant in 1787 as 'any one of certain forms of rules of the productive imagination through which the understanding is able to apply its categories to the manifold of sense-perception in the process of realizing knowledge or experience' (Kant in Rumelhart 1980: 33). Within cognitive science, schemata are recognised as the building blocks of cognition.

Schemata can represent knowledge at all levels, from ideologies and cultural truths to knowledge about the meaning of a particular word, to knowledge about what patterns of excitations are associated with what letters of the alphabet. We have schemata to represent all levels of our experience, at all levels of abstraction. Finally, our schemata *are* our knowledge. All of our generic knowledge is embedded in schemata (original emphasis, Rumelhart 1980: 41).

Schemata are themselves always embedded within other larger schemata, and divisible into sub-schemata; they are flexible so that new information may alter and develop them as it is received, and so that links between schemata may shift according to new information and experience (Anderson 1977: 418-419). Malleable frameworks, within which knowledge about contiguous sensory data is stored in complexes of association. For example, 'the sound of a certain music genre might prime a group of associated extra-musical concepts, and these activated concepts may enter working memory and influence subsequent message processing' (Shevy 2008: 479).<sup>33</sup> David Rumelhart describes schemata as an abstraction of relationships and properties which 'provide a skeleton around which [situations] are interpreted' (Rumelhart 1980: 37). In this sense, schemata are memories of associations and record the relationships between sense data. In the same way that two terms can never be perceived the same, only

<sup>&</sup>lt;sup>30</sup> See Chapter Two, p.27.

<sup>&</sup>lt;sup>31</sup> The concept of field was discussed above, p.35.

<sup>&</sup>lt;sup>32</sup> Context with regard to previously perceived objects and memory.

<sup>&</sup>lt;sup>33</sup> Perceived musical objects that are abstract contain no intrinsic meaning themselves, but can inspire meaning through their relationship to other objects or structures within the context of a work. Mimetic objects, or complexes of objects, will carry with them extra-musical associations, but these associations too will be affected by the structures and relationship between objects in a work. Mimetic materials are discussed in Chapter Six, p.107.

substituted for one another,<sup>34</sup> so do schemata represent knowledge "about" terms, rather than definitions "of" terms (Rumelhart 1980: 40).

Indeed, just as described within phenomenological theory where the subject's lived experience defines their individual consciousness, 'the total set of schemata we have available for interpreting our world, in a sense, constitutes our private theory of the nature of reality' (Rumelhart 1980: 37). Schemata are the structures within which knowledge from lived experience is stored. Significantly, these are not fixed forms against which incoming sensory information is compared, but dynamic systems in which incoming perceptual objects are understood and judged based upon their connective potential.<sup>35</sup>

# 3.5.3 - Schemata and Interpretation

As Langer outlines, 'if their respective conceptions of a thing embody the same concept, they will understand each other' (Langer 1957: 71). Thus, for example, so long as an individual within a pub understands the concept that is embodied in the act of the barman ringing a bell just before 11pm, it does not matter which pub the individual is in, nor who the barman is and not what the sonic properties of the bell are. So long as the individual has an understanding of the concept that is similar enough to that of the barman, the message will be communicated.<sup>36</sup> Rumelhart outlines the possible outcomes of an interpretative act using schemata in the following way:

- 1. The [subject] may not have the appropriate schemata. In this case he or she simply cannot understand the concept being communicated.
- The [subject] may have the appropriate schemata, but the clues provided by the author may be insufficient to suggest them. Here again the reader will not understand the text but, with appropriate additional clues, may come to understand it.
- The reader may find a consistent interpretation of the text but my not find the one intended by the author. In this case the reader will "understand" the text but will misunderstand the author.

(Rumelhart 1980: 48)

The presence and action of schemata was demonstrated empirically by Mark Shevy. Shevy presented examples of "country" and "hip hop" musics to participants, and asked them to respond to a series of contextual questions relating to impressions and concepts surrounding the music (for example: ethnic minority, friendliness, liberal ideology). Participants were also asked to record impressions of the music (for example: attractiveness, expertise). Responses regarding audience impressions of the music were very similar between participants. However, large differences were recorded between the two styles with regard to the contextual concepts (Shevy 2008: 491).

<sup>&</sup>lt;sup>34</sup> See Merleau-Ponty above p.39.

<sup>&</sup>lt;sup>35</sup> Chapter Four further expands upon this, highlighting Merleau-Ponty's discussion of the present, p.72.

<sup>&</sup>lt;sup>36</sup> British licensing laws used to prevent pubs and bars from selling alcohol to the public after 11pm. Traditionally a bell at the bar was run to signify the approach of 11pm allowing patrons to purchase a final drink before the bar had to close.

While preference for the musicality of the work was not greatly different between these groups (evidenced by consistent evaluative ratings regarding the work), each of the musical styles inspired a specific schemata of interpretation, carrying with it a wide array of extra-musical associations. As Nicholas Cook describes, 'one or two notes in a distinctive musical style are sufficient to target a specific social and demographic group and to associate a whole nexus of social and cultural values with a product' (Cook 1998: 16). Schemata act as perceptual systems of classification, providing a way for individuals to compare objects, both in terms of their characteristics and relationships within cultural contexts. They also afford individuals the ability to recall related information that may be of significance but is not initially perceived. For example, merely seeing a flame may also engage memory or awareness of burning sensations. In an evolutionary context these characteristics are highly useful, but may present significant challenges for an art form that utilises mimetic objects as its material (Windsor 1995: 2.2.4).

Schaeffer identified musical perception as built upon both natural and cultural norms: natural in the sense that it is 'common to all people, arising from universal psychological and physiological factors', and cultural as 'what is peculiar to each culture, in terms of particular codes and conditionings' (Chion 2009: 34). Western and Eastern instrumental musics can both be described as dependent upon the 'natural' human perception of pitch and duration (among other aspects), but the scales and pitch systems utilised by each of the individual cultures are an entirely cultural construct. The combination of these natural and cultural elements form 'structures of reference [(schemata)] which vary according to different cultures' (Chion 2009: 34). The nature of schematic cultural and experiential associations, which engage similar archetypal responses in audience members, have confused researchers and theorists allowing them to imagine that interpretation consists of decoding implicit knowledge that is encoded within a physical signal. This implicit knowledge however does not exist. Instead, archetypal responses are a result of common physiological, cultural and social perspectives, built up through the common or individual experience of individuals. All experience of culture, training and knowledge, will modulate the subject's future interpretations, contributing to the individual's unique consciousness. But in being defined by its past experience within a cultural context, this consciousness will possess a specific cultural slant.<sup>37</sup>

Schemata allow individuals to draw connections between, and to rationalise, perceived objects. Schemata can also engage related concepts, bringing conceptual associations external to the physical signal to bear upon the process of interpretation. When a new event is perceived it is not simply checked against existing schemata, but modulates and affects the schematic

<sup>&</sup>lt;sup>37</sup> Within a cultural context the activation of schemata may inspire unwanted expectations such as that of a conception of "music" which is pitch based, melodic and performed by an orchestra, etc. If this schemata is activated within a subject as a result of an invitation to listen to music and the subject is subsequently presented with an electroacoustic composition, then the majority of their 'musical schemata' will be invalidated by the nature of the presented work, i.e., it will not be performed by an orchestra, and is likely to be timbrally focused as opposed to pitch focused. As a result the subject will not be able to accept the electroacoustic composition as a piece of music. See below, *Cultural Expectations*, p.54.

structure, adding itself to the schemata and altering the structure of schematic associations through the process.

# 3.5.4 - Subject-Position

Up to this point, the physical signal has been relegated to a position of insignificance. However, while no explicit knowledge may be encoded within the physical signal of the work, its properties and characteristics might contribute to limit the possibilities of interpretation. Subject-position is a term stemming from Michel Foucault, whos research sought to position discourse at the centre of interpretation:

On the one hand there is the empirical spectator whose interpretation of the film will be determined by all manner of extraneous factors like personal biography, [...] previous viewing experience, variables of conditions of reception, etc. On the other hand the abstract notion of a 'subject-position', which could be defined as the way in which a film solicits, demands even, a certain closely circumscribed response from the reader by means of its formal operations [...] this distinction seems fruitful, in as much as it accepts that different individuals can interpret a text in different ways, while insisting that the text itself imposes definite limits on their room to manoeuvre (Johnson in Clarke 2005: 92).

Therefore, the subject-position of the object is dictated by the physical signal of the work (its formal operations and 'fixed' physical nature). The subject-position of the work does not make communication explicit, but limits the interpretative potential from infinite to plural. For example, the short phrase (figure 4) possesses physical properties that, within the context of a specific discourse, create a subject-position limiting its possibilities for interpretation.



Figure 4: A short musical gesture.

While this gesture may represent a significant multiplicity of concepts (for example: perfect fourth, joy, resolution, rising, computer messages, etc.), it is less likely to represent others (for example: falling). The physical nature of this two-note gesture places a certain limit upon the plurality of its interpretation. Therefore, the subject-position of the object, while subservient to the subject-position of the individual, might still influence the process of interpretation.

"Correlation" is a term introduced by Schaeffer to describe the conceptual relationships between physical signals and their perceived objects, which result in common interpretations between individuals. These associations are possibly directed by both the subject-position of the signal, and the common experience of the subjects.

#### 3.5.5 - Correlation

Umberto Eco states that, 'the work of art is a fundamentally ambiguous message, a plurality of signifieds that coexist within a single signifier' (Eco 1965: 9). But though music might present an "ambiguous message", it is nonetheless able to communicate powerfully to its audience. As Richard Wagner wrote:

[W]hat music expresses, is eternal, infinite and ideal; it does not express the passion, love or longing of such-and-such an individual on such-and-such an occasion, but passion, love or longing in itself, and this it presents in that unlimited variety of motivations, which is the exclusive and particular characteristic of music, foreign and inexpressible to any other language (Wagner in Langer 1957: 222).

Such a romantic description can quickly be dismissed as fanciful, but on closer examination it becomes clear that, at its core, it insightfully suggests that while music does not describe or recount people or events explicitly, it does present a human response by the composer to lived experience. As Lawrence Kramer states, 'if music makes us feel, it cannot be non-referential. The feelings it stirs arise from and refer to the vicissitudes of living' (Kramer 2005: x). Langer expands this description, drawing parallels between experience and music:

[T]here are aspects of the so-called "inner life" – physical or mental – which have formal properties similar to those of music – patterns of motion and rest, of tension and release, of agreement and disagreement, preparation, fulfilment, excitation sudden change etc. So the first requirement for a certain connotive relationship between music and subjective experience, a certain similarity of logical form, is certainly satisfied. (Langer 1957: 228)

This relationship between similar logical forms provides a more rational explanation than Jean Molino's coenesthetic <sup>38</sup> and kinaesthetic <sup>39</sup> dimensions of musical signification, in which responses to the work are conjured miraculously from 'nonspecified internal sensations that inhabit our bodies' (Molino in Nattiez 1990: 104).<sup>40</sup> Similar logical form also satisfies external socio-cultural influences of experience as these will influence the subject (be they composer or audience member) and create, or influence, their internal physical and mental patterns.<sup>41</sup> Thus the intra- and extra-musical, usually found entrenched in opposing positions within the battle of musical semiotics in musical aesthetics,<sup>42</sup> are brought together under the banner of lived experience. Together they enter what Lawrence Kramer described as "a theatre of response" (Kramer 2005: xv).

<sup>&</sup>lt;sup>38</sup> 'By coenesthesia, we can understand the impression, or the emotions, that result from nonspecific internal sensations that inhabit our bodies' (Nattiez 1990: 104)

<sup>&</sup>lt;sup>39</sup> 'The kinaesthetic concerns the impression of movement that one feels in certain portions of the body [as a result of the individual perceiving music]' (Nattiez 1990: 104)

<sup>&</sup>lt;sup>40</sup> Not too dissimilar from Lagneau's primitive intuition, see above, p.38.

<sup>&</sup>lt;sup>41</sup> Psychologists have long discussed the relationships of tones in music as suggesting connotive attributes such as impressions of warmth, gentility and aggressiveness among many other responses (Levi 1982, Meyer 1956, Marshall & Cohen 1988), but as Merleau-Ponty asserts "internal experiences' are possible only as things borrowed from external experience' (Merleau-Ponty 1962: 32).

<sup>&</sup>lt;sup>42</sup> Nattiez delves into this affray in great depth within Chapter Five of *Music and Discourse: Towards a semiology of music* outlining the positions, and contradictions, found within the discourse of musical aesthetics, but he is unable to escape the overwhelming objectivist desire present within much of the literature which aims to 'discover' the explicit language of music (Nattiez 1990: 102-129).

Langer discusses the abstraction of generalised information from events, stating that it is indeed our ability to abstract generic information about objects that allows us to perceive general classes of objects and not a world of unique specific items. 'Our ingrained habit of hypostatizing impressions, of seeing things and not sense data, rests on the fact that we promptly and unconsciously abstract a form from each sensory experienced and use this form to conceive the experienced as a whole, as a "thing" (Langer 1957: 89-90). These abstracted forms are described by Eric Clarke as invariant properties, 'which constitute unchanging stimulus properties despite variation in context or transformations of the stimulus array' (Clarke 2005: 35). These invariant properties are then utilised in the construction of schematic associations for recall and interpretation. Within these situations, the subject is often able to recognise invariant properties within the stimulus which allows them to recognise trends, for example to recognise a musical composition when it is played at a different tempo than that marked, or to recognise a works identity whether performed live or projected via loudspeaker. Invariant properties are abstractions of characteristics which allow the subject to recognise and differentiate between. for example, cars and aeroplanes.<sup>43</sup> These invariant properties might then offer an opportunity for perceptual focus to shift between a focus of attribution and interpretation. As Luke Windsor outlines:

Given that the human organism's perceptual systems have evolved to pick up invariant acoustic structures that specify everyday events it is reasonable to suggest that where these invariant structures occur in acousmatic music a listener will be able to perceive the events and objects which would normally and lawfully give rise to such structures (Windsor 1995: 79).

These invariant properties may relate to forms or objects within the work and will be influenced by experience and familiarity. Windsor uses the example of FM synthesis, discussing the various interpretations and how these relate to the subject's subject-position:

[C]ertain synthesis techniques betray their real causation to those familiar with them, whilst those unfamiliar with the technical processes and resulting sounds of computer music hear one or more virtual event of more general specificity. Frequency modulation, additive and subtractive sound synthesis, the use of a phase vocoder are all quite easily, even unavoidably, heard by practitioners in the field and early electronic music is generally easily identifiable for this reason alone. For a naive listener, however, many FM sounds tend to specify bells through their inharmonic frequency structure; the sounds of early electronic music might specify the sound track of an early science fiction movie [...] The two types of listener may describe what they hear in different ways, and may focus upon different aspects of the auditory structure (Windsor 1995: 79-80).<sup>44</sup>

The influence of experience indicates that what are described as "invariant", implying perhaps some intrinsic meaning, are actually flexible and will afford different interpretations to each subsequent individual.

<sup>&</sup>lt;sup>43</sup> Which can be identified from their sonic signature, even though within these two large categories there are many different types of cars and aeroplanes that will present very different recognisable sonic signatures.

<sup>&</sup>lt;sup>44</sup> The very examples outlined by Windsor, bells and science fiction, were frequently recorded by inexperienced participants responding to work C within Phase One (Chapter Six, p.172).

But what of more fundamental and general invariant properties such as rhythms and the construction of objects within time, do these hold any intrinsic invariant meaning? How might it be possible to account for the trends prevalent in psychological research projects on music in which certain features define musics as either positive or negative as in the research of Boltz (2001), strong or weak as in Marshall and Cohen's project (1988). Such descriptions are frequently present and appear to frequently rely upon similar aspects of musical form (see table 1).

Marshall and Cohen 1988	Strong (intended to emphasise negative connotation in the test) incorporated a minor key, no grace notes, a slow but accelerating tempo and a multi note texture.	Weak (intended to trivialise negative connotation in the test) used a major key played at a moderate uniform tempo[and] had a single-note texture including grace notes.
Boltz 2001	<b>Negative</b> minor mode, atonality, and an irregular rhythm	<b>Positive</b> displayed a major mode, a consistent tonality scheme, and a very predictable rhythm.
Ellis and Simons 2005	Negative valence Minor key, dissonant harmonies	Positive Valence Major Key consonant harmonies
Sirius & Clarke 1994	<b>Negative Evaluation</b> C Minor, 96bpm, lack of harmonic movement, strings play constant C, repetitive.	<b>Positive Evaluation</b> F Major key, 106BPM, Harmonic, samba rhythm

Table 1: Trends in assessment of valence and musical properties in a range of research projects.

While such trends might initially suggest intrinsic properties, it is also possible to rationalise them based upon common lived experience, common not only in a cultural sense, such as for the associations drawn for major and minor modes, indeed a very western perspective, but also biological and physical common experienced resulting from our common human experience of existing within a similar physical form and in the physical environment of the earth.

As Simon Emmerson suggests, music may have its origins in the body and the environment:

The body generates many rhythms and sensations with cyclic periodicities [...] breath, pulse, and the physical limb movements of work, dance and sex. [...] The environment has a different time scale – with both periodic and aperiodic rhythms - [...] water, wind, the seasons, landscape (Emmerson 2001: 13).

The universality of our associations between certain musical characteristics and emotional conceptions could be a result of the fact that these fundamental elements are common by every human. 'These are a product of our biological evolution, our size, and our physical disposition in relation to the mass of the earth [...] and would be different had we evolved to be the size of a bat or an elephant, or if the earth had possessed a different mass.' (Emmerson 2001: 13 & 2007: 64).

Of course, as often stated in this chapter, the examination of interpretation is frequently blind to the influence of culture and society, but where the characteristics outlined in the table above are compared to the concept of the biological and cultural, certain trends emerge. Simplicity, periodicity and moderate tempo are all recorded as positive aspects, and can be seen to relate more to the human bodily aspects outlined by Emmerson. Complexity, irregular rhythm and acceleration are all afforded negative connotations, and can be seen as relating more to environmental characteristics. Perhaps, if musical inspiration has its basis in the body and the environment, it is rational to postulate that our internal bodily rhythms are familiar to us and thus perceived as safe, understandable and positive, while those of the external world and the environment, aperiodic and unpredictable, are unfamiliar and thus afforded negative connotations.<sup>45</sup>

David Huron describes the psychology of expectation from a primarily evolutionary perspective, outlining five stages of natural response that cover the period of time both before and after an event: imagination, tension, prediction, reaction, appraisal (Huron 2007: 6). His research suggests that there is a natural basis for the responses to stimuli, through the nature of the evolutionary advantages that they afford. Many of these aspects might also be informed by experience and cultural learning, but Huron asserts that their original basis is biological. His full research will not be recounted here, but suggests that such a hardwired response to stimuli can provide composers with an insight and framework through which they can attempt to elicit a certain response through familiarity with the 'normative expectations of ordinary listeners' (Huron 2007: 36).<sup>46</sup> It is important to note however, that the scientific desire to objectify responses and to rationalise them must be regarded with caution. While such research may be physiologically accurate, scientific description often fails to take the significant influence of consciousness into consideration, and thus fails to make the distinction between the physical signal and perceived object. Huron is primarily interested in signal paths, not interpretation.

Despite this, these physical biological responses to qualities and characteristics of the physical signal might inform the internal tensions and resolutions suggested by Langer<sup>47</sup> because, as Merleau-Ponty asserts, "internal experiences" are possible only as things borrowed from external experience' (Merleau-Ponty 1962: 32). These internal experiences are then further complemented by cultural and social experience, which subsequently also enter the individual's consciousness, constituting and defining their unique perspective to the interpretation of external stimulus. These will then act to direct the subject's listening intentions and form interpretative schema.<sup>48</sup>

Correlation in interpretation is a result of common lived experience, not any intrinsic property of the physical signal, and is subservient to the unique lived experience and schemata of interpretation possessed by the subject. The subject-position might also be described as being inferred from lived experience, but more physical than cultural in nature.<sup>49</sup> Both are factors that

<sup>&</sup>lt;sup>45</sup> A fascinating area for potential future research and investigation. It is essential to note that all of these connections are learned through lived experience and not as a result of intrinsic genetic information. They are common to all humans as a result of common physiology, which, in turn, leads to common or highly similar experience.

<sup>&</sup>lt;sup>46</sup> Potentially providing a biological basis for some of Wishart's symbolic structures (Wishart 1986: 41).

<sup>&</sup>lt;sup>47</sup> See, Langer's quote regarding the "inner life" of music p.44.

<sup>&</sup>lt;sup>48</sup> See below for an expansion on listening intentions, p.50.

<sup>&</sup>lt;sup>49</sup> In the example of figure 4 discussed above, the potential associations for the musical gesture might be considered as falling into two categories: cultural and physical. For example: Perfect fourth and Joy are associations inferred from cultural experience, while the notion of falling or rising might be described as being inferred from physical experience of the natural world.

might influence the final perceived object, but neither is explicit, and both are directed by previous experience.

# 3.6 - Specialist Experience

If the phenomenological perspective of Merleau-Ponty is accepted, then all experience can be said to direct an individual's perception of an electroacoustic audio-visual work. Whether the subject is conscious or unconscious of their listening action, their lived experience will define and provide them with schemata of interpretation which they utilise to interpret sensory data.<sup>50</sup>

I experience a certain cultural environment along with behavior corresponding to it: faced with the remains of an extinct civilization, I conceive analogically the kind of man who lived in it. But the first need is to know how I experience my own cultural world, my own civilization. The reply will be once more that I see a certain use made by other men of the implements which surround me, that I interpret their behaviour by analogy with my own and through my inner experience, which teaches me the significance and intention of perceived gestures (Merleau-Ponty 1962: 406).

As outlined in Merleau-Ponty's statement, an individual's interpretations will be influenced by their own worldview. Film, as a prevalent medium, also provides schemata for interpretation of electroacoustic audio-visual works. Indeed film facilitates individuals with experiences which are often taken and absorbed into their consciousness as surrogates for 'real' experience.<sup>51</sup> Chion discusses the notion of verisimilitude in which plausible stimuli are rationalised into complexes of meaning:

In order to assess the truth of a sound, we refer much more to codes established by cinema itself, by television, and narrative-representational arts in general, rather than to our hypothetical lived experience. [...] We are all thoroughly familiar with these conventions, and they easily override our own experience and substitute for it, becoming our reference of reality itself (Chion 1994: 107-108).

Film also presents audiences with an opportunity to experience audio montage and processing of varying complexity. While perhaps not always foregrounded, techniques and effects similar to those utilised in electroacoustic audio-visual music are frequently applied (Rudy 2007). Due to the fact that the sonic element contributes to the overall meaning complex of the works discourse (as outlined by the research of Boltz (2001)) it is possible that individuals associate sonic textures and forms with specific filmic discourses, for example, the microtonal textures of György Ligeti as synonymous with *2001: A Space Odyssey*. It is highly likely therefore that individuals will utilise filmic schemata, and their experiences of film, within their interpretation of electroaocoustic audio-visual music works.

<sup>&</sup>lt;sup>50</sup> See also Fiske's discussion of post hoc conscious awareness, p.64.

<sup>&</sup>lt;sup>51</sup> The depiction of war is a prime example of this. Many reviewers attested to the "reality" of the beach landing scene in the film *Saving Private Ryan* (Turan 1998). Though few if any of these reviewers are likely to have been present in such a situation and thus can have no true way of assessing the "reality" of the scene.

As Clarke states, 'listeners become more attuned to [...] a style, or a particular harmonic invariant (e.g. tonic/dominant alternation) through exposure to a particular repertoire, whether that exposure is accompanied by direct instruction or not' (Clarke 2005: 35-36).

Eco discusses this attuning process through the idea of a developing metalanguage, with which the 'reader' seeks to understand a text in greater terms than the physical text itself. It 'permits the comparison between a given text and its semantic or critical interpretations' (Eco 1990: 60) and as suggested by Eco appears to be the foundation of familiarity and experience with interpreting artworks. But what form might a similar metalanguage take for music? If a western European conception of music is taken to be such a metalanguage (system of understanding), we can see how such a system sometimes struggles to interpret the music of other cultures (Fiske 2008: 233). Indeed, we might also attribute the difficulties faced by new audiences to electroacoustic music as being a result of the music's seemingly alien nature with regard to the rest of western musical tradition.<sup>52 53</sup>

Instruction or training will provide individuals with an expanded knowledge of the "metalanguage", including tools and a diversity of perspectives allowing them to interpret works in an analytical way. Indeed the training itself will become part of the fabric of their personal consciousness. However, these trained individuals need not exclusively approach works in an analytical way. Though they may be predisposed to respond analytically, there are multiple interpretative options open to them.

Intrinsic to such a metalanguage is the concept of experience. Discussing possible interpretation strategies, Eco and Emmerson both present two distinct modalities in interpretation, an experienced analytical perspective, and an inexperienced aesthetic view of the work. Eco writes, 'texts aim to create two model readers, a first level or naïve one, supposed to understand semiotically what the text says, and a second level or critical one supposed to appreciate the way in which the text says so' (Eco 1990:55). Similarly, Emmerson sets out "left brain esthesis" (representing the rational and reflective discussion of the "meaningful units"), and "right brain esthesis" (representing what he terms 'the real and unmediated "aesthetic" response to the music') (Emmerson 2008: 38).

Roger Reynolds also presents a binary distinction of interpretative means with his terms: depth and dimensionality. In his essay on form, Reynolds conjectures that works may either evoke a process of interpretation that is characterised by dimensionality or by depth. Dimensionality is associated with what Reynolds calls the intellect, in which the listener deconstructs, considers

<sup>&</sup>lt;sup>52</sup> See also, cultural expectations for a further exposition, p.65.

<sup>&</sup>lt;sup>53</sup> This alien nature might potentially be dispelled however, if the subject is introduced to specific foundational principles upon which the works are based. One such introduction might provide a metalanguage specifically regarding the use of non-traditional or "mimetic" instrumentation.<sup>53</sup> Knowledge of the fact that Wagner utilised an anvil in his Ring cycle, Tchaikovsky included a part for cannon in his 1812 Overture and that Varèse integrated sirens into the fabric of his work as musical material, not just for thematic effect, could provide contextualisation to in order to help familiarise the subject with the use of mimetic materials in electroacoustic music. And indeed there are many other such facets of electroacoustic music that might be described in a similar way to new audiences, so as to assist their understanding and to alleviate the not simply alien, but perhaps even alienating nature of electroacoustic music. The EARS 2 project can be considered as an introduction to the metalanguage of electroacoustic music (Wolf 2013).

and anticipates the work in an ever-changing perspective, while depth is associated with emotion and a constancy of perspective, absorption and involvement. 'The deeper the emotional engagement, the less one is able to assess one's experience' (Reynolds 2002: 9). Therefore, Reynolds' model too makes a division between "critical / intellectual" and "emotional / aesthetic" interpretation. However, the distinction between depth and dimensionality is not an absolute binary that might be fixed for the duration of a work, as Reynolds asserts, '[i]t is harder, I think, to consistently manage a credible depth than to, at least momentarily, engage the intellect' (Reynolds 2002: 10). Thus, the interpretative approach of an individual may vacillate between deep and dimensional throughout the duration of a work. Reynolds fails to expand upon the possible sources for the instigation, or shift, between his categories, instead presenting them as possible interpretative options, in which emotional "deep" engagement is less predictable and less controllable.<sup>54</sup>

His assertions highlight a distinction between two interpretation types that could be classified as "meaning" and "emotion". Such an assertion was also made by Geringer et al. and supported by their empirical research, discussed in the previous chapter (1996). The categories and literature of hearing intentions outlined by Delalande and Fiske (below) explore the possible instigating factors for these shifts between aesthetic and analytical interpretative modes, but also demonstrate the potential diversity of interpretative approaches and the role of plural, and varying, schemata of association operating within the processes of interpretation.

#### 3.7 - Hearing intentions

The phenomenological perspective demonstrates that the interpretation of meaning is an active process on the part of the audience member. Messages are not received, but constructed. As Schaeffer asserts, 'the perceived object is no longer the cause of my perception. It is the "correlate" of it [and thus the] sound object is the meeting point of an acoustic action and a listening intention.' (Chion 2009: 27).<sup>55</sup> Further, Schaeffer asserts that the term "hearing" has generally come to represent only the idea of passive reception. Therefore, to signify the essential role of the perceiver within the construction (perception) of the sound object, Schaeffer introduces the notion of the "hearing intention", outlining various different types of hearing intentions: 'scientific, musical and "philosophical" (Chion 2009: 27). Building upon this initial work, various subsequent researchers have identified and developed terminologies to describe the a multiplicity of potential listening intentions.

The following section outlines and compares different hearing intention theories, presenting rationales based upon the ecological, cultural, and individual factors, which might impact upon the interpretation of electroacoustic audio-visual music works. Through comparing these diverse

<sup>&</sup>lt;sup>54</sup> Following his introduction of these two modes Reynolds subsequently devotes his attention to expanding upon the role of formal organisation (structure), which he implies is more reliable in terms of anticipated response, and in soliciting a dimensional engagement from those listening, in contrast with the unpredictable nature of "deep" engagement.

<sup>&</sup>lt;sup>55</sup> This assertion is identical to those made by Merleau-Ponty and Kramer introduced above, p.44.

and compelling arguments, it is hoped that an accurate picture of a "realistic listening situation" for electroacoustic works might be established.<sup>56</sup>

# 3.7.1 – An Ecological Approach

Building upon the work of Luke Windsor, and investigating an ecological perspective to music appreciation, <sup>57</sup> Clarke introduces two terms defining distinct listening styles: autonomy (a system that operates according to self-sufficient internal principles) and heteronomy (a system that has no definable internal structures and is defined only by context). These are embodied within two distinct listening modes, structural and contextual. This is exemplified by the following:

Imagine that you are walking along a road at night when you hear a sound. On the one hand, you might pay attention to its pitch and loudness and the ways they change with time. You might attend to the sound's timbre, whether it is rough smooth, bright or dull. You might even notice that it masks other sounds rendering them inaudible. These are examples of *musical listening*, in which the perceptual dimensions and attributes of concern have to do with the sound itself...

On the other hand, as you stand there in the road, it is likely that you will not listen to the sound itself at all. Instead, you are likely to notice that the sound is made by an automobile with a large and powerful engine. Your attention is likely to be drawn to the fact that it is approaching quickly from behind. And you might even attend to the environment, hearing that the road you are on is actually a narrow alley, with echoing walls on each side. This is an example of *everyday listening*, the experience of listening to events rather than sounds. (Gaver in Clarke 2005: 132)

Clarke asserts that structural listening is unusual from an ecological perspective. He outlines four main factors that can contribute to such an autonomous listening approach:

1. The listening environment - a complex of cultural norms and rules that encourage individuals to interpret works in a specific way, embodied most distinctly by the concert hall.

2. The relationship between perception and action - in which an artwork presents a fixed frame for experience and not one that can be investigated or interacted with, for example the way a play or film unfolds before you without your active involvement.

3. The compositional characteristics of the music - which will afford individuals different opportunities for interpretation.

4. The pre-dispositions and habits of listeners (Clarke 2005: 135-143).

These first and second factors can be regarded as cultural, stemming from the traditions and conventions surrounding the presentation of art. While these were famously challenged by R. Mutt's "fountain", visitors are still discouraged from touching and feeling sculptures within most gallery settings, just as clapping is generally regarded as inappropriate within the pauses

<sup>&</sup>lt;sup>56</sup> The following section focuses upon the listening experience and utilises references from the literature of electroacoustic music and musicology to describe the listening experience. The next chapter considers the role of the visual element within perception of an electroacoustic audio-visual work and the unification of sound and image stimulus.

<sup>&</sup>lt;sup>57</sup> A perspective that shares some significant similarities to the phenomenological approach.

between movements of a musical work. These cultural rules establish a socially accepted cultural environment, thus encouraging audiences to respond in a certain way. Once an individual is familiar with these conventions, they will become part of the individual's schemata relating to "art". Thus, for example, the fact that audiences will check their enthusiasm or desire to clap between movements of a musical work is due, not to any aspect intrinsic within the work or physical signal, but a result of experiential knowledge about the context and the formal rules of the contemporary western music concert hall.

However, it is important to note that these conventions are only enforced upon those who understand or have been introduced to them, they are not universal within a culture. Therefore, while perhaps encouraged or enforced by cultural norms, such an approach to musical works is actually internalised, integrated into the consciousness, becoming part of the individual's approach to the perception of future works. Clarke introduces the concept of "tuning" a perceptual system to accommodate lived experience, whereby the trace of a stimulus and its reactivation provides an awareness of real world relationships (Clarke 2005: 31).<sup>58</sup> This tuning can be thought of as similar to, or indeed relying upon, schematic associations. Therefore, the relationships of listening environment and an individuals relationship between perception and action, is primarily defined by the individual's lived experience.<sup>59</sup>

Likewise. Clarke's positioning of "musical style" or "characteristics" (in factor 3), might imply that intrinsic properties of the music direct interpretation. However, these elements are not entirely intrinsic to the work itself but rely heavily upon interpretation by the individual, perceived through the frame of the individual's previous lived experience. While familiarity with an event, for example via repetition, may afford the individual an opportunity to reflect upon and observe the same type of event in different ways, the action of such a shift in attention is nothing to do with anything intrinsic within the work (physical signal), but everything to do with the subject and their relationship to the work. A repeating event is just as likely, or perhaps more likely, to disengage an individual, as it is to draw their attention upon its internal structure or makeup. Indeed the subject-position of the discourse, an element of the physical signal, might influence they way in which an event is perceived. For example, a sharp attack might be shocking when presented alone, but when surrounded by other sharp attacks within a section replete with other sharp attacks, it may no longer be shocking to the subject. The signal has not changed, the attack is just as sharp, but the context within which it is situated, and the expectations of the subject have changed. As previously stated, it is the individual's own consciousness that defines what is an appropriate affordance for a specific stimulus.

<sup>&</sup>lt;sup>58</sup> Trace, used in the sense that Derrida and Levinas intended, see above, p.32.

<sup>&</sup>lt;sup>59</sup> As Clarke states in his second point, the fact that the work itself unfolds before you without your involvement may induce some form of 'spectacle' situation in which an audience are compelled to watch. Such an effect, directed by the subject-position of the discourse, will operate only secondarily to the learned audience conventions. Ritual actions such as sitting in rows facing forwards in a concert setting will reinforce the strategies of interpretation and expectation utilised in future ritual situations. These will impact on the factors outlined by Radbourne et al., most specifically those of risk and social interaction between audience members (Radbourne 2009: 20).

Following this line of argument, all four of Clarke's factors can be demonstrated to be directed by the pre-dispositions and habits of listeners (which Clarke originally outlined as factor 4 within his model). As such, Clarke's factors might be more effectively redefined, operating as follows:

- 1. Experiential knowledge and an individual's schemata of association.
- 2. Musical experience and training.
- 3. Audience proximity, orientation and spatial location.
- 4. Subject-position of the discourse.

Of these, only one has not previously been discussed in detail: proximity, orientation and spatial location, physical properties affecting the sensory information received by an individual. These are external to the habits of listeners, and are physical limitations, quantifiable external influences upon perception. Being to the left of the sweet spot, behind a pillar, or distant from the source in a reverberant space, will affect and alter the physical signal that the individual subject receives, and thus impact upon interpretation. The physical limitations of sitting in rows facing forwards during a concert (a physical positioning of the subject) will enforce an external limitation, bringing about a separation of perception and action.

Physical aspects of location are likely to serve as significant factors in influencing interpretation, causing variation between individual audience members. However, within the theoretical discourse it is generally assumed that the subject is fortunate enough to be positioned within the "sweet spot", unimpeded by obstacles or obstructions between them and the projected work. This project does not seek to investigate this aspect in any greater depth other than to recognise the potential impact which spatial location, orientation and proximity can exert upon the processes of interpretation.<sup>60</sup>

Evolutionary characteristics of the perceptual system, along with the individual's proximity to the physical signal, will impact upon interpretation/perception by acting to affect (filter) the qualities of the physical signal that is processed. These stimuli (physical signals) are subsequently interpreted (becoming perceived objects) within the schematic frameworks of the individual subject's consciousness, based upon lived experience. Certain common natural characteristics provide common lived experiences between humans, and thus inspire the potential for common schematic associations.<sup>61</sup> However, in some cases these commonalities are mistakenly taken to represent intrinsic meaning within the physical signal. As outlined above, all characteristics of the physical signal are subservient to the consciousness of the perceiving subject.

Ecological approaches to perception highlight many relevant issues and factors influencing the process of perception, but must be examined and critiqued with regard to any assumptions that

<sup>&</sup>lt;sup>60</sup> And indeed, in recognising this variable factor and its potential impact upon reception, all efforts have been made within the empirical testing of the current research project to present the test works to all participants in a comparable and standardised setting (this is discussed further within Chapter Six, p.113).

<sup>&</sup>lt;sup>61</sup> As discussed in the section "Correlation" above, p.44.

they might make, or be built upon.<sup>62</sup> The natural, biological and physical, are constantly at work, acting upon and contributing to the construction of the individual's consciousness: their perspective upon the world, established and reinforced through perception. A phenomenological approach eliminates the division between body and mind, and the isolation between consciousness and experience of the external world. In asserting that all interpretation stems from the individual's consciousness and their subject-position in relation to the perceived object, it might be suggested that ecological theories of perception are irrelevant. However, the consciousness itself is formed and influenced by ecological and or physiological biological factors.

Certain common experiences can infer a normative influence upon the processes of interpretation. One of the most significant of these is the influence of cultural expectations.

#### 3.7.2 – Cultural Expectations for Music

In a cultural context, the most significant challenge for electroacoustic music, with regard to hearing intentions, is the activation of "traditional" music schemata. Such "traditional" music schemata are those built up through the subject's lived experience of music. This lived experience defines how the subject makes sense of "musics" and what is to be classified as music in the first instance. Unfortunately, electroacoustic music often tends to be situated outside of these traditional and familiar structures and therefore inexperienced audiences can struggle to make sense of, or feel comfortable in, concerts of these works. Rajmil Fischman states that this problem is exacerbated by the fact that, 'no-one tells the audience how to evaluate the music, s/he is forced to develop a personal critical attitude' (Fischman 1994: 152). Fischman argues that within electroacoustic music there is a lack of a standardised canon or standardised values within which associations can be drawn and evaluation take place. The new audience lacks an electroacoustic music schema within which they can situate the work.

As Landy asserts:

What is missing is what a dramaturge in the theatre tries to formulate as the foundation of a given interpretation of a work of drama by a director or composer, scene designer and actors. The dramaturge's work ties things together, makes aspects of the performance more coherent (Landy 1990: 371).

Dramaturgy is a term adopted from the theatrical arts and applied to electroacoustic music by Landy. It is concerned with the motives and rationale behind actions, as opposed to the detail of actions themselves (Landy 1990, Landy 1994). Without this dramaturgical information, Fischman claims that there are only two approaches available to the audience member: 'to discover how it is organised, what is its code [...] Or [to use] an already known code [...] to interpret the message' (Fischman 1994: 254).<sup>63</sup> Audiences that are unable to dissect the work's

<sup>&</sup>lt;sup>62</sup> When rationalised through the philosophy of Cartesian Dualism and/or structuralism, theories can lead to the impression that physical signals contain intrinsic and inherent meaning.

<sup>&</sup>lt;sup>63</sup> Code as used here by Fischman appears to be synonymous with schemata as used elsewhere.

code will employ their pre-existing schemata for music (perhaps "pop" or "classical" schemata), in an attempt to interpret electroacoustic music.

While the "lack of standardised values" in electroacoustic music present an audience with no pre-existing code structures or easily accessible schemata (training and or/specialist knowledge) with which they can interpret works, the entirety of a subject's lived experience can provide a repository of schemata that they can adopt for the interpretation of works.<sup>64</sup> This has both positive and negative aspects, with one of the greatest challenges in this regard being a pre-assumption about which specific schemata to employ. Schemata can bring with them unwanted associations and/or expectations, for example, those directed by the mere presence of the word "music", those stimulated by the presence of mimetic materials, or those held by inexperienced audiences attending a concert of electroacoustic music and 'expecting a "good tune" from an abstract tape piece' (Fischman 1994: 262).<sup>65</sup>

In response, Fischman outlines a set of "neutral strategic premises", which classify various properties of the work into groups of potential association and which might be used in tandem alongside dramaturgical information to facilitate access and interpretation for electroacoustic works:

- Pre-electroacoustic all features that can be applied to all instrumental and vocal music, like pitch class, rhythm, motivic identity, etc.
- Physical reality association and source recognition not simply a straightforward use of sound sources from the real (physical) world, but rather those cases in which source identification with physical reality is inherent in the structure of the music.
- Abstract level regardless of any other levels of paradigmatic coherence, music can work at an ultimate abstract level: the structuring of time. This also includes the possibility of classification of types of materials, their development (by processing or other means), the discovery of the interrelation between these types of material throughout the piece, timing in the introduction of new materials, repetition transformation, the creation of tension and relaxation etc. (Fischman 1994: 258-261).

Fischman argues that these paradigms themselves can create, 'expressions in the esthetic dimension, which can then be satisfied or contradicted by particular syntagmatic content' (Fischman 1994: 261).<sup>66</sup>

These different paradigmatic premises presuppose the listener's expectations and lived experience with regard to the nature of music, and seek to present a framework within which the work might be rationalised. His categories outline generalised elements that are likely to be commonly accepted as being cultural expectations of music and sound, thus likely to exist within the schemata for music for the majority of individuals. Fischman's terms might provide a

<sup>&</sup>lt;sup>64</sup> As Fischman writes, 'audiences listen to music primarily to enjoy it [...] therefore a strategy for the non-specialist does not necessarily have to become a highly formalistic methodological approach requiring a great deal of effort in order to be grasped.' (Fischman 1994: 258).

<sup>&</sup>lt;sup>65</sup> Recall the work of Shevy discussed above, p.42.

<sup>&</sup>lt;sup>66</sup> Fischman's use of language potentially betrays his use of semiotic structuralist approaches in the classification of perceived sound objects.

useful point of reference for the development of works, or the authoring of dramaturgical information, implementing or drawing attention to aspects of the work which conform to audiences pre-existing cultural expectations.<sup>67</sup> Such a framework of terms mirrors that of schema by defining a field of reference within which the work a familiar can be interpreted.

# 3.7.3 – The Role of Compositional Intention in Interpretation.

Intention is linked with cultural expectations and dramaturgy and frequently referenced as a directing factor in interpretation. Intentions permeate life. Daily routines are full of instances in which individuals must interpret, or project interpretations upon, the action of others.

An intention is present when an individual operates persistently toward achieving an end state, persists in developing means and corrects the development of means to get closer to the end state and finally ceases the line of activity when specifiable features of the end state are achieved (Bruner in Gibbs 1999: 25).

Landy and Weale utilised such a conception as a key element of the I/R project, and sought to increase audience engagement with, and appreciation of, works by revealing compositional intent. In order to consider the impact of compositional intent upon audiences and interpretation, it is first essential to explore compositional intention itself.

In the context of music, Adorno wrote, 'without intention there would be no form, for intention is the identifying principle in its immanent shape', thus situating intention as an essential component in the creation of a work (Adorno 1972: 216). But significantly, he also noted that 'an awful confusion is created when critics and interpreters equate intention and content' (Adorno 1972: 216-217).

Nattiez uses the term "poietic" within his tripartition to represent the totality of the creation of the work, and the encoding of inspiration and intention into a fixed form. Nattiez distinguishes between poietic realisation, and esthesic interpretation, defining the poietic as, 'the link among the composers intentions, his creative procedures, his mental schemata, and the result of this collection of strategies; that is the components that go into the work's material embodiment' (Nattiez 1990: 92). Therefore, the tripartition adheres to Adorno's warning by clearly situating the processes of production and the processes of reception as independent perspectives with regard to the physical signal of the work.<sup>68</sup> During the poietic process, the composer either consciously or unconsciously selects and develops the most appropriate materials for the task at hand, seeking to combine these materials in a way that will fulfil their intent for the work.<sup>69</sup> Such procedures are informed by the totality of the composer's experience (limited perhaps by memory). Experience gained through previous creative projects, training, and the composer's own experience and interpretation of works by other artists, will all contribute to compositional

<sup>&</sup>lt;sup>67</sup> Fischman's premises served as points of reference within the development of the composition used in the Phase Two (P2) testing of the current research project (see Chapter Seven, p.212).

<sup>&</sup>lt;sup>68</sup> Nattiez's tripartition was introduced above, p.33.

<sup>&</sup>lt;sup>69</sup> Composers will at least strive for this perfection.

schemata, and impact upon the process of composition. Even during the creative process, the composer's intentions will evolve and alter based upon their interpretation of the work at any given time.<sup>70</sup> This is a process which Roger Reynolds describes as, 'a multileveled search for ultimate integration rather than the unrolling of a scroll upon which has been inscribed an already, mystically completed continuity that one needs only to receive' (Reynolds 2002: 4).

Thus, the process of composition itself can be described as being informed and influenced by the processes of reception. As Javier Alvarez states, '[t]he electroacoustic composer...gets immediate aural feedback on his work...one's "technique" and "sound" are constantly reformulated as a result of what one hears coming out of one's "instrument". (Alvarez in Weale 2005: 44).<sup>71</sup>

However, whilst a composer utilises intentions within the construction of the work, the work itself will never become a direct transcription of an explicit intention. Langer identifies this division through her description of "concepts" which are abstract forms, and "conceptions" which are embodied concepts (Langer 1957: 60).<sup>72</sup> Positioned within the context of the composition process, the composer possesses a concept (intention), which they attempt to embody within the work. In order to identify the relative success of their compositional process the composer utilises their own interpretation of the work (conception) in a process of evaluation.<sup>73</sup> This feedback process constitutes the "multileveled search for integration" described by Reynolds. Thus, there is no abstract separation between subject (the composer) and perceived object (the work as interpreted by the composer). The composer is not external to, and isolated from, the systems and processes of composition, but is constantly modulated and affected by them. Indeed, this conceptual model also allows for the composer's creative intentions to be modulated and influenced by the materials and processes of composition, in which unexpected outcomes might lead the work in previously unintended directions. Weale describes intentions as "action variables", distinguishing between those that relate to the original intention of the work (primary action variables), and those resulting from unexpected outcomes in the compositional process (secondary action variables). He states:

The presence of action variables, both primary and secondary, results in fundamental intentions that are not always realised, but that shift and change during the compositional continuum, the composer often remains open to influences that may alter their compositional intentions at unforeseen moments [*sic*] (Weale 2005: 42).

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<sup>&</sup>lt;sup>70</sup> As Heraclitus said, 'You can never step into the same river twice'.

<sup>&</sup>lt;sup>71</sup> Emmerson further demonstrates this process within his elaborated model of composition discussed below (see Chapter Five, p.91) (1989). One of the aspects of the original Intention/Reception project was to provide the composers with feedback on how their work was received by others, affording them the opportunity to use this information to inform their future compositions. The current project expands on this by integrating such a feedback process into the empirical methodology.

<sup>&</sup>lt;sup>72</sup> Marcel Danesi presents a similar model but uses the term 'referent' (defined as: something to which we desire to refer in some way as it presents itself to our conscious through our senses, emotions and intellect) which can be represented by one of many signifiers, each of which capture a meaning that constitutes the signified (Danesi 2002: 4).

<sup>&</sup>lt;sup>73</sup> The audience member will also possess their individual conception of the work, based upon their lived experience and the subject-position of the work (see above).

With Weale's identification of multiple intention types, it becomes apparent that intention itself is not a single layer process, and that many layers of intention might be nested within one another. For example, a smaller intention, to create a powerful gesture, feeds into the realisation of a larger intention, to create an impressive acousmatic work. Paisley Livingstone presents a taxonomy of different types of intention, handily providing musical contextualisations for each stage. He notes: 'intention is a matter of an executive attitude towards plans, where this attitude is further characterised in terms of the various functions it performs in our lives as temporally situated, deliberating and striving agents. These functions may be summarily delineated as follows:

- Intentions not only initiate, but sustain intentional behaviour: for example, if a composer intends to compose a symphony, he intends not only to start doing so, but to keep on working until the project has been completed, or until sufficient reasons for giving up on the composition emerge; various intentions that follow from the overarching intention will issue in episodes of trying to perform the relevant actions.
- 2. Intentions guide intentional behaviour once it is in progress: the representational content of the intention directs specific actions towards the realisation of the goal. For example, the activation of representational motor schema guides the occurrence of particular finger motions involved in the composer's tentative sounding out of musical phrases on the keyboard.
- 3. Intentions prompt and appropriately terminate practical reasoning: once the musician is settled on the plan of composing a musical work, this intention initiates thinking about how to bring this about, and when the time comes, helps bring closure to these compositional efforts.
- 4. Intentions help to co-ordinate an individual agent's behaviour over time: the composer's intention to write a symphony is functionally related to a range of prior intentions such as that of pursuing a musical career of a certain sort and influences not only those actions related to the realisation of the particular intention, but the acquisition of other intentions, such as that of keeping a work routine, declining certain social engagements etc.
- 5. Intentions help co-ordinate interactions between agents: for example the publically declared intentions in an artistic manifesto help artists to make their projects known, and in turn help the public in their efforts to categorise and appreciate their works' (Livingstone 2005: 14-15).

From this detailed taxonomy, it becomes apparent that many intentions are operating at once, in and around the processes of creation within a work. But in all cases of intentional action, the advent of a proximal intention (an intention to try), triggers the mechanisms of action (unless they are already operating), and subsequent intentions causally sustain their functioning (Livingstone 2005: 16).<sup>74</sup> Thus, the creation of an electroacoustic work is both divisible into smaller intentional elements (for example, the intention to use specific sounds in the work) and nested within larger intentional frameworks (for example, the intention to be an electroacoustic composer). As a result, the intentions that contribute to the creation of a work are not individual or simple goal orientated aims, but complex and interrelated webs.

<sup>&</sup>lt;sup>74</sup> It is significant to note that Schaeffer defined "listening intentions", utilised by listeners in their perception of musical stimuli, and that these intentions directed individuals to utilise specific Schaefferian listening modes (Dack 2009: 23). See 'Hearing Intentions', below, p.50.

When creating a work, the composer will always have their own expectations with regard to its interpretation, a schemata of criteria by which they will define their own intentions, and against which they will evaluate the realisation of these intentions. These compositional schemata allow the composer to strive to achieve a specific goal (for example, to compose a work in a specific style).<sup>75</sup> One of the most significant factors within the evaluation of success in the compositional process, success in realisation of intention, will be an idealised audience interpretation. Eco describes this process by coining the term "model reader", describing an idealised interpreter who receives the appropriate meaning encoded within a message (Eco 1992: 55). In musical terms the composer will always compose for a "model listener" (who may indeed be the composer themself), and while the explicit communication of meaning may not be such a significant consideration within music as it is for text, the composer will still employ 'the semiotic resources available to them according to their interest at the moment of sign production' (van Leeuwen 1999: 193-194).

Therefore, if the composer creates a work with the assumption of common expertise in its model reader, for example a common understanding of the concept of reduced listening, audiences without such knowledge will be unable to interpret the work in the way that the composer has intended, and indeed may have difficulty in interpreting the work at all. Equally, where the composer's intentions rely on a specific cultural context (for example, ragas in Indian classical music which relate to specific seasons or times of day), anyone unaware of the specific context will be unable to obtain the idealised position in relation to the work, as conceived by the composer (with the ragas they will be unaware of the significance between the scale and its relation to the time of day and its wider ritual cultural context). In some cases, depending on how essentialised the cultural context is, the work may even be unintelligible when positioned outside of this context.<sup>76</sup>

As Simon Atkinson explains, within the process of signification in electroacoustic music there is a co-existence of the spectromorphological discourse with more complex signs such as 'musical metonyms and metaphors [...] that require or invite interpretation from the listener in specific and temporal contexts.' (Atkinson 2008: 91). It is the spectromorphological discourse, and its visual equivalent, that constitute the subject-position within electroacoustic audio-visual music works. However, as previously examined above, the subject-position in itself, only contributes to the nature of the perceived object, it does not define it entirely. Interpretation is primarily directed by the audience member's own schemata.

The composer who does not consider the division between physical signal and perceived object is blind to this, and fails to recognise that their own interpretation of the work can be substituted only as a vague approximation of another individual's interpretation. Intentions relating to

<sup>&</sup>lt;sup>75</sup> Compositional schemata are further discussed below with regard to Emmerson's elaborated model of composition, Chapter Five, p.91.

<sup>&</sup>lt;sup>76</sup> The empirical results from Phase One exemplified this issue of assumed experience in interpretation, see Chapter Six, p.195.

specific communication can only be based upon assumed response. As Jackobson asserts, 'The code of recognised equivalences between parts and their correlation with the whole is to a great degree a learned, imputed set of parallelisms which are accepted as such in the framework of a given epoch, culture or musical school' (Jackobson 1971: 704). Cultural codes and conditionings may be employed by the composer in an attempt to communicate or garner a generalised response from an audience, but cannot be relied upon for explicit communication. An example of such a culturally accepted symbol active in music is that of the posthorn. Originally carried by horse drawn carriages delivering mail, J.S. Bach, G.P. Telemann, G.F. Handel, W.A. Mozart, A. Vivaldi, all imitated or employed its characteristic sound within their music (Freeze 2010: 118). Within the romantic period the posthorn became: 'an efficient, symbolic carrier of romantic longing [...] In Schubert's song "Die Post" from Winterreise (1827), the sound of a posthorn intensifies the wanderer's desire for his beloved' (Freeze 2010: 121). Where audience members are not aware of this aural cultural reference to the postal service, then metaphoric signification is lost. Audiences may appreciate the melody and timbre of the posthorn, but without the cultural reference, cannot interpret the posthorn as belonging to a postal carriage, nor understand the subsequent reference to romantic longing where premised directly upon aural recognition of the postal carriage.

#### 3.7.4 - Audience Expectation of Compositional Intent

The fact that art works exist as a result of a proximal intention can lead spectators to 'wonder about the purposes and meanings artists wish to express through the work' (Gibbs 1999: 321). Heidegger argues that modern aesthetics is built upon and reinforces a method of interpretation that demands the communication of explicit meaning, a logic for the senses (Heidegger 1975: 83).<sup>77</sup> Heidegger suggests that modern aesthetics, and wider society in general, is underpinned by a form of Cartesian Dualism, and driven by "subjectivisim" - a desire to establish complete control and understanding over the external world and to rationalise it (Heidegger 1977: 132).<sup>78</sup> Thus, a general state of expectancy is created amongst members of western society that works of art possess an intention; 'to be art is, roughly to be an object connected in a particular manner, in the intention of a maker or profferer, with preceding art or art-regards' (Levinson 1993: 412).<sup>79</sup> Listeners approaching a work using such aesthetic strategies will seek to collate any available information about the artist (for example, background and the historical and cultural contexts in which a work was originally produced) in order to draw inferences about what makes the artwork meaningful. Within this process, the audience will conceive of a "model author" (Eco 1990: 59). Indeed, this model author will coincide with the "intention" of the text in the subject's perception. For example, the audience member might infer that certain

<sup>77</sup> One that is blind to cultural context.

<sup>&</sup>lt;sup>78</sup> The same idea allows the composer to believe that s/he can observe the creation of a work from an external vantage point uninfluenced by the process of creation itself.

<sup>&</sup>lt;sup>79</sup> 'If one accepted the assertion that there is nothing to interpret in art and that art merely has being, one would expunge the line of demarcation that separates art from non-art' (Adorno 1972: 186). 'In Marxist terms, art cannot help but reflect a relationship of living labour as though it were congealed into an object (Adorno 1972: 242)
biographical or cultural events of significance within the life of the composer have directed intentions and inspirations for a contemporaneous work. In this context, the contextual information cannot help but direct interpretation as it provides a schemata of reference within which the audience member might make sense of the work.<sup>80</sup> These "external influences of projected intent" relate to the composer but are entirely defined and directed by the audience member. In this way, the notion of intention is of importance when considering audience interpretations. When viewed from a structuralist perspective, intentions are considered to be concrete and directing factors that can provide audiences with the key to unlocking a work. While from a post-structuralist perspective it is possible to observe the cultural conditions that cause audiences to believe in the significance of intentions (and to actively desire them), but recognise the ironic fact that intentions must be inferred and constructed by the audiences themselves.<sup>81</sup>

# 3.7.5 - The Individual and the Context of Presentation

As discussed within the previous chapter, Radbourne et al. considered personal, cultural and physical impacts of context upon the experience of an individual attending a concert event. The four main factors that they outlined relate to the dynamic between audience member and presented artwork, assessed in terms of valence: knowledge, risk, authenticity and collective engagement (Radbourne, Johanson, Glow & White 2009: 19-21).<sup>82</sup>

Their first category, knowledge, covers many aspects discussed above, contextual information and the contexts of presentation (for example, curation of the presented works around a theme). The second, risk, refers to the possibility of either loss or gain, further divided into:

**Functional risk** – that the product does not reach the consumer's expectation, **Economic risk** – where the cost of an activity makes the decision making process more complicated,

**Psychological risk** – product poses a risk to the consumer's desired self image, and

Social risk – concerned with how the consumer wishes to be perceived.

(Radbourne et al. 2009: 20).

These risk factors centre on the projected relationship of the audience member to the artwork, and are largely potentially negative factors in the mind of the subject. Risk factors might be mitigated to some extent by knowledge and dramaturgic information about the work, but remain as a significant challenge for concerts taking place at universities, where the social perception

<sup>&</sup>lt;sup>80</sup> Audience members interpreting the work will 'use the interpretative resources available to them, according to their interest, at the moment of sign interpretation' (van Leeuwen 1999: 194). This might include concrete information provided by the composer themselves, or projection of a plausible compositional intention.

<sup>&</sup>lt;sup>81</sup> Even of the composer outlines various inspirations or compositional strategies. The audience member must link these with aspects of the work themselves.

<sup>&</sup>lt;sup>82</sup> Their theories are supported by empirical testing, discussed in Chapter Two, p.24.

of outsiders is likely to be one of unease and insecurity when surrounded by those who — these outsiders are likely to imagine — possess significant knowledge and insight.

The third element, authenticity, is a slippery factor relating to the truth components of the work: 'is the performance up to technical standards? Is the performance faithful to the score' (Radbourne et al. 2009: 20). However, such impressions cannot be objectified and will vary between performers. Radbourne et al. cite Ning Wang who identifies three types of authenticity:

- **Objective** authenticity concerned with epistemological experience of the experience of originals.
- Constructive authenticity referring to authenticity projected onto objects.
- **Existential** authenticity denoting a state of being in which one is true to oneself and can be either intra- or inter- personal.

(Wang 199: 352).

These impressions of authenticity can provide audiences with a sense of security, reducing potential risk involved with experiencing new artworks, but might also present a positive engaging element with regard to the impression of the audience experiencing a genuinely authentic event.<sup>83</sup>

The final aspect presented by Radbourne et al. is that of collective engagement, occurring both between audience members and between the audience and the artist. They suggest that 'people derive great value from collective engagement in the arts, because it "allows private feelings to be jointly expressed and reinforces the sense that we are not alone" (McCarthay et al. 2004: 50). Through empirical data presented within their paper, Radbourne et al. demonstrate the action of collective engagement in reducing a sense of risk.

Out of all of the factors presented by Radbourne et al., it is the sense of risk associated with artistic events, which presents the single most significant physical contextual factor impacting upon audience interpretation, and perhaps also serves as a key factor in discouraging new audiences for electroacoustic music. Along with questionable authenticity, risk generally constitutes a negative influence upon appreciation. Knowledge and collective engagement on the other hand, present possibilities for alleviating risk and confirming authenticity.

Elements of nature, culture and environment can all affect interpretation, yet exposition of these external factors has demonstrated how each of them also modulate the individual perceivers consciousness, and thus are internalised, as opposed to operating as purely external influences. It is therefore essential to switch focus from these supposedly external situations, and to compare some of the hearing intention strategies proposed that operate within the consciousness of an individual subject.

<sup>&</sup>lt;sup>83</sup> See also, Huang et al. 2011. Perhaps one result of seeking to fulfil this sense of authenticity is the constant desire and obsession of concert organisers to seek to curate premieres of works, see Landy 1990.

# 3.7.6 – The Individual and Various Listening modes

Schaeffer's listening modes, though often approached only third or fourth hand, can provide a suitable launching pad for an exposition of listening styles. The following definitions are taken from John Dack and Christine North's translation of Chion's *Guide Des Objets Sonores*:

- écouter –listening, to someone, to something, aiming to identify the source, the event, the cause, treating the sound as a sign of this source, this event.
- ouir perceiving, being struck by sounds, the crudest most elementary level of perception.
- entendre hearing, showing an intention to listen, choosing from what we perceive what particularly interests us.
- comprendre comprehending, grasping a meaning, values, treating the sound as a sign, referring to this meaning through a language, a code.

(Chion 2009: 20).

These four terms present a range of possible responses to sonic events. However, upon reflection they can be seen to condense into two categories. If we accept Merleau-Ponty's assertion that the very act of perception is equal to the act of interpretation, then "ouir" looses its place as an individual category. Furthermore, "écouter" and "comprendre" both deal with the subject recognising sonic signs, though one is more analytical and the other more aesthetic. These signs are either man-made or natural, but both types encourage a conception external to the event itself. Thus, after this reduction process only two distinct listening modes are left, "écouter" making links with source and external factors that might have been the cause, and "entendre" focusing upon perceptual gualities which are compelling, a more abstract and reduced approach. But is it appropriate even to divide between these two? The attack of a sound defines its initial character and so whether conscious thought is focussed upon attending to it or not, it is still perceived, though maybe not independently, as part of a complex of characteristics which constitute a certain symbol. Schaeffer's reduced listening took the extreme autonomous approach in suggesting that sounds could escape their heteronomous associations through familiarity and repeated listening, but such a conscious attention to the elements of sound constitutes a learned cultural perspective. Therefore, it is a result of the action of the individual's consciousness and their individual trace, which accompanies these objects. For example. Schaeffer's trace accompanying the train sounds within Etude aux chemins de fer. would have reflected and taken into account hours within the studio playing and manipulating recordings of the captured sounds, while the commuter on the platform instead hears the sonic signature of an approaching train and interprets that s/he will not be late for their meeting. Schaefferian strategies for the conception of listening habits provide valuable insight on the different ways in which an individual can perceive sonic materials. However, such an analytical approach to quantify or objectify the listening process comes not from a perspective of listening, or the desire to understand perception, but rather from a desire to classify and objectify sonic materials and their properties. Once more, Schaeffer's contradiction of employing aspects from both phenomenological and structuralist approaches becomes apparent.<sup>84</sup>

Delalande's empirical audience research identified six distinct categories of listening. Three were identified as main behaviours (in bold) and three as peripheral (Landy 2007: 94):

- 1. **Taxonomic listening**, a highly analytical form of listening in which morphological units are quantified and their relationships considered.
- 2. **Empathetic listening**, an emotional response to the work in which it is regarded aesthetically.
- 3. **Figurativization**, in which narrative and contextual discourses are applied to the work.
- 4. Law of organisation, more specific to serialist or algorithmic works in which the listener seeks to discern the code that defines the work.
- 5. Immersed listening, in which the listener is fully engaged and engrossed within the work.
- 6. Non-listening, where the individual does not listen.

Through these six proposed perspectives we can attempt to piece together, once more, the different perspectives open to the trained and the untrained ear. The pattern of the analytical and aesthetic perspectives described by Eco and Emmerson can be found once again, but in Delalande's categorisation have been divided into further subcategories, respectively described Taxonomic/Organisational here as (Law of Organisation) and Empathetic/Figurative/Immersed.<sup>85</sup> It seems strange to divide "immersive listening" from other aesthetic modes of attention. Just as it is peculiar to separate "law of organisation" from the rest of the "taxonomic listening". Therefore, as opposed to being peripheral, these should be included as subtypes under the appropriate main banners, thus revealing three main types of interpretation "Taxonomic", "Empathetic", and "Figurative".<sup>86</sup>

Again, it is important to note that Delalande's research is focussed entirely upon the listening experience with regard to musical works, and is therefore an exposition of the autonomous listening experience. It ignores other factors external to the absolute nature of the work that may also play a pivotal role in interpretation. It also seems to be trapped within the linguistic objectivist model and bent upon identifying the individual "units" of music. He implies a disconnection between reflection and perception, a conscious evaluation of perceived objects. This is contradictory to the phenomenological notion — set out by Merleau-Ponty — that perception is interpretation. Such an approach is not representative of a "realistic" listening situation and fails to represent the full spectrum of complexity within interpretation.

A more rounded totality of experience, involving the work and the context within which it is presented along with other external factors (for example the emotional state of the audience

<sup>&</sup>lt;sup>84</sup> Future research might investigate the impact that phenomenological theory had upon Schaeffer's writings. See Chapter Nine, p.296.

<sup>&</sup>lt;sup>85</sup> These categories also facilitate Reynolds binary listening modes of depth (Empathetic/Immersed) and dimensionality (Taxonomic/Organisational).

<sup>&</sup>lt;sup>86</sup> These three modes form the basis for the categorisation of audience responses to the questions of interpretation and engagement within the empirical element of the project. 'Taxonomic' becomes 'Intra-musical', 'Empathetic' becomes 'Emotional' and 'Figurative' becomes 'Contextual'. See, Vol. 2, p.1.

member), presents quite different interpretative possibilities from those described by Delalande. Even an acousmatic concert situation cannot remove influences from outside the work, such as the context of the concert hall, diffusion setup or ritual of the concert event. Due to its focus upon the work itself, Delalande's study denies some of the associative (connotational) characteristics that a work might possess for an audience.

Harold Fiske has considered these outside influences and provides a list of "recital hall thoughts" (Fiske 2008: 159-160):

- Physical-environmental (e.g. the comfort of the chair, the temperature of the room).
- Social-environmental (essentially, the activities of the other members of the audience).
- Personal extra-musical (did-I-turn-off-the-stove? And dental appointment, kind of thoughts).
- Performer extra-musical (the colour of the dress, facial expressions and so forth).
- Emotional extra-musical (the Broadway diner).
- Emotional musical.
- Cognitive-musical (perceived tonal-rhythmic activity in the composition).

He describes how 'each of these individual thoughts can be taken holding a particular position on a scale (or spectrum) of possible outcomes for each one of the summary variables' (Fiske 2008: 160), but that these will oscillate and not remain in fixed positions. Each of these variables will impact upon the conscious state of the audience member and therefore affect their interpretation of the work.

If Fiske's outside influences are combined with Delalande's autonomous listening behaviours it is possible to begin to construct a more realistic representation of the concert situation. Both these "recital hall thoughts" (external factors) and elements of the physical signal of the work (the work's subject-position) will impact upon the subject's listening behaviours. <sup>87</sup>

<sup>&</sup>lt;sup>87</sup> In an attempt to rationalise the possibilities of reflection, which are suggested by Delalande and others, but denied in that form by Merleau-Ponty, Fiske presents a theory of *post hoc* conscious awareness, in which the subject's consciousness only becomes aware of cognitive functioning after the products have been formulated (Fiske 2008: 167). For example: a subject sitting in a concert hall suddenly realises that they are not attending to the projected work at all, but instead thinking about a prospective meeting with a colleague on Thursday morning. This is not necessarily a result of conscious active rejection of the concert situation, the work, or an active desire to consider the meeting. If it were controlled by a conscious act then the individual would consciously continue to concentrate on the work and to wait until the journey home to consider the prospective meeting; they would switch between 'concert mode' and 'work mode'. But, such a situation of conscious 'mode selection' introduces the paradox of the subject being conscious of his or her own consciousness, what might be termed a third person existence. One consciousness cannot conceive another (Merleau-Ponty 1962: 407) and a conscious presents a very compelling area for future investigation and research within this area and may in future provide further opportunities for conceiving the operation of listening within individuals presented with works of electroacoustic music (Chapter Nine, p.296).

# 3.8 - Summary

Through the exposition of models of communication, perception and interpretation from a range of disciplines, it has been possible to postulate the strategies and mental tools at work within the construction of interpretations for works of electroacoustic audio-visual music. Events have been demonstrated to possess no intrinsic meaning due to the division between (quantifiable) physical signal and (subjective) perceived object. While common experience might afford common schematic associations and common cultural correlations, interpretation is always negotiated by the individual's consciousness.

Phenomenology provided a highly relevant foundational model for philosophical enquiry and the critique of models of interpretation, affording insight and allowing commonalities to be drawn between the various theories discussed.

Listening modes and hearing intentions frequently focus only upon the autonomous musical listening experience, ignoring the external conscious associations that might also be inspired within the concert situation. However, in order to evaluate and understand the interpretation of electroacoustic audio-visual music works, it is essential that both external and autonomous musical factors are considered.

The following chapter examines the question of interpretation from a more cognitive and neuroscientific perspective, seeking to draw connections with phenomenological theories of interpretation discussed in the current chapter and findings of the empirical projects introduced in the previous (Chapter Two, p.10). The nature of the perceptual object within electroacoustic audio-visual music is also examined, through exposition of perceptual models for the processing of aural and visual stimuli.

# Chapter Four

# **Cognitive Models of Perception**

This chapter introduces psychological and neuroscientific models of cognition, contrasting these with phenomenological and philosophical approaches in an attempt to demonstrate the possible relationships, and unforeseen assumptions, made with non-gestalt rationalisations of the process of interpretation. The materials presented within this chapter are not intended to be exhaustive, and the majority of neuroscientific information is provided by the condensed and summarising article of Eduardo Miranda (Miranda 2010). The materials were examined in order to attempt to rationalise and cross-reference phenomenological theories and empirical research discussed within the previous chapters.

At the close of the chapter a final model is presented offering a synthesis of the variously discussed issues, and presenting an interpretation of events through a perceptual present, rationalised by experiential memory.

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# **Cognitive Models of Perception**

#### 4.1 - Introducing the Hierarchical Frameworks

Anabel Cohen presents a structural model of audience perception for film, suggesting that the 'brain operates both through innate grouping principles and by learned connections' (Cohen 2001: 259). Her model is built upon data from neurological studies, and seeks to display the audience interpretation processes involved in the understanding of narrative film discourses. To describe how sound and image interactions operate within narrative film, she presents the 'Congruence-associationist framework for understanding film-music communication' (figure 5) (Cohen 2001: 259). The model illustrates parallel channels — representing the main communicative elements of the film — operating across four processing levels. The properties and characteristics of each individual stream are gradually integrated within larger contexts, and feed into the visual stream. Interpretation begins at the smallest component event of the stimulus, and gradually builds upwards in complexity.



Figure 5: Anabel Cohen's Congruence-associationist framework for understanding film-music communication (Cohen 2001: 259).

The four processing levels begin with analysis of physical features of the sound/image element (A), through the analysis and construction of these elements into structural (gestalt) and semantic (associationist) information (B). The outcome of level B allows association between channels and can direct forms of pre-attention at higher levels. Short-term memory (STM) exists at level C where narrative information can begin to be constructed from multiple sources, although for Cohen all other channels are subservient to the visual and indeed act to inform what she terms the visual narrative. The top level (D) represents the long-term memory (LTM), which responds to information from all levels and exerts a top down inference, with the goal of constructing a narrative across a wider time frame than that of the short-term memory, through the integration of experiential knowledge (Cohen 2001: 260). The structure mirrors that of "Chomskian" hierarchical phrase structuring (Chomsky 1956: 117) with smaller events possessing their own unique meaning, being sequentially built into larger structures. Thus, Cohen's model does not approach interpretation in a phenomenological, but a structuralist fashion.

Further, Cohen identifies three communication streams acting within film: "Speech", "Visual" and "Music". Both the speech and music channels flow into the visual, demonstrating Cohen's assumption of a visual supremacy and suggesting that music always serves the visual discourse. However, as demonstrated by Boltz (2001) instead of simply creating a sense of ambience, musical elements contribute to the interpreted meaning of a scene. Such a finding is supported by phenomenology and Schaeffer's recognition of a division between physical signal and perceived object. Contrary to Cohen's model humans do not perceive individual streams of

data that are subsequently merged, but instead perceive audio-visual objects. Indeed, if the phenomenological is accepted then the fact of perceived objects makes the requirement to distinguish between physical signal streams redundant.

Jeff Hawkins sought to abstract ideas and process structures from neuroscience, and apply these to computing. In the process he created models of hierarchical information flow that can be useful for conceptualising the process of interpretation.

The neocortex is the seat of intelligent thought in the mammalian brain. High level vision, hearing, touch, movement, language, and planning are all performed by the neocortex. Given such a diverse suite of cognitive functions, you might expect the neocortex to implement an equally diverse suite of specialized neural algorithms. This is not the case. The neocortex displays a remarkably uniform pattern of neural circuitry. The biological evidence suggests that the neocortex implements a common set of algorithms to perform many different intelligence functions (Hawkins 2010: ).

Using this empirical data, Hawkins proposed a model of hierarchical temporal memory (HTM), within which a common set of algorithms processes all input data at all levels of complexity. Within each of these HTM networks, levels are arranged hierarchically, with the convergence of information upon rising up through levels, and divergence of data upon descent (figure 6). Unlike Cohen's model, there is no specific and unique function at each level — rather, greater numbers of event stimuli converge to provide ever widening contexts. It also demonstrates a bidirectional possibility of inference (both up and down) at all levels, and not just in the higher levels, C and D as set out by Cohen.



Figure 6: Simplified diagram of four HTM regions arranged in a four-level hierarchy, communicating information within levels, between levels, and to/from outside the hierarchy (Hawkins 2010: 9).

Chapter Three indicated that lived experience forms a significant part of interpretation, providing schemata against which individuals assess and evaluate incoming sense data. In Hawkins model, complexes of sensory information are built up, providing an impression of context for all perceived events, although there is no clear indication of how any element, other than perceived

stimulus, might be integrated.<sup>1</sup> In this way, Hawkins's model fails to integrate lived experience or schemata within the processes of interpretation.

Cohen's model utilises short and long term memories to engage previous experience within the process of interpretation, and though these are locked within a hierarchical structure, schemata are accommodated. Hawkins's model does not explicitly appear to integrate any form of experience within the HTM model (figure 6.), seemingly utilising only currently perceived physical signal in the construction of events.<sup>2</sup>

# 4.2 - Cross-examination of the Models

While each of the models present elements that might be concordant with a phenomenological approach to interpretation, further literature must be consulted in order to both confirm the phenomenological approach, and to help construct an model of perception which deals with the perceived object and integrates both schemata and lived experience. The following section examines the presented models against the neuroscientific research outlined by Eduardo Miranda.<sup>3</sup>

Miranda provides a detailed overview of neural sonic processing, supporting the idea of a hierarchical structural model. He states, 'the brain does not process music as a single monolithic entity. Rather, music is processed as a set of auditory characteristics (pitch, rhythm, spectrum, etc.)' (Miranda 2010: 17). Individual elements of auditory stimuli are brought together into what he terms a Musical Mental Module (MMM), integrating memory and top down inference from higher order structures (Miranda 2010: 19). These modules abstract higher-level musical structures from the masses of lower level information (Miranda 2010: 20), and actively detect patterns within the auditory stimuli (Miranda 2010: 21). Miranda's detailed description of neural processing, only briefly summarised here, describes the action of the brain in perceiving sonic stimuli at various levels.

Within this detailed overview of current neurological research findings, there is no evidence to suggest that meaning is constructed as Cohen suggests within her model, at level B. Levels A, B (and to some extent C) in Cohen's model, respectively fulfil some of the roles of that which Miranda describes as "early auditory pathway" and "cortical pathways", along which information

<sup>&</sup>lt;sup>1</sup> Hawkins's model is also flexible enough to accommodate a multitude of individual streams pertaining to individual sensory channels. Therefore, his model need not be specific in terms of sensory inputs, but can be adapted and applied to understanding the interpretation of a wide range of styles of sense data: electroacoustic audio-visual music, silent film, or purely acousmatic music. It is flexible, and accommodating to the transmission and interrelationship of sense data. See Miranda's research discussed below.

<sup>&</sup>lt;sup>2</sup> If the model cannot accommodate schemata, then the neuroscience literature must provide significant evidence to contradict or disprove the theory of schema and the impact of lived experience upon perception.

<sup>&</sup>lt;sup>3</sup> Miranda's paper provides an insight into the "state of the art" for neuroscientific research relevant to aural perception. He writes, '[d]espite an impressive amount of ongoing research into the neuroscience of music, progress in this field still remains largely uncharted for musicians and unexplored by developers of technology: the literature is complex and difficult to disentangle. This paper is an attempt to chart the field for [those with a research focus in electroacoustic music studies].' (Miranda 2010: 13). Miranda's paper is therefore only an introduction to relevant neuroscientific research. The current thesis is unable to delve further into the literature and findings of neuroscience but it is anticipated that future research projects will continue to expand understanding in this area and to critique the arguments made within this chapter.

from the senses is transmitted towards a MMM.<sup>4</sup> These defined pathways transmit and slowly construct higher and higher level associations out of contiguous stimuli, as exemplified in Hawkins's HTM diagram (figure 6). The description of Miranda's MMM is incredibly similar to that of schemata. He states, 'it is clear ... that the brain employs hierarchical neural systems. [It] is a complex distributed processing system, with various structures operating concurrently and at different time scales, from short term to long term musical forms' (Miranda 2010: 20). Therefore, Miranda's empirical research suggests a hierarchical system in which sensory data is initially communicated through discrete sense organs (as suggested by level A of Cohen's model), but is rapidly combined into complexes of information moving towards the MMM (as in Hawkins's HTM model).

A similar hierarchical system operates in schematic theory, where larger schemata are described as being able to activate subschemata (top-down), just as subschemata are able to activate schemata (bottom-up). Bottom-up processes tend to be more data driven, while top-down processes are more conceptually driven. For example, a bottom-up process would be driven by the interpretation of a physical signal — such as the timbre of a violin — inspiring conception of related schemata of associations: performer, physical nature of the instrument, musical tradition. A top-down process would conceive the concept of a violin and then activate subschemata to recall information about the violin's timbre, its physical nature etc. In this sense, top-down processes might be thought of as acts of memory or recall, while bottom up processes are those of perception and interpretation. Both make use of the schematic structure and storage of information.

Thus, Miranda's assessment of neurological studies reflects the phenomenological and schematic theories discussed in Chapter Three. Further, the neuroscience research outlined by Miranda is able to empirically quantify cognitive activity at "lower levels"<sup>5</sup> through *functional magnetic resonance imaging* (fMRI)<sup>6</sup> brain scans and other physical experimentation, but these empirical methodologies reach their limits for quantifying cognitive processing at the point of Miranda's MMM, which suggests that a change of modality occurs at this point. It is impossible for empirical scientific research to consider and account for the complexities of schemata, with their multifarious basis in lived experience, impacted by nuances of memory that define the higher level mental functions. The limits of empirical research to track the flow of sensory information, and the resemblances between schemata and MMM, might suggest that interpretation takes place at the MMM. In such a situation, independent streams of sensory information are conveyed into the brain and brought together within complexes of association. These complexes of association then trigger schemata leading to conception within the subject's consciousness.

<sup>&</sup>lt;sup>4</sup> 'The early auditory pathway deals with the analysis of single relatively short events, whilst cortical auditory pathways are primarily concerned with sequencing, grouping, making abstractions, building representations' (Miranda 2010: 14)

<sup>&</sup>lt;sup>5</sup> The term "lower levels" refers to the "early auditory pathway" and "cortical pathways" described by Miranda, roughly equivalent to levels A and B within Cohen's diagram.

<sup>&</sup>lt;sup>6</sup> fMRI is a technique for measuring brain activity (Devlin n.d.).

Therefore, Miranda's research supports the assertion of audio-visual synchresis suggested by Chion (1994: 64), that sound and image events in combination are perceived as coherent audio-visual objects.<sup>7</sup> Sensory data is received via independent channels but combined to create perceived objects within MMM. But how can the development and action of the schematic associations within the MMM be accounted for? The formation of schemata was discussed within Chapter Three, but what of memory and the temporal dimensions of experience?

# 4.3 - Temporality and the Present

Up to now, the discussion and assessment of interpretation has largely considered single isolated events — frozen in time. However, the temporal situation — ordering — of events also contributes significantly upon their interpretation. The time-based nature of music means that temporality has a significant role to play in its interpretation. And temporal relationships between perceived entities constitute a significant factor in the construction of consciousness itself, with consciousness founded upon lived experience. Indeed, as Alfred Schutz describes, 'the dimension of time in which the work of music exists is the inner time of our stream of consciousness' (Schutz 1976: 31).

In phenomenological terms, time arises through a subject's relation to "things" (Merleau-Ponty 1962: 478). In this regard, Husserl proposed the notions of: '[retention], the incorporation of past experience into the present and protention, the effect of future events on current experience' (Clarke 2011: 33). Indeed, as Merleau-Ponty expands:

I do not pass through a series of instances of now, the images of which I preserve and which, placed end to end, make a line. With the arrival of every moment, its predecessor undergoes a change (Merleau-Ponty 1962: 484).

Both Merleau-Ponty and Clarke reproduce Husserl's *Zeitbewusstein* diagram (figure 7), demonstrating this principle.



Figure 7: Husserl's Zeitbewusstsein (Merleau-Ponty 1962: 484).

The diagram describes how, as time progresses from left to right, A becomes A' in relation to B; B becomes B' in relation to C; while A' becomes A'' in relation to C. As time passes, perceived objects become retentions, then, subsequently, retentions of retentions. '[T]he layer of time between it and me thickens' (Merleau-Ponty 1962: 484). 'A, B and C are not successively in

<sup>&</sup>lt;sup>7</sup> As opposed to individual sound objects and image objects that are later rationalised as being linked. 'Synchresis is the spontaneous and irresistible weld produced between a particular auditory phenomenon and visual phenomenon when they occur at the same time' (Chion 1994: 64).

being but differentiate themselves from one another, and correspondingly A passes into A' and thence into A" ' (Merleau-Ponty 1962: 487). Merleau-Ponty highlights that events in the present relate to retentions of previous events, and not previous events themselves. It is impossible to commence a sequence at B, and have A' to relate to it, because A itself was not presented for retention (there can be no retention of A to (A') without the perception of A). Experience is malleable and not fixed. Thus, listening to a work for the second time, is a different experience from listening to it for the first time, and beginning a temporally based work part way through, will provide a perceived experience quite different from that of listening to the work from the start.<sup>8</sup>

This is applicable at all structural levels of a work. Objects are not perceived in isolation, but in context, with retention or protention of contiguous perceived objects.<sup>9</sup> As Husserl wrote, 'in hearing a melody we do not in-fact hear one note at a time. Rather we perceive both aural object and visual object as continua, structured by the immediate past and anticipated future' (Husserl in Montague 2011: 33).<sup>10</sup> Thus, retention and protention define the present. Indeed, Schutz describes the nature of the present as, the 'tension of our consciousness' (Skarda 1989: 68). Continuity in time is experienced as a succession of perceived objects, and not through a 'durationless present' (Skarda 1989: 67). As Schutz states, 'the structure of the present, the degree to which the past is remembered and the future anticipated, does not remain invariable. [...] Depending on our activities at the present moment, a greater or lesser role will be played by our recollections or expectations' (Skarda 1989: 68). As Merleau-Ponty asserted, 'consciousness deploys or constitutes time' (Merleau-Ponty 1962: 481).

Husserl's "present" is defined as 'a stretch of time whose extent depends on the duration of a process that fills it up' (Husserl cited by Fiske 2008: 33). But this vague description of the present does not initially appear to take into account Husserl's own "running off" within retention, whereby events recede from the perceptual foreground (becoming retentions of retentions etc.). It begins to make more sense when he provides a contextual musical example 'a whole melody seems present as long as it is still sounding, as long as tones are sounding that belong to the melody' (Husserl cited by Fiske 2008: 33). Husserl's description is similar to that of the 'perceptual present', outlined by Reynolds as 'the upward limit of duration for an interval of time; [...] an interval, that is, during which the duration of the moment stretches on without spontaneous subdivision' (Reynolds 2002: 14). However, Husserl's "present" integrates protention and memory in the process of interpretation, providing a rationalisation for the demarcation of the limits of the present.

The indefinability, and varying duration, of the "perceptual present" as described by Reynolds, is likely a result of attempts to quantify and assign a fixed duration to the flexible "present" of

<sup>&</sup>lt;sup>8</sup> Works based upon a set progression through time (A-B-C), will be affected by this to a greater extent than works composed for looped presentation.

<sup>&</sup>lt;sup>9</sup> 'My perceptual field [...] draws along [..] its own horizon of retentions, and bites into the future with its protentions. [...] Time is not a line but a network of intentionalities' (Merleau-Ponty 1962: 484).

<sup>&</sup>lt;sup>10</sup> This phenomena is demonstrated effectively by the "Sequential Integration" examples within Albert Bregman's *Auditory Scene Analysis* (Bregman 1996: 12).

Husserl. As Schutz outlined, the impression of the present is dependent upon the influence of recollections (retention) and expectations (protention). Therefore, there can be no fixed quantifiable duration for the "present". Just as the perceived object may vary in scale, so may the present of our perception.

### 4.3.1 - A Contemporary Model

Jason Brown proposed a process termed a "phase transition" in which the memory (consciousness) rationalises and perceives events within a context. Within this process Brown refers to an unconscious memory informing perception — something which seems disconcertingly reminiscent of Lagneau's "undefined primitive intuition".<sup>11</sup> Thus, Brown's model presents itself as a very suitable object for a comparative study. Despite the "intangible influence" that directs interpretation in his model, he presents some aspects worthy of mention (Brown 2010).

Due to Brown's insistence upon an unconscious memory, his model is brought into conflict with a number of aspects in Husserl's retention model. However, the necessity for an unconscious memory is a removed if the concept of consciousness as defined by Merleau-Ponty is accepted.<sup>12</sup> If perception is interpretation, then there no longer exists a distinction between understanding and existence, and the two models can become more concordant.



Figure 8: Brown's Phase-transition model (Brown 2010).

Within the *phase-transition* model (figure 8), an aspect of the external world (represented by the horizontal arrow) acts upon visual and verbal imagery arising from the unconscious memory, stabilising in the perception of an object (Brown in Clarke 2011: 10). This model demonstrates a continuing obsession with the perception of individual elements (a perspective that is not supported by the research of Miranda, or the phenomenological perspectives' of Husserl and Merleau-Ponty), but interestingly presents the hierarchical levels inferring downwards (from self

<sup>12</sup> Ibid.

<sup>&</sup>lt;sup>11</sup> See Chapter Three, p.38.

to object), instead of upwards (object to self) as in structuralist models.<sup>13</sup> This subtle alteration in formatting supports the phenomenological perspective, by failing to carry forwards convention or assumptions from structuralism. Such assumptions, where carried forwards and not explicitly critiqued (or highlighted), might obstruct the reader in their interpretation of the underlying concept. If phenomenological theory does not support a structuralist system of knowledge, then why should its theoretical models display any aspect of a structuralist layout?

Unfortunately, and as previously commented upon, in Brown's model perception remains focused upon the interpretation of individual events, rather than on their integration and interpretation within the consciousness. Ironically, while this model is still focused upon linguistic pursuit for individual event objects, its inverted nature, with memory at the bottom as opposed to individual elements, does not act to reinforce the widely held misconception of individual events being the foundation of perception. Instead, such reversal of the hierarchical structure helps to support the idea that perception occurs within, and as a result of, consciousness. Consciousness is at the foundation of the diagram, as it is within the theory. Therefore, while contradictions exist within elements of Brown's model, its graphical presentation is relevant to the theory proposed in this chapter.

# 4.3.2 - Storing Experience

In Cohen's model (figure 5), experience is presented as a collection of historical associations, which constitute Level D of the model. These historical associations exist as fixed memories, or snapshots, that are recalled to the present and associated with current events. Meanwhile, short-term associations, such as those within a portion of a musical work, are defined within level C of the model, and exist within the present, the recent past and the prospective future (similar to Husserl's retention and protention within the *Zeitbewusstsein* (figure 7)).

However, to consider Cohen's Level D (the experiential memory of the subject) in this fashion is to postulate it as a linear construct, with a duration identical to that of the subject's lifetime. To make this so, is to stretch and conform the processes of protention and retention onto memory and lived experience. Such an act does not fit with schema theory or the nature of schematic complexes of association.<sup>14</sup>

Experiential memory operates quite differently from that of the linear protention/retention. As Merleau-Ponty asserts, '[traces from past life] do not refer to the past, they are present; and in so far as I find in them signs of some previous event, it is because I derive my sense of the past from elsewhere, because I carry this particular significance within myself' (Merleau-Ponty 1962: 480). Unlike Cohen, Merleau-Ponty defines experiential memory as always present: it does not refer to past experiences as they exist within a temporal framework of the past, but represents a re-living of that moment within the consciousness — "out of time".

<sup>&</sup>lt;sup>13</sup> Chapter Three discusses a structuralist approach to communication, p.30.

<sup>&</sup>lt;sup>14</sup> See Chapter Three, p.40.

If my brain stores up traces of the bodily process which accompanied one of my perceptions, and if the appropriate nervous influx passes once more through these already fretted channels, my perception will reappear, but it will be a fresh perception, weakened and unreal perhaps, but in no case will this perception which is present be capable of pointing to a past event (Merleau-Ponty 1962: 480).

Thus, a cognitive "pathway" diagram that does not graphically attempt to accommodate the temporal nature of perception is no longer a contradiction. The moment of interpretation is always within the present. Current experience is not with fixed memories of previous experience, but through reinvigorated retained associations — memories, when recalled, exist within the present. And perception reinforces these retained traces through a cyclic fashion — recalled memories once more become retentions, but taking with them the added associations and contiguous information of the moment of their recollection — causing them to evolve slowly over time towards the formation of cognitive schemata.

Brown's *overlapping phase-transitions* (figure 9) are therefore redundant. The process of protention and retention contributes to the construction of consciousness, but can be represented within a singular model outline, where the perceptual present is included. Therefore, protention and retention do not need to be accommodated within a diagram of interpretation.



Figure 9: overlapping phase transitions (Brown 2010).

Equally, the fixed temporal structure of experiential memory as proposed by Cohen, attempts to conform sensory data to a specific trajectory and process. If the stimulus were not a composition but an individual sonic event, for example, the temporal focus would shift and the event itself would be regarded at level C and its attack sustain decay etc. detected at level B.<sup>15</sup>

Due to the temporal flexibility described above (the negotiated distinction between object and structure), a model of cognition and interpretation cannot contain fixed temporal requirements within itself. The nature of the divisions between the hierarchical levels, as interpreted in

<sup>&</sup>lt;sup>15</sup> C and B refer to the defined cognitive levels within Cohen's diagram.

Cohen's model, have been brought into question as they appear to assume the progression of a linguistic, structuralist, approach to the interpretation of music.<sup>16</sup>

# 4.4 - Towards a Model of Cognition for Electroacoustic Audio-visual Music

A conceptual synthesis from the diverse practical and theoretical projects introduced within the thesis so far, allows for the construction of a new model of cognition, one that is appropriate to both empirical neuroscientific research and phenomenological philosophy.

Miranda's "early auditory pathways" and "cortical pathways" outline the transfer and combination of discrete sensory information. He proposes that, for example, the individual envelope components of a sound (or image) will be received by the sensory apparatus, and that this stimulus infers upwards, to where the individual perceived properties allow for the construction of a perceived audio (or visual) event. This represents what Miranda describes as lower cortical pathway function, such as linking attack-decay-sustain-release profiles into single sonic events, or creating an audio-visual event: linking a visual 'flash' with sonic 'bang'. This process converts the physical signal into stimuli events, and feeds them into the consciousness. Information stimuli from multiple sensory channels flow upwards, creating complexes of information, before being fed into a MMM and the "perceptual present". This is where the majority of interpretative processes operate, within the consciousness, utilising the essential intervention of recalled experience through schematic association.

Husserl's conception of the temporal — the protention and retention of events — brings into question the distinct division between levels C and D as outlined in Cohen's Model. The "running off" of events, whereby they transition between the short-term and into the longer-term memories, is, as described by Husserl and Merleau-Ponty, a constant seamless flow, rather than a rapid switch between storage locations.<sup>17</sup>

Previous experience is recalled through schemata. Events occurring in the perceptual present, trigger retained impressions of similar stimuli and previous contexts are utilised in the interpretation of contemporary events. Indeed, the very process of reinvigoration that these retained memories undergo constitutes the process and reinforcement of schema construction.<sup>18</sup> Experiences received in the perceptual present will gradually recede into the experiential memory. However, association with a newly perceived object will cause this retained object to be called forth and reinvigorated, utilised to make sense of the contemporary object in context with the present situation and contiguous events. Thus, the association between previously perceived object and the contemporary object, acts to reinforce the impression of their common character as "truth", leading to the construction of schemata and lived experience. For example, an impression of gravity might be built upon the experience of

<sup>&</sup>lt;sup>16</sup> A hierarchical structure that might be outlined as follows: elements, to units, to complexes of units, to understanding.

<sup>&</sup>lt;sup>17</sup> For example: experience is not stored in the STM for a set amount of time and then copied over to the LTM). This too is supported by Miranda's assertion of a "complex distributed processing system", which moves seamlessly between the short-term and longer-term memories).

<sup>&</sup>lt;sup>18</sup> This process will be expanded upon to a greater extent, within discussion of Emmerson's elaborated model of composition in Chapter Five, p.92.

releasing various objects from a height and watching their action. If all of the objects fall, then the impression of a force acting upon the objects will become reinforced and in future situations may be utilised both to anticipate the action of this force (gravity), and/or to judge the 'reality' of a situation (if gravity does not act then something is potentially 'wrong' with the situation). If the first object falls and the second does not, then a schema of 'gravity' will not begin to be constructed. No trends are observed in the perceived action of these objects and thus no schema of action are developed.

Schematic association will bring forth the retentions of previously perceived objects, reinvigorating them, and reinforcing them where consonant with the contemporary object. This process of reinvigoration affords the development of general trends in perception to be established, such as the ability to interpret between the sonic signature of an object falling and smashing, or falling and breaking.<sup>19</sup>

Equally significant as retention to interpretation, is protention. As Schutz highlights:

[T]he future is to be understood as an element of expectation and openendedness which accompanies all on-going experiences. It is an empty field of expectation, but it, too, has a structure. That which we expect, is dependant upon the "types" of relevant occurrences from our past and upon the assumption that such types will continue to prevail in the future (Skarda 1989: 67).

These "types" are directed by schema of association. Thus, the present exists as a balance between protention and retention. Not only are events recalled by the present perception of objects, but also by the expectation, protention, of future objects. Retained events do not exist within a fixed sense of time, because when recalled they are no longer past but concurrent with the present. This is in sharp opposition to ideas of lived experience as a fixed past reference, with which the contemporary perceived object is compared.

Re-appropriating the term "perceptual present" from Reynolds, provides a phrase that encapsulates a flexible region in which contiguous phenomena are understood within the framework of Husserl's retention and protention, informed by the experiential memory of the subject. The subject's experiential knowledge is utilised to rationalise the pattern and combinations of events that occur within this perceptual present. Thus, the "perceptual present" forms the central core of the newly proposed model of cognition and interpretation. This "perceptual present" references the experiential memory in order to rationalise and interpret events that are received, and in turn leads to the construction of schemata of association.

Individual interpretations of a work therefore arise as a result of the individual experience of each audience member and their conception of the physical signal, with both anticipation and association playing a significant role.

<sup>&</sup>lt;sup>19</sup> 'People can reliably hear the material of a struck bar, the hardness of the mallet striking it, whether a bottle has bounced or broken even the configuration of clapping hands' (Gaver 1993: 4). Gaver's assertions are supported by a collection of empirical studies.



Figure 10: (1.) Model of cognition, (2.) incorporating Miranda's MMM and (3.) a reference to Cohen's processing levels redistributed and presented for comparison.

It might seem important to create a distinct pathway for either visual or sonic information, however, as demonstrated in the neurological research outlined by Miranda, and in Hawkins's HTM model, sensory processing in the brain integrates information from a range of sensory modalities in the MMM/"perceptual present". Thus, all information will travel through the sensory apparatus of the body into the perceptual present where a collective interpretation will be constructed informed by experiential memory. Physical signals will travel as stimuli through the sensory organs, along the early auditory pathway and cortical pathway, before becoming a perceived object within perceptual present, at the MMM.

One might combine any number, or form, of physical signals.<sup>20</sup> Indeed, into as many separate streams as is necessary for analytical means. The division of the physical signal is arbitrary (though perhaps useful for analysis), because interpretations are constructed as a result of the totality of sensory information that reaches the subjects perceptual present. As Emmerson writes, 'a performance signal is the totality of all of the senses – sight as well as sound' (Emmerson 2008: 41). Thus, the proposed model (Figure 10) might indeed be appropriate as a method of interpretation for a multitude of media forms.

<sup>&</sup>lt;sup>20</sup> For example: to represent the incoming streams of auditory and visual information within an electroacoustic audiovisual piece; or, in a mixed media piece, to represent the independent streams of electroacoustic fixed media audio and live performer; or indeed to distinguish between granular and sustained material in a single acousmatic work.

# 4.5 - A Critical Reflection

The most significant danger in the development of a cognitive model for audio-visual music is to carry forwards assumptions from previous models into a completely new context. Audience members are presented with the final whole and not the individual component parts of the work. Therefore, to describe the cognition and reception of audio-visual works in terms of building up from the individual events to the whole larger work is not a truly practical representation of the situation. As in Brown's model (figures 8 and 9), this gestalt perspective of the entire work should form the foundation of a model of cognition, and also be reflected in the graphical representation towards an empirical perspective. It is important to note that while attention may be focussed upon specific elements of the work and that audience members may be trained to approach the work with an analytical perspective, they will not build their perception of the work upwards from the materials, but infer from the totality of the work through to the individual components.<sup>21</sup>

While research and literature upon the topic of linguistics and semiotics can present new perspectives for the assessment and critique of musical works, it should not be reapplied wholeheartedly, or without a thorough understanding of all of the assumptions that are carried forwards. Another distinction needs to be made between analytical assessment of a work and a desire to understand how works are interpreted in a concert setting. While some perspectives may indeed be more analytical than others (for example, a Professor will possess a consciousness more fully defined by his/her experience with electroacoustic music than the consciousness of a first year undergraduate), these differing consciousnesses will approach the work in very different ways.

By critically evaluating cognitive models of perception, a model derived from neuroscientific research and phenomenology has been synthesised. The final model is presented in an attempt to rationalise the processes of perception for audio-visual phenomena within works of electroacoustic audio-visual music. The materials introduced above support the argument that audience members perceive audio and visual objects within a similar neural framework, and that synchronous events are perceived as cohesive audio-visual objects.

<sup>&</sup>lt;sup>21</sup> See also the discussion in Chapter Three regarding the distinction between object and structure, p.35.

# **Chapter Five**

# **Developing an Effective Methodology**

'Research is a continuing search for truth, in which tentative answers lead to a refinement of the questions to which they apply' (Sellitz in Peshkin 1993: 28).

This chapter outlines the theories that informed development of the empirical methodology for the current research project. The methodologies used in previous research projects — their goals, outcomes and the reliability of their data — were evaluated against the goals and initial hypotheses of the current research project. A diversity of research methodologies from audience reception studies were considered (both qualitative and quantitative; focus groups, interviews, questionnaires, capturing sensory data and innovative response tools). Previous research projects provided both inspiration and direction for the development of hypotheses, and the assessment of appropriate empirical methodologies.

The current methodology was continually evaluated and developed at the close of each phase, through a process of action research. The nature of action research, and various theoretical models, are presented and discussed within this chapter, leading to the refinement of the current methodology and research sessions, as well as the integration of composition within the empirical methodology in later phases of the research.

An assessment of data analysis is presented, questioning the role of drawing trends and findings from data and highlighting the need for transparency. Further, an argument for the division of the thesis into two volumes is presented, with content analysis and inductive category formation championed as the most appropriate analytical tools for the assessment of audience interpretation.

Finally, a rationalisation for the selection of research participants is presented, along with an assessment of the ethical considerations for the research project.

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# **Developing an Effective Methodology**

# 5.1 - Overview (Phase One, Phase Two and Phase Three)

The empirical research was divided into three phases (figure 11). Phase One (P1) of the research project investigated audience interpretation of a selection of three electroacoustic audio-visual compositions, and their accompanying contextual information. This initial phase sought to investigate if certain compositional styles were more accessible to audience groups than others. The test works presented to participants represented a diversity of styles, both in terms of their materials and the ways in which these materials were articulated. Full and detailed exposition of the P1 methodology is presented within Chapter Six (p.101).

The second and third phases (P2 & P3) of the empirical project used a form of action research in order to investigate the efficacy of a composer/audience feedback loop and to challenge the findings of Phase One. Phase Two (P2) began with the composition of a new electroacoustic audio-visual composition, informed by the audience responses from P1. The new P2 work was presented to new audience groups and their interpretations recorded. In the third and final phase (P3), responses to P2 informed alterations to the P2 work leading to the creation of the test work for P3. This re-composed P3 work was presented to another new set of participants, who in-turn recorded their interpretations of it. A full and detailed exposition of the methodologies for each phase of the research can be found at the start of their respective chapters.<sup>1</sup>



# Empirical Research Project Outline

Figure 11: Outline of the empirical research project and subsequent development of P2 and P3 works based upon research findings.

<sup>&</sup>lt;sup>1</sup> Chapter Six – Phase One (P1), p.99; Chapter Seven – Phase Two (P2), p.208; Chapter Eight – Phase Three (P3), p.251.

It is important to recall that this project investigated interpretation and not communication.<sup>2</sup> It did not seek to investigate the transmission of explicit meaning and whether or not an audience received it, but seeks to make sense of the way in which audiences construct their own meanings from a work.<sup>3</sup> Further, it dealt with the emotional "affect" of works within the context of interpretation, and not in isolation or as a primary focus. A subject's emotional responses to a work may indeed modulate their interpretation, and emotion will be discussed within this context. However, it is interpretation, not emotional response, which forms the central focus of the current research project. In short, this project deals with how audiences seek to interpret electroacoustic audio-visual music.

The most significant concerns in the development of an effective methodology are, the method(s) of data collection utilised, and the limitation of variable factors under investigation. Matthew Miles and Michael Huberman outline how the research process consists of, 'three concurrent flows of activity: data reduction, data display and conclusion drawing/verification' (Miles & Huberman 1984: 23). Data reduction refers to the process of eliciting and condensing raw data and as such occurs continuously throughout the project, from the initial selection of research methodologies and the sample of participants, to the coding and summarising of the data. 'Data reduction is not something separate from analysis. It is a part of analysis that sharpens, sorts, focuses, discards, and organizes data in such a way that final conclusions can be drawn and verified' (Miles & Huberman 1984:23).

Therefore, the very methodology utilised in an empirical project is the first stage in the conversion of audience interpretations into results. Thus, the research methodology needs to be as transparent as possible so as to avoid influencing the results unintentionally. The researcher needs to be able to set up an effective and transparent system for recording most accurately the output (e.g. interpretation of the presented materials by audience members). It is essential that researchers, 'attend to the importance of their own personal visions in constructing meaning in data, or in deciding what to consider "data" in the first place' (Miles & Huberman 1984:23).

# 5.2 - Why Pick Qualitative Data?

Qualitative data was identified as the most appropriate form of data for the current research, allowing for the richness and diversity of individual interpretations to be solicited.<sup>4</sup> So long as they are constructed correctly, the advantages of qualitative questions are that they allow the participant to record open and undirected responses.<sup>5</sup> This is especially important for research

<sup>&</sup>lt;sup>2</sup> Interpretation in the context of audiences and not performers. This project deals with fixed media stereo audio-visual works and does not deal with the question of performance or performative interpretation. Therefore where used within this thesis the term "interpretation" relates to the construction of meaning by audiences.

<sup>&</sup>lt;sup>3</sup> See Chapter Three for a detailed discussion of the various theoretical approaches to interpretation, p.29.

<sup>&</sup>lt;sup>4</sup> Delalande (1998), Landy (2006) and Weale's (2005) all championed the use of qualitative data, and highlighted the limitations of quantitative data with regard to collecting the diversity of individual interpretations.

<sup>&</sup>lt;sup>5</sup> There is some potential within qualitative questioning that the wording of questions might inadvertently affect the audience interpretations, such an issue was identified within the project of Delalande (1998), in which individual participants were asked different questions about their experience. Thus, introducing a further variable factor which might have impacted upon the collected data (Delalande 1998: 28). Critique of Delalande's methodology supports the use of a structured, but open, qualitative questionnaire in order to solicit data. Such a methodology minimises the

investigating such a subjective topic as interpretation of an artwork. However, a disadvantage of qualitative questioning is that it may be difficult to draw trends and conclusions from the large amount of data, and the varied content of the responses (Glass, Stevens & Malloch 2007).<sup>6</sup>

In contrast, quantitative questions are very quick for participants to complete, and, because the responses are limited to a simple range, their results are very easily comparable. It is very simple to obtain statistical data from raw quantitative results. But, the highly specific and directed nature of such questions means that quantitative responses lack the depth of information recorded with qualitative questions. The most significant ramification of this is that quantitative questioning may record a subject's value judgement upon a work, but with no contextualisation or rationalisation. There is no chance to record "why" such a value judgement was made. Audiences are not provided the opportunity to explain and justify their judgement. For example, an individual may find one aspect of a work highly engaging, while they find a second aspect very un-engaging. Without explanation, the final evaluation or rating of the work might simply be "neutral" and thus barely reflective of the true response to the work.<sup>7</sup>

Further, within quantitative research methods, participants are potentially forced to select either an option that does not reflect their actual response, or to conform their response to one of the provided options, creating a disparity between the recorded data and actual interpretation. The result, in a best-case scenario, is that potentially significant subtleties within audience interpretation — which otherwise might significantly affect the classification and assessment of the interpretation within the analysis of data — are disregarded. In a worst-case scenario, the participant response might be directed and/or altered by the restrictive nature of the question. Quantitative data provide a generalised and abstracted assessment of the audience's responses to a work, restricted by the narrow categories set out by the researcher.<sup>8</sup>

Delalande considered the application of quantitative research questions, however he outlined that to do so 'would deprive us of the richest information which permits a detailed description of listening behaviour' (Delalande 1998: 26). Quantitative scales (such as Likert-type and semantic differential scales) do not provide a detailed description of listening and interpretation. Instead, these scales, and other quantitative questions, force participants to make value judgments

researchers influence upon the collected data, and ensures consistency in data collection between participants. Open qualitative questionnaires are consistent in the questions they ask and the order in which they ask them, thus inducing less influence, or bias, upon audience responses, and providing more comparability between participant responses.

<sup>&</sup>lt;sup>6</sup> The diversity and eclectic nature of qualitative data does make the process of analysis more challenging, but Boltz (2001) introduces "content analysis" as an effective way of analysing such data (further explored below).

<sup>&</sup>lt;sup>7</sup> Lipscomb and Kendall's data were collected using quantitative Likert-type rating scales, and therefore recorded no contextual information or reasoning with regard to "why" a specific test example was rated higher than another. The researchers suggest possible reasons for the trends that become apparent in the results, but while plausible, their theories are entirely speculative without more detailed interpretative information (Lipscomb and Kendall 1994).

<sup>&</sup>lt;sup>8</sup> The clearest example of this is with the "Enjoyment Rating Scale", within the research of Glass and Stevens. This is a scale that seeks to discern the audience member's most enjoyable factors for the dance performance (Glass and Stevens 2005). Fourteen items are listed and audience members are asked to rate each of these using a seven point Likert scale. Firstly, any enjoyable aspects of the performance that fall outside of these fourteen categories will be ignored. Secondly, the mere presence of suggested enjoyment factors listed in front of the subject is likely to direct them to conform their responses to the scale itself, to reject their unique opinion and interpretations and to think in terms of the enjoyment characteristics that the researchers proscribe to be significant. Both of these factors obstruct the audience member from recording their own free and open interpretation.

within a very narrow range of possibilities, in order that generalised statistical assertions might be made. The use of mixed methodologies and semantic differential Likert scales, as in the research by Glass and Stevens (2005) and Lipscomb and Kendall (1994) present easily analysable data sets, but do not offer the full range of freedom to audiences in describing their interpretations.<sup>9</sup>

On the other hand, open qualitative questions allow participants the opportunity to record all of the subtleties of their own individual interpretations.<sup>10</sup> As Miles and Huberman outline:

They are a source of well-grounded, rich description and explanation of processes occurring in local contexts. With qualitative data, one can preserve chronological flow, assess local causality, and derive fruitful explanations. Serendipitous findings and new theoretical integrations can appear. Finally, qualitative findings have a certain undeniability that is often far more convincing to a reader than pages of numbers (Miles & Huberman 1984: 21-22).

# 5.3 - The Analysis of Data

As outlined by Miles and Huberman above, data analysis begins with the development of the research methodology.<sup>11</sup> Written responses distil, in text form, thoughts and feelings inspired within the consciousness of the participant. Qualitative questioning has been demonstrated as providing an open and rich facility for recording the diversity of individual responses to the work in question. However, such responses require further distillation if trends are to be discerned within the data.

As Delalande highlighted, 'the real weak-point [...] on the methodological level is [...] the interpretative role implied by definition in an analysis of verbalisations.' (Delalande 1998: 26). Thus, it is imperative that transparency within the process of data analysis is maintained:

Qualitative data can be reduced and transformed in many ways—through sheer selection, through summary or paraphrase, through being subsumed in a larger pattern or metaphor, and so on. We do not rule out converting the data into numbers or ranks, provided that the numbers, and the words used to derive the numbers, remain together in the ensuing analysis. That way one never strips the data at hand from the contexts in which they occur (Miles & Huberman 1984: 23-24).

The analytical strategies within this project were developed from techniques of "qualitative content analysis". Qualitative content analysis utilises three main techniques relevant to the current project, each of which is discussed within the following section. The first is "summarising

<sup>&</sup>lt;sup>9</sup> Utilising a mixture of the two question types, quantitative and qualitative, as within the Audience Response Tool (ART) in the research of Glass and Stevens, could be seen as an ideal solution (Glass and Stevens 2005). Both qualitative and quantitative questions have advantages and disadvantages and to use a combination might mitigate these disadvantages. However, each of the questions within the ART deal with a different topic, it is not as if the same question were asked in both a qualitative and quantitative way. Further to this, some of the questions within the quantitative section of the ART could likely elicit more useful information if they were phrased in a qualitative way.

<sup>&</sup>lt;sup>10</sup> Any process of empirical data collection will never be entirely transparent. Even using qualitative means, the true vitality of thoughts and experiences cannot be condensed into a paragraph upon a page. Experience is transient, and its translation into empirical data will always be mediated. Thus, while qualitative response data presents the most appropriate form of data collection for the current study it can never encapsulate the full nature of experience (see also "Analysis of Data").

<sup>&</sup>lt;sup>11</sup> See above, p.83.

content analysis", in which the material is reduced to be more succinct, but in such a way that the original content is preserved. In order to achieve this, a number of different processes can be employed (omission, generalisation, integration, selection and bundling) (Mayring 2000: 3). Due to the potential for the researcher to significantly influence the data through their subjective interpretation of the "most important" aspects worthy of summarising, this technique was not employed to any great extent in the subsequent analysis. However, such a process is a necessary step towards the next strategy, "inductive category formation".

Inductive category formation utilises the procedures of summarising content analysis to gradually create categories from the material (Mayring 2004: 268). But instead of re-writing the responses, as in summarising content analysis, this process preserves the original transcribed responses alongside the new categories, thus limiting the potential impact of the researcher. Inductive category formation was the most widely employed technique of content analysis within this research. In order to ensure maximum transparency within the analytical process, appropriate categories were presented in a column adjacent to the un-edited results.<sup>12</sup>

The final aspect of qualitative content analysis appropriate for this project is that of "explicating content analysis", in which any unclear textual components are contextualised through the application of information external to that of the individual response (Mayring 2004: 268). This external information could be: knowledge about the context of the research session (whether the work in question is the first or last to be presented), the background and experience level of the participant (experienced versus inexperienced) or the responses of this participant to previous research questions within the study. Responses to individual questions have been analysed largely without the use of explicating content analysis. Instead, the technique was reserved for utilisation in the summaries of responses to each work and the comparison of responses between each of the works. This was done so as to avoid the influence of the original results or utilised the data in support of false assumptions. Within the subsequent results and analysis chapters, categorised data is presented and trends highlighted before any rationalisation begins.

Categorisation within the current project has been used to highlight key aspects of responses, from which any trends are highlighted and discussed. As demonstrated by Boltz, it is possible to utilise quantitative statistical analysis upon categorised responses (Boltz 2001). Hsiu-Fang Hsieh and Sarah Shannon outline how categorisation within qualitative content analysis can vary according to the nature of the research question and the goals of the project, these variations are outlined in the table below (figure 12).

<sup>&</sup>lt;sup>12</sup> Both the transcribed and tabulated responses, and their categorisation can be found in Volume Two.

-	-		-
Type of Content Analysis	Study Starts With	Timing of Defining Codes or Keywords	Source of Codes or Keywords
Conventional content analysis	Observation	Codes are defined dur- ing data analysis	Codes are derived from data
Directed content analysis	Theory	Codes are defined be- fore and during data analysis	Codes are derived from theory or relevant research findings
Summative content analysis	Keywords	Keywords are identified before and during data analysis	Keywords are derived from interest of re- searchers or review of literature

Figure 12: Major coding differences among three approaches to content analysis (Hsieh & Shannon 2005: 1286).

The current research project falls within the first and second categories outlined in figure 12, whereby codes and categorisations are defined by both "observation" and "theory". The division of responses into intra-musical, contextual and emotional, represents a translation of the theoretical listening modes outlined by Delalande into categories of results (1998). However, such categorisation was only employed after such trends emerged in the data itself, in an inductive fashion. The majority of categorisation strategies were devised according to trends in the responses themselves. It is for this reason that some analytical approaches shifted and evolved between each of the phases of the research. Explanation of the individual analytical methods of categorisation utilised for each question, can be found at the beginning of Volume Two (Vol. 2, p.1).

Closely following the issue of categorisation is that of data display, defined by Miles and Huberman as, 'an organized assembly of information that permits conclusion-drawing and action-taking. [...] As with data reduction, the creation and use of displays is not something separate from analysis; it is a *part* of analysis' (original emphasis, 1984: 24). This is demonstrated succinctly within the following two diagrams (reproduced here as figure 13).





Figure 13: Diagrams demonstrating the variation and influence of presentation upon data (Miles and Huberman 1984: 24).

Both diagrams display the same data but in very different ways (figure 13). Recognising the significant influence of analysis and data presentation upon the results, the current project retains the original "raw" transcribed data within Volume Two. This allows readers to make quick and direct "side-by-side" comparisons between the raw data and analysed responses, affording transparency and preserving the data within its original context. In this way, data analysis complements and highlights trends within the original data, as opposed to being moulded and formed so as to support explicit trends or assumptions set out in the research aims.

Completing Miles and Huberman's data analysis outline is the process of conclusion-drawing and verification. This involves, 'drawing meaning from displayed, reduced data —not— irregularities, patterns, explanations, possible configurations, causal flows, propositions' (Miles & Huberman 1984:24). As a result, rather than just describe or re-present response data, conclusion and verification must draw new meaning from within the data. In the current study, conclusions were drawn from overwhelming trends within the data and, where possible, rationalised in reference to the theoretical materials discussed within Chapters Three and Four.

# 5.3.1 - Something to Hold onto Factors

When developing an appropriate content analysis of data within a project based upon the Intention/Reception project, it may have initially seemed apparent and logical to adopt the "Something to Hold Onto factors" outlined by Weale to act as the categories of classification within inductive category formation (Weale 2005: 271).<sup>13</sup> Indeed, the negotiation of categories from the data constituted one of the most significant challenges for the analysis of the data within the current project. However, while adopting the existing "something to hold on to factors" would have provided ready-made pre-negotiated categories, these may not have been appropriate for the current data set. As outlined by Mayring, the goal of category formation in content analysis is, 'to formulate a criterion of definition, derived from theoretical background and research question, which determines the aspects of the textual material taken into account' (Mayring 2000: 4). Therefore, where the aims or goals of the research are different, the

<sup>&</sup>lt;sup>13</sup> The concept of "something to hold onto" was outlined by Landy (1994) but it was Weale that set out an explicit list of "something to hold onto factors".

processes of category formation must also be different. Formed categories are unique to their own data set, the goals of the research and the process of data analysis. The adoption of analytical content categories from a previous project risks inadvertently influencing the process of analysis. Such an analysis would be based upon categories derived from trends in external response sets, and influenced by the methodological characteristics and the goals of a previous research project. Therefore, while the "something to hold onto factors" were a useful point of reference for the development of categories in the current project, it was not appropriate for their direct adoption.

# 5.4 - Action Research

Entering P2, and continuing into P3, the methodology of the current project employed techniques of action research. Indeed, processes of action research were in operation throughout this thesis: between the theoretical materials and the empirical research, as well as between phases of the empirical research itself and the development and subsequent revision of the composition utilised within the P2 and P3 empirical testing.

The term "action research" was introduced by the psychologist Kurt Lewin to describe a model that is, 'composed of a circle of planning, action and fact-finding about the result of the action' (Lewin 1946, reproduced in Lewin 1948: 206). This process is less explicitly goal-orientated than traditional empirical methodologies. As described by Jean McNiff, '[a]ction research is open ended. It does not begin with a fixed hypothesis. It begins with an idea that you develop. The research process is the developmental process of following through the idea, seeing how it goes, and continually [evaluating the original hypothesis]' (McNiff 2002: 6). Indeed, according to this definition the majority of the current research project can be seen as following an action research methodology, in which hypotheses and theory are evaluated and assessed based upon previous empirical results.<sup>14</sup> Knowledge from this evaluative process is then utilised in order to further develop and adapt the hypotheses and theory, in a constant search for cohesive explanation of the data.

Many similar models exist to describe these active processes, but 'a common feature of both action research and reflective practice is that both are based on the four stage cycle described by Kolb (1984)' (Coulter 2005: 3).

<sup>&</sup>lt;sup>14</sup> For example: inductive category formation is an action research process.



Figure 14: Kolb's learning cycle (Kolb 1984).

David Kolb's learning cycle outlined the continuous process by which reflection upon experience can lead to the formation of abstract concepts, which can, in turn, be tested in new situations and the new experiences evaluated (figure 14). It is important to note that this cycle represents the cyclical pattern of the processes of learning, and not the learning itself.

Coulter presents a Multimedia Realisation Spiral (figure 15), in which he represents the process of creation for a work, and in which the categories of Kolb become condensed and replaced by "conceptualise", "produce" and "analyse" (Coulter 2005: 6). Because the spiral represents the process of realisation of the work itself, as opposed to representing only the processes of development (as in Kolb's model), there is an intrinsic shift to rationalise the processes as linear. Just as with the division between perception of the object and the physical signal,<sup>15</sup> it is important not to confuse the conceptual creative processes of critique, evaluation and reflection, with the acts of physical creation themselves — what might be described as action based upon conceptual creative thought. When the two are kept distinct, the conceptual processes of creation can constantly shift in assessment and evaluation of the active processes of material development in a non-linear fashion, at varying time scales and varying structural levels. For example, the model by Coulter implies a directional process of creation moving from material acquisition, to the development of material, development of structures, structural integration etc: 'the [...] phases outlined above may also be described as divisions of a continuum between production and conceptualisation that stretches from the beginning to the end of any given project.' (Coulter 2005: 6). The creative process defined by Coulter is purely linear and directional.

<sup>&</sup>lt;sup>15</sup> As discussed in Chapter Three, p.34.



Figure 15: Coulter's multimedia realisation spiral (Coulter 2005: 6).

However, a model of reflective practice and action research that represents the creative analytical process, and not that of physical action in realisation of the fixed media work, can shift flexibly, accommodating the fact that (to use Coulter's terms) the acquisition of new materials may become necessary after structural development and in order to facilitate structural integration. In Coulter's model this act would require the commencement of a new spiral, but because the mental processes of creation are linked with the physical nature of the work this is not possible. By Coulter's definition, a new spiral means a new work.

The model proposed by Ortun Zuber-Skerritt applies the basic concept of Kolb's learning cycle but demonstrates the development of processes within time. This results in a series of subsequent cycles, as opposed to outputs feeding back into the same cycle, thus clearly satisfying the representation of the continuing developing of the concept and work over time, an aspect that is implicit in Kolb's diagram but perhaps not immediately represented. Once again, the fact that the processes of decision making are divorced from the physical materials means that the processes can act upon any aspect of the work — as is appropriate in the realisation of the composer's multifaceted intentions — rather than being stuck in a linear process of creation (figure 16) (Zuber-Skerritt 1982: 13).



Figure 16: Zuber-Skerritt's model of action research.

Within Zuber-Skerritt's model, a plan is acted upon and the results observed and evaluated. This reflection and analysis enables the plan to be adapted and developed before being retested in the second circle. Thus, the creative processes and the physical signal of the work are separate entities. The processes and concepts surrounding the work can develop separately from the work itself, and later become embodied in actions to create modulations and developments of the signal.

The action research process discussed so far is entirely personal and directed by the impressions and consciousness of a single individual, the composer. But how might external interpretations and influences be integrated into a model of composition or re-composition?

# 5.5 - Questioning the Process of Re-composition

Due to the distinction made between the poietic and esthesic, it is important to note that none of the compositional decisions made within the composition of the test work for Phase Two and Phase Three were intended to solicit explicitly defined responses from participants within P2 and P3. Instead, the process was used to further challenge and probe the main findings from the first phase of the research, and to build upon these findings in order to provide greater clarity and confirmation of the responses. All of the pieces submitted as potential test works helped to inform decisions regarding style, structure and content of the composed work, and responses from P1 were invaluable in anticipating generalised schematic responses from the inexperienced participant groups in P2 and P3 sessions. The most significant difference for the composer in this project, and in comparison to previous works, was an explicit awareness of the fact that the work would be perceived by inexperienced audiences. This awareness of the pending esthesic processes became more pronounced moving from P2 into P3. Such an awareness did not consciously alter the original concept and intention of the work, but did impact upon later decisions within the realisation of the piece, largely with regard to the clarity and consistency within structures of objects and larger forms, so that the original concept and intention of the work was not obscured by unchecked digression. As Tarkovsky wrote, 'The artist cannot, and has no right to, lower himself to some abstract, standardised level for the sake of a misconstrued notion of greater accessibility and understanding. If he did, it could only lead to the decline of art' (Tarkovsky 1987: 166).

In the development of the P3 work — where indeed the aim was not to compose an entirely new composition but to modify and adapt the existing P2 composition<sup>16</sup> — responses from P2 participants helped to indicate where obstruction was potentially impacting upon audience interpretation and engagement with the work. Compositional decisions within this process, while informed by audience responses, did not seek to satisfy audience demands at face value, but to examine and extrapolate underlying trends in the audience response sets. The development of

<sup>&</sup>lt;sup>16</sup> See Chapter Eight, p.252.

the P3 work also afforded insight into the impact of subtle alterations upon the general reception of a work, as many elements were simply tweaked moving from P2 to P3.<sup>17</sup>

As previously argued, the process of development for the P2 and P3 test composition was largely that of action research, in which conceptual cycles of action and validation acted upon the original concept for the work, and within which, smaller nested intentions became important. Emmerson's *elaborated model of composition* aptly encapsulates this process, with a central loop, similar to the original Kolb cycle (figure 14), expanded and embellished with further channels of procedural consideration (figure 17) (Emmerson 1989: 138). Unlike Coulter's model (figure 15), and like Kolb's, Emmerson's model focuses upon the intentional and decision making processes within the realisation of the work, as opposed to the physical development of the material of the work itself. The physical work is included, but is clearly situated outside of the cycles of realisation as a product, the stored material result of creative processes.



Figure 17: Simon Emmerson's elaborated model of composition (Emmerson 1989: 138).

Kolb's "abstract hypothesis" is represented in Emmerson's diagram as "action repertoire", in which an action is imagined and hypothesised to create a specific response, or to contribute to the work in a specific way. "Action repertoire" is informed and directed by schemata of composition. "Action", in Emmerson's model, is the application and realisation of this hypothesis through manipulation of the physical signal, in Kolb's model this is termed "active testing". In Emmerson's model, "test" represents the moment in which compositional action undertaken on the physical signal is regarded perceptually, and is described in Kolb's cycle (figure 14) as "concrete experience" and "reflective observation". "Test" constitutes the experience of compositional action within the context of other decisions and the totality of the work. Emmerson's model demonstrates how successful realisation of "action repertoire" intentions in the testing stage reinforce the action repertoires themselves, while the rejection of "actions" in the "test" evaluation leads to a requirement for modification, or the total rejection, of the specific "action repertoire" in question. This process of evaluation for the "action repertoire" leads to the construction of compositional schemata. Compositional schemata allow the composer to

<sup>&</sup>lt;sup>17</sup> Creation of the P3 composition is discussed within Chapter Eight, p.254.

evaluate and chose specific compositional actions with regard to past experience. This insight allows the composer to pre-empt the result of "testing" and physical experience, leading to the construction of a rationalised compositional process, as opposed to blind experimentation or processes of trial and error.

Just as schemata and intentions can be nested, and the perceived sound object may vary in complexity from an individual event or larger structure of events, so might Emmerson's elaborated model of composition operate to represent the creative process at various structural levels: judging the effective realisation of an entire work, a section of a work, a motif or an individual event. The "action repertoire" in each case will be different, therefore the desired goal will also vary, but the same processes will operate throughout.

Audience responses can be directly incorporated into the cycle outlined by Emmerson, by simply feeding into the test component of the loop. Audience responses offer an external evaluation and analysis of the perceived object and "action repertoire" intention of the composer. Such external perspective within the decision process might afford the composer a fresh perspective on the work. Audience participants can offer a perspective on the work, untainted or influenced by an awareness of the procedures of material construction or process of creation. Such responses can illuminate where composers may have strayed from their original concepts, perhaps as a result of distraction or obstruction caused by the compositional processes itself. Such insight and reflection was demonstrated by the audience responses to P2 and the work subsequently edited.

Audiences construct interpretations from the final physical signal. In many situations, an inexperienced audience will be oblivious to the traces of creation and the processes of manipulation undertaken in realisation of the final work. If a compositional or procedural concept is important to the composer for the cohesion of a work, then this concept needs to be explicit within the final work. If only found within the creative processes, in "behind the scenes" development of the work, then the audience will never have access to it.

Therefore, awareness of the work as perceived object, as opposed to a complex of creative processes and manipulated source material, helps ensure that the form and content of the work is cohesive, comprehensible and clear.

Reflections provided by inexperienced audiences in P2 sessions, were utilised in the P3 recomposition process to confirm and clarify the realisation of the works concept, not simply to add elements to the work which audiences suggested might be pleasing. The integration of audience responses within Emmerson's elaborated model of composition, requires no manipulation of the model itself. Therefore, the inclusion of response information external to that of the composer acts simply as an extension and verification of the evaluative process already undertaken. The P2 and P3 results afford data for evaluation of this assertion.

#### 5.6 - The Audience / Participants

'Although there are surely real human beings out there who compromise the actual audience, we know only the audience by observing it through some sort of lens' (Webster & Phalen 1997: 13).

The most common goal of commercial audience research focuses upon recording the interpretations and opinions of the mass audience. For the genre of electroacoustic music, an art form consistently seeking larger audiences and greater acceptance,<sup>18</sup> the application of a mass audience model might seem ludicrous, but in truth, as James Webster and Patricia Phalen assert, 'there are no masses, only ways of seeing people as masses' (Williams in Webster & Phalen 1997: 15). Audience research itself evolved alongside the development of mass media from newspapers, to radio to television and was fuelled by the statistical observation that trends and regularities emerged despite being based upon 'countless idiosyncratic circumstances and decisions' (Webster & Phalen 1997: 4). As Immanuel Kant noted, 'since the free will of man has obvious influence upon marriage, births, and deaths, they seem to be subject to no rule by which the number of them could be reckoned in advance. Yet the annual table of them in major countries prove that they occur according to laws' (Kant in Porter 1986: 51). As such, vast sets of audience response data were collected recording the normative response of the mass. However, critics of the mass audience approach noted:

[W]e are told that the mass consists of individual members. When we look at a particular member of the audience we find that his actual experience is of a decidedly different quality than might be expected if he were a solitary member of the mass. [...] There is no justification for studying the audience as an aggregation of discrete individuals whose social experience is equalised and cancelled out (Freidson 1953: 315-316).

It is currently accepted that mass audience research projects are poorly disposed to measure anything other than trends in social action, and that such research, 'generally ignores the impact or perceived meaning of messages' (Webster & Phalen 1997: 12). As Miles and Huberman assert, 'understanding and portraying the unique individual case may be more important than "generalizations" and "variables" (Miles & Huberman 1984: 23).

The social trend of demassification is another frequently discussed argument against research into the mass audience. The process of demassification is a reversal of 19<sup>th</sup> Century trends in mass production, with a return to customisation and specialisation as opposed to the mass production "one size fits all" model. Scott McDonald introduces the theories of Chris Anderson who suggests that mass markets are a result of the 'limitations of locality, inventory costs, [etc.]' (McDonald 2008: 314). Where digital distribution has eliminated these limitations, niche items are demonstrated as becoming profitable. Anderson asserts, 'people always wanted more choices, but their desires previously were obscured by distributional bottlenecks imposed by cost or locality. As a result, we erroneously inferred that they only wanted the "hits" - the lowest common denominators of consumer demand' (Anderson in McDonald 2008: 313). If this is indeed the case, then a truly uniform mass market can never have been said to exist.

<sup>&</sup>lt;sup>18</sup> See: Landy 1988, Landy 1990, Landy 1991, Pennycook 1992, Pope 1994, Truax 1999, Copeland 2003.

The shift towards demassification (resulting in an increasing diversity of interest and demand for individuality) coupled with critique of the mass audience model suggests that a generalised and top down research approach appears ever more redundant in a contemporary context. As Fischman states, the fixation upon mass audiences 'may not be in line with the current state of affairs', there should not be an expectation for vast audiences, but instead acceptance of the concept of "optimal" audience sizes' (Fischman 1994: 262-263).

#### 5.6.1 - Experience Groups

The original Intention/Reception project collected responses from participants with three different levels of experience with regard to electroacoustic music:

1) *Inexperienced listeners* – listeners who have no knowledge of electroacoustic art music, e.g., the general public.

2) *Experienced listeners* – listeners who have a fundamental knowledge of what electroacoustic art music is; who have heard and perhaps composed electroacoustic art music, e.g., Undergraduate contemporary music students.

3) *Highly-experienced listeners* – Listeners with a developed knowledge of electroacoustic art music, e.g., Postgraduate students and beyond.

(Weale 2005: 111-112)

The current project also sought to investigate the impact of audience experience upon interpretation. Therefore, within the first phase of the current study a participant's level of experience was assessed through their responses to the individual participant questionnaire and their given responses to the test works. Within Phase One of the research, individuals who had undertaken postgraduate study or were practitioners within the fields of electroacoustic music, traditional musicology, film and the arts were classified as experienced participants. Those without such specialised experience were classified as inexperienced participants.<sup>19</sup>

The conception of "experience", held by the researcher, shifted throughout the duration of this research project. It began as discrete categories, such as those defined within the I/R project, but morphed as empirical data and theoretical research revealed the complexity of the situation and the key role of lived experience in interpretation. For this reason the definition of separate "experience groups" was dissolved for the later phases of the research (P2 and P3). The distinction between experience and inexperienced participants within P1 was still highly useful because it positioned experience as variable factor for examination and allowed for this variable factor to be critiqued, examined and ultimately modulated.

<sup>&</sup>lt;sup>19</sup> The use of any advanced electroacoustic terminology was taken to signify knowledge of the genre and to betray specialised experience. In these situations, the individual participant's data set was shifted to the experienced category, as was most appropriate.

As explored within Chapter Three, all elements of life contribute to an individual's lived experience. When referenced within the empirical section of this thesis the term "experienced" refers to "professional experience and training."

Indeed through the process of testing, participants were demonstrated to gain in experience. The findings of Radbourne et al. indicated that issue of unfamiliarity impacted upon audience interpretation. However unfamiliarity, both with the environment and setup of the performance, receded after a while, suggesting that participants became normalised to their surroundings (Radbourne et al. 2009: 25).
## 5.6.2 - Research Ethics

At the forefront of all research, especially those involving human participants, there must be a clear set of rules and guidelines established for conduct. De Montfort University provides an ethical framework for research, which classifies the current project under its section one:

- 1. 'Gathering information about human beings (and organizations) through:
  - interviewing
  - surveying
  - questionnaires
  - observation of human behaviour
  - modify/disturbing human behaviour
  - interfering in normal physiological and/or psychological processes.

The main ethical issues identified with regard to the current research project were those of consent, identity and security, and deception. Participants should agree to take part in research freely and be allowed to terminate their involvement at any time. In order to accommodate consent within the current research project, participants were asked to sign a research agreement outlining their rights and the obligations of the researcher. Any results pertaining to individuals were agreed to be kept securely by the researcher and to be published only in an anonymised format.<sup>20</sup>

Deception presented the most difficult ethical situation in the context of this research project. The code of ethics outlined that participants should not be deceived in any way about the nature or goals of the research, however within the current research project it was necessary that the participants remained ignorant about the nature of audio-visual compositions and some specifics of the work (the title and contextual information for test works), in order that the impact of revealing such contextual information might be observed. In documentation of her own audience project, Andra McCartney stated:

I was concerned that if I came into a situation and gave a great deal of initial information about...the context of soundscape composition, listeners might be more likely to respond to my concerns and stated interests, making their written responses less open. (McCartney 1999: 460)

Similar issues exist for a study of electroacoustic audio-visual works, therefore the information provided to participants was considered carefully. It needed to retain ethical integrity whilst not introducing specifics that might affect audience interpretation/response. A statement was drafted that, alongside a short presentation, could act as an introduction to the research session. This information was combined with the research agreement to create the 'Participant Information and Research Agreement' form.<sup>21</sup> This form was the first document that the participants were provided with upon entering the research session, both participant and

<sup>&</sup>lt;sup>20</sup> A copy of the full ethical approval paperwork is provided within Volume Two, Vol.2, p.126.

<sup>&</sup>lt;sup>21</sup> Available in the Volume Two appendix, Vol. 2, p.124.

researcher signed to agree to the terms set out within it and a copy was made available for each participant to take away and to retain.

#### 5.7 - Summary

This chapter has provided a rationale for the adoption of an appropriate, qualitative action research methodology for the current empirical project. The methodology itself was modulated throughout the duration of the research in response to the findings and as the research hypotheses evolved throughout subsequent phases of the research. The specifics of methodology for each of the three phases of the research are to be found within subsequent chapters, accompanied by the research findings themselves.<sup>22</sup>

<sup>&</sup>lt;sup>22</sup> Phase One: Chapter Six, p.99; Phase Two: Chapter Seven, p.208; Phase Three: Chapter Eight, p.251. Specifics with regard to categorisation and the analysis of data can be found at the beginning of Volume Two.

# Chapter Six

## Phase One

'A question is really an ambiguous proposition; the answer is its determination." (Felix Cohen in Langer 1957:4)

This chapter presents the development of the Phase One (P1) methodology, followed by discussion and analysis of the empirical results collected. The rationale for selection and classification of test works is presented, followed by the explanation of the research methodology and rationale for the development of the research questionnaires.

Participant interpretations to the three works are discussed sequentially and in great detail below, with an exposition of interpretations for each question on the directed questionnaires. Summaries are provided at the close of the detailed expositions, highlighting the main findings and overall trends in the interpretations to each individual work, and a final summary at the end of the chapter compares and contrasts participant interpretations between the three test works within phase one. Original interpretations from each participant, transcribed directly and in full from their hand written questionnaire, can be found within Volume Two.

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## Phase One

## 6.1 - Phase One (P1): Aims and Methodology

Phase One (P1) of the empirical project investigated audience interpretation of three electroacoustic audio-visual works, seeking to compare interpretations and the impact of contextual information within interpretation and facilitating audience engagement with the work. This phase of the research was highly informed by the Intention/Reception project, and largely adopted its methodology.

## 6.1.1 - Hypotheses

Based upon the results of previous studies the following hypotheses were compiled:

- 1. Audiences previously unexposed to electroacoustic audio-visual artworks will be able to interpret and engage with them.
- 2. Composer intention data will facilitate greater engagement with electroacoustic audio-visual artworks by providing a frame of reference for audiences to situate their interpretations.
- 3. Highly recognisable audio-visual interactions will facilitate greater engagement and interpretability of electroacoustic audio-visual artworks by inexperienced audiences.
- 4. Highly recognisable mimetic materials will facilitate greater engagement and interpretability of electroacoustic audio-visual artworks by inexperienced audiences.
- 5. Experienced participants will respond to works in a more analytical fashion.

The results of studies by Landy (2006), Weale (2005) and Glass & Stevens (2005) indicated that inexperienced audiences were able to interpret and appreciate test works and that contextual information was able to facilitate greater understanding of the work. Therefore it was hypothesised that inexperienced audiences might respond to electroacoustic audio-visual works in the same fashion.

Marshall and Cohen (1988) and Boltz (2001) indicated that audio-visual associations were constructed through audio-visual congruence, and thus it was hypothesised that for works where the relationship between sound and image was more explicit, engagement and interpretability would be higher. Finally, Landy (2006), Weale (2005) and Geringer, Cassidy & Byo (1996) indicated that works containing mimetic materials solicited greater contextual interpretations from participants and were more interpretable than those made of abstract materials.

The findings of Delalande (1998), Landy (2006) and Weale (2005), along with the theories of schemata and training explored within Chapter Three, suggested that experienced participants would consistently provide more analytical interpretations to works, while inexperienced audiences would most likely record what Eco termed "first level", aesthetic, interpretations.<sup>1</sup> The comparison of inexperienced and experienced participant interpretations allowed for the effect of experience on interpretation to be evaluated. Perhaps more significantly, it also allowed for

<sup>&</sup>lt;sup>1</sup> Eco also uses the term "naïve" to characterise non-analytical interpretations. These interpretations seek to understand the work itself, without analytically assessing the production techniques employed in the work (Eco 1990:55).

the impact of the research session itself to be assessed in terms of influencing interpretations. Where trends develop in inexperienced data sets, tending towards the analytical or in concord with experienced data, it may indicate that the questionnaire and/or research session is, in itself, acting to influence the interpretations of individual inexperienced participants.

Results from P1 testing will be specific to the P1 test works. Trends in data arising from the P1 testing cannot be directly abstracted to create assumed rules that might be thought to apply to the interpretation of any, or all, electroacoustic audio-visual works. They can however, inform hypotheses for further investigation (P2 research), provide insight into the processes of interpretation and allow composers to appreciate the impact of these processes on the interpretation of works.<sup>2</sup>

#### 6.1.2 - Phase One Methodology

The methodology for this first phase of the empirical research project was adapted and developed from the original I/R methodology (Landy 2006, Weale 2005). Alterations were made in order to ensure that the methodology was appropriate for the current study and to eliminate the issues highlighted in critical assessment of the previous research projects.<sup>3</sup>

One of the challenges for the I/R Project was the balance between retaining audience engagement and minimising the number of research sessions that an individual participant had to attend. Weale evaluated audience response sessions to be most effective at forty-five minutes in duration (Weale 2005: 119).<sup>4</sup> However, this time limit meant that multiple sessions were required with the same participants in order to collect a full data set.<sup>5</sup> Unfortunately, it was not always possible for participants to attend all three sessions and so some data sets were incomplete. This partial data was still usable to some extent in the context of the I/R project, but the responses could not be comprehensively compared where participants had not been present for the projection of all three works. Further, critique of the I/R methodology indicated a possible conflict within the data resulting from repeat presentation of works.<sup>6</sup>

Therefore, within the current project the decision was made to project each of the test works within one research session, and to present each work to the participants only once. This made each data collection session an hour and a half in duration (based upon the projection of three works, plus appropriate breaks in order to retain participant focus and engagement). although longer than the forty-five minutes evaluated to be most effective by Weale (2005: 119), it

<sup>&</sup>lt;sup>2</sup> The empirical findings of this research project were instrumental in developing the theoretical discourse outlined in Chapters Three and Four.

<sup>&</sup>lt;sup>3</sup> The I/R project sought to assess audience appreciation and access to works of electroacoustic music, so as to devise strategies for increasing the size of audiences for this music. While the data might provide information on increasing access this was not a main focus of the current research. The current study was built upon and inspired by the research of Landy and Weale but it sought to investigate the processes of interpretation for electroacoustic audio-visual works.

<sup>&</sup>lt;sup>4</sup> This time period was argued to be long enough for individuals to record responses to a single piece without the group members becoming distracted or disinterested.

<sup>&</sup>lt;sup>5</sup> Only one of the three test works could be presented within each session.

<sup>&</sup>lt;sup>6</sup> Critique of previous projects highlighted the danger of inadvertently affecting data through the repeat presentation of works (Weale 2005, Landy 2006) and how the nature or environment of the research session can impact upon research (Radbourne et al. 2009). See Chapter Two, p.13.

ensured that each participant provided a full set of interpretation data for each of the three test works and that these interpretations were not affected by repeat presentations of the works.<sup>7</sup> In an ideal situation, the project might have run individual and parallel sessions, with each strand presenting a different level of contextual information prior to projection of the work and in which each work were presented only once.<sup>8</sup> However, the number of participants required to make such a methodology practical, and statistically reliable, made it impossible to realise within the bounds of either the original I/R Project, or the current study.<sup>9</sup> Such an arrangement was originally attempted within the first experienced participant data collection session.<sup>10</sup> Experienced participants were provided information from the composer prior to projection of the work, and it was anticipated that a subsequent group of experienced participants without prior information about the work. However, this subsequent experienced group never materialised, resulting in the loss, and potential bias, of data.

Therefore, and in all subsequent research sessions of the current project, the decision was made to project all test works to participants within a single session (randomising their order for subsequent groups), and for the provision of contextual information to take place immediately after the participants had completed recording their initial interpretations to the work in the directed questionnaire.<sup>11</sup> In this situation, participants were able to comment on the impact of the contextual information with recollection of the piece fresh in their mind, but without having the piece presented a second time (thus eliminating the issues arising from repeat presentation, as in the I/R Project) and without requiring twice the number of research participants, one set with prior information prior to the provision of such information and to assess the contextual information, and their reaction to it, after its provision. As a result, the methodology also sought to provide clear information about participants desires for contextual information, and to provide a projection about the impact of information on individuals interpretations of the piece.

The use of questionnaires for the collection of data may seem to be archaic, but they were evaluated as providing the most appropriate and efficient method for quantitative data

<sup>&</sup>lt;sup>7</sup> To combat the lack of focus or engagement over the extended group session, short breaks, in which refreshments were provided, were introduced to encourage continued focus. Participants were asked not to discuss the current project or previously projected test works during this period, and were engaged by the researcher in an off-topic discussion, often about the participants themselves.

<sup>&</sup>lt;sup>8</sup> For example: 1. Work A without prior information, 2. Work A with prior information, 3. Work B without prior information, 4. Work B with prior information etc. etc.

<sup>&</sup>lt;sup>9</sup> 2n times the number of unique participants would be required for this individualised methodology, where n=number of test works. Delalande highlighted the issue of participant numbers and the potential statistical unreliability of the data, 'there is no logical objection to drawing on only eight subjects as long as one does not seek to generalise the observation's [sic]' (Delalande 1998: 25). Therefore, where participant numbers are below that recommended for statistical authenticity the results can only be said to be truly representative for the particular test group in the research.

<sup>&</sup>lt;sup>10</sup> This session was the very first data collection session of the entire research project (excluding the pilot study).

<sup>&</sup>lt;sup>11</sup> In order to introduce normalisation between the research sessions (and reduce bias), the order of work presentation was varied between each research session. This helped to eliminate any potential trends arising as a result of the sequence of presented works (Geringer et al. 1996: 243). Though it may be a fascinating and valid topic for investigation, the current research project does not seek to investigate the order of presentation and its impact upon interpretation.

collection. A matrix for the real time evaluation of works was conceived, but eventually rejected due to its potentially distracting nature and the quantitative nature of its data (see Vol.2, p.133). Questionnaires were utilised due to their affordability, minimal technical requirements and in being efficient tools for the collection of qualitative data.

#### 6.2 - Phase One Test Compositions and their Selection

The compositions selected as test works for Phase One of the empirical project, were chosen from 37 submissions received after an open call was sent out via the Canadian Electroacoustic Community (CEC) online mail list in January 2009. Relevant excerpts from the call are shown below:

This is a call for fixed media electroacoustic audio-visual music works exploring the interaction between sound and image. Works should be cohesive audio-visual entities and not just video/film with a soundtrack or music with a video/film track. The audio within these works should be electroacoustic in nature.

- In this phase of the project, submissions must be fixed media works (as opposed to "live" performance based works).
- Works must have stereo audio and be for single screen.
- The duration of submitted works should be no longer than 8 minutes due to testing practicalities or, alternatively, a well-defined self-contained section of the work lasting no longer than 8 minutes can be identified within the entire work.
- The composer should own all rights to the submitted works and provide the researcher with the right to include selected works as part of future scholarly publications of the research.

This call was devised to collect electroacoustic audio-visual works of a specific format and duration, so as to reduce the number of variable factors within the data collection process. The requirement for fixed media compositions was essential so that multiple sessions might be run, in which the compositions were projected in a relatively consistent manner. Testing audience reception to live performances, where performative interpretation cannot help but change between performances, would result in different audience groups judging different realisations of the same works, or indeed assessing the performance itself and not the composition. Any investigation in this field would also have to deal with the complication of both compositional and interpretative (performer"s) intentions. Such an investigation may be an interesting avenue for future research, but the current project focuses only on audience interpretation of fixed media audio-visual works.

Stereo audio, single screen, works were called for because such works constitute a "standard format", and were therefore imagined to be more prevalent, thus opening up the opportunity for and greater number, and a potential for a wider stylistic range, of submissions to be received. Furthermore, the restriction helped to limit the variable factors operating within the research process. An individual may have possessed a preference for either multi-screen or single-screen works, and thus have judged or evaluated the format and not the works content within their interpretations of the work. Technically, the requirements for projection were also a lot less intensive for stereo single-screen works than for multichannel or multi-screen works, allowing the research sessions to take place in multiple locations, so as to accommodate the needs of the research participants as much as possible.

One fifth of the received submissions were collaborative works and were discounted from the selection process. Collaborative works were eliminated due to the increased complication of multiple intention information sets, and in an effort to limit the number of variable factors within the research session. Audience interpretations may have been skewed by differences between collaborative and non-collaborative works, as opposed to the desired variables of work type and contextual information under investigation within this project.<sup>12</sup> A number of received works were also either audio compositions to an existing film, or film compositions made to an existing audio composition. Due to the projects desire to research cohesive audio-visual compositions these works were also discounted.<sup>13</sup>

Duration was another potential variable factor that had to be normalised. Audiences might respond differently to works of different durations. If the relative durations of the presented test works varied greatly, then there might be a possibility that audience interpretations might reflect this difference in duration.<sup>14</sup> Test compositions with a duration of around six to eight minutes were identified by Weale as being the most appropriate (Weale 2005: 119) and thus this was used as a basic starting point. The approximate duration selected is arbitrary, it is only important that all test works have a consistent and similar duration if audience interpretations of them are to be compared.<sup>15</sup>

Once works conforming to the stipulated requirements had been isolated, a final selection was identified. As part of the selection process, a Language Cube based upon Simon Emmerson's Language Grid was developed (Emmerson 1986). Each of the three axes of this cube represented a different aspect of the composition, the nature of the audio material (ranging from mimetic to abstract), the nature of the visual material (ranging from mimetic to abstract) and the nature of the associations within the piece between the two (syntax ranging from mimetic to abstract). This afforded an opportunity for the received submissions to be filtered and sorted in terms of their content and their respective relevance to each of the research hypotheses. The development of this categorisation cube is outlined within the following section.

<sup>&</sup>lt;sup>12</sup> An erroneous conception of the role of composer intention was also likely to have contributed to this decision, being that the selection and call for works took place at the very beginning of the research project, without the opportunity for ample reflection and evaluation. A more traditional structuralist perspective might lead to the conception that intention could be communicated directly from creator to listener. In such a situation, the combination of multiple intentional streams provided radical complications for the research methodology.

<sup>&</sup>lt;sup>13</sup> See Chapter Two, p.23 for Hevner (1936: 248) and Langer's (1957: 212) arguments for investigating full works as opposed to audio-visual examples.

<sup>&</sup>lt;sup>14</sup> Audience interpretation of work duration might be investigated in a future project, but is not the desired topic of the current research project.

<sup>&</sup>lt;sup>15</sup> A future project may investigate the relative merits of works differing in duration, thus positioning duration as a variable factor under investigation.

#### 6.2.1 – Categorisation of Work Types

Within the I/R Project, Landy (2006) and Weale (2006) selected example works with varying levels of source recognisability for use within their test process (figure 18). These works ranged from "location soundscape", in which the source of the sonic material was highly recognisable, to "abstract referential", in which the audio material had been processed, removing direct connection with its original source. None of the works tested in the I/R project were classified as entirely abstract, so the majority of the sonic materials retained characteristics similar to those of "real-world" (RW) sounds (Weale 2006).

RW Sounds (Unprocessed from a specific identifiable location) Abstract non-RW Sounds (Processed and abstracted from the 'real world')

Figure 18: Continuum used by Landy & Weale in the I/R project. <sup>16</sup>

In attempting to transfer this method of classification directly to electroacoustic audio-visual music, two significant complications appeared. Firstly, not only the audio but the visuals, too, may range in the extent of their abstraction from their original real-world source. Secondly, no accommodation is made within this two-dimensional field (figure 18) for the way in which the audio and visual materials are associated, and this is arguably the most significant variable factor in an electroacoustic audio-visual music work.<sup>17</sup>

In order to begin to accommodate the first complication, a planar grid was constructed with two axes. One axis represented the "real-world" content of the audio material ranging from high to low, and the second axis represented the "real-world" content of the visual material ranging from high to low (figure 19).

<sup>&</sup>lt;sup>16</sup> Real world in this context refers to sounds that could be construed to exist within the environment (human and natural). Therefore this includes not only unprocessed recordings but also synthesised sounds that have a mimetic quality. The use of the term "real world" is not to deny that materials might indeed be entirely synthesised.

<sup>&</sup>lt;sup>17</sup> Neither does Landy and Weale's continuum take into consideration compositional style or development of the temporal discourse within electrocoustic works.



Figure 19. A two-dimensional field accommodating both audio and visual abstraction.

Secondly, in order to accommodate the interaction between sound and image, it may initially seem logical to simply add a third axis of "audio-visual interaction", ranging from "real world" to abstract. However, there are significant problems with this that stem from (among other things) the auto-contextualising nature of electroacoustic audio-visual music works. A highly abstract image may be associated with a "real world" sound in an apparently causal, "real world", way. For example, a coloured polygon that splits into two halves in synchronisation with the sound of an axe striking wood. This association would likely demonstrate a high level of synchresis and appear to be logically causal, but it cannot be defined as "real world" because such an association of abstract images and "real" world sounds would never occur in the "real" environment. Therefore, it may seem appropriate to shift the example in question down the audio-visual interaction axis towards abstract audio-visual association. However, while the synchronous association of abstract and real-world events may be defined as an abstract audiovisual association, so too could the asynchronous association of a real-world sound event with a real-world image event (e.g. visuals of a busy urban street accompanied by the sounds of birds singing in the countryside). This clearly presents a problem with regard to classification, as these two examples contain very different types of audio-visual association and yet are classified in a similar position on the axis. In order to provide a solution to this challenge, it is necessary to first discuss the terminology of classification.

#### 6.2.2 - Abstract / Mimetic

In the case of representation, naturalistic modality is based on a criterion of verisimilitude. The more a representation is felt to sound like, 'what one might hear if present at the represented event' the higher its naturalistic modality. In the case of presentation, naturalistic modality is based on a criterion of "normality" and "everydayness". The more a sound event is felt to be neither ritualised of formalised, nor dramatised and infused with emotion the higher its naturalistic modality (van Leeuwen 1999:182).

Mimesis is a term often utilised to describe the "real world" nature of materials but is by definition 'by no means identical with empirical reality' (Gebauer & Wulf 1995: 9). Its flexibility is embodied in the fact that it is a subjective perceptual definition — as opposed to an empirical classification based upon the properties or source of the physical signal.<sup>18</sup> This means that it is much more appropriate for describing the "recognisable" nature of materials, than the term "real world". Captured events may be taken unedited from the "real world", but may be interpreted as abstract objects. Indeed, the process of capturing materials is the start of the process of abstraction. Equally, synthesised materials may be interpreted as either "real world" or "abstract", depending on the subject-position of the discourse in which these events are situated and the lived experience of the perceiver.<sup>19</sup>

In the exposition of phenomenology and schemata in Chapters Three and Four it was demonstrated that a standardised reality does not exist. Each individual constructs their own unique reality. As Langer asserts, 'there is in fact no such thing as the form of the "real" world; physics is one pattern which may be found in it, and "appearance", or the patterns of things with their qualities and characters, is another' (Langer 1957: 91). Thus, to define or categorise objects as "real world" is futile, due to the flexible and individual nature of conceived reality. Even the distinction between abstract and mimetic is dependant upon the lived experience and schematic associations of the individual, twinned with the context, or subject-position, of the event in question.<sup>20</sup> As Simon Atkinson states, 'our experience of the musical abstract is an embodied experience and the abstract and the real display complex relationships and mutualism' (Atkinson 2008: 92).

Abstracted "patterns", encoded or recognised by schematic and lived experiential associations, may come either from natural/physical conditions (gravity, density, mass, temperature etc.) or socio-cultural conditions (cultural associations etc). The splitting object example, discussed above (p.105), results from a schematic association based upon experiecne of natural/physical conditions – those of gravity, mass, energy and resistance. Any individual that has experienced

<sup>&</sup>lt;sup>18</sup> Definitions and classification systems based upon the physical signal miss or ignore the fact that the identification of events, both abstract and mimetic, is reliant upon the perceiver.

<sup>&</sup>lt;sup>19</sup> Think of the chime played by computers as they boot up. Is this a "real world" sound? It occurs within the "real world" but is at the same time also an abstract sound, synthesised by a computer.

<sup>&</sup>lt;sup>20</sup> 'There is nothing in the appearance of a landscape, an object or a body whereby it is predestined to look "gay" or "sad", "lively" or "dreary", "elegant" or "coarse" (Merleau-Ponty 1962: 27).

these physical laws might have an expectation that colliding objects are likely to interact in a certain way defined by their mass, density, energy and shape.<sup>21</sup>

Experience defines what might be classified as "real" or "abstract". Therefore, the division of abstract versus real world is a false dichotomy since all experience of reality is built upon the abstraction of qualities from lived experience.<sup>22</sup>

## 6.2.3 - Language Cube

Any system of categorisation is conceived for a specific purpose. For the purposes of the current research, it was essential to develop a system of categorisation for the investigation of the Third and Fourth research hypotheses: audiences will be more likely to construct interpretations of works containing clear sound and image interactions and mimetic materials, than they will be for those containing abstract sound and image relationships and materials.

For a work of electroacoustic audio-visual music, in which the perceived objects constitute complexes of audio-visual events, it becomes redundant to define the structure of the audio and visual elements independently. Although the structural properties of the individual audio or visual objects will impact on the nature of the audio-visual discourse, these individual sound and image objects are unified through perception to form larger audio-visual objects.<sup>23</sup> Thus, for works of audio-visual music, it is most appropriate to define and discuss syntax in terms of the final audio-visual structures, as opposed to the syntax of the individual sound and image component streams.<sup>24</sup>

Therefore, in order to create a system of categorisation for works of electroacoustic audio-visual music it is possible to draw a language cube containing three axes (figure 20). The levels of abstraction within the audio and visual discourses are defined respectively upon their own axes, ranging from abstracted (mimetic) towards increasing abstraction, while the audio-visual syntax ranges from simple / mimetic to complex / abstract.

<sup>&</sup>lt;sup>21</sup> Socio-cultural constructions are aptly exemplified by the "reality" of film, for example within the archetypal sound of a "laser gun". Chion applies the term verisimilitude to represent audio-visual associations that are plausible, while outlining the essential distinction between "truth" in reality and conceived concept (Chion 1994: 107). Thus, verisimilitude is, by its very nature, afforded by the division between physical signal and perceived object.

<sup>&</sup>lt;sup>22</sup> Within the language cube, the third axis (representing the audio-visual discourse) contains both the descriptors of mimetic/abstract and simple/complex, in order to represent the fact that syntax is significant in terms of the relationship between sound and image events, rather than in terms of the common mimetic source of events.

<sup>&</sup>lt;sup>23</sup> Leading to the formation of schemata as demonstrated by the empirical research of Boltz (2001) and through the phenomenological arguments outlined within Chapters Three and Four, p.37 & p.72.

<sup>&</sup>lt;sup>24</sup> This is because all objects are perceived within a context, and defined by their relationship to that context. See also Chapters Three and Four for discussion of the object/structure complex (p.44) and temporality in interpretation (p.79).



Figure 20: The Language Cube: a three-dimensional field for the classification of electroacoustic audio-visual music works.

A point may be marked anywhere within this "cube" in order to define the characteristics of a work at one specific point in time. Of course, the time-based nature of electroacoustic audiovisual music works mean that the properties of a work may change over time, so it is unlikely that one fixed point may sufficiently represent an entire work. It is possible, however, to divide the grid into various demarcated zones within which the main emphasis of a work may be accommodated. This division of the cube might operate in a similar way to the divisions within Simon Emmerson's Language Grid (Emmerson 1986: 24). Such division does not produce explicit categories, but points of reference and the chance to tangibly isolate works for discussion and analysis.

## 6.2.4 - Critique of Coulter

Coulter presents a cube-based model for classifying what he terms "media pairs". His axes, corresponding to work materials, range in terms of abstraction, but Coulter's cube presents no scale of variation between the relationship of audio and visual components. They are either directly related (homogenous) or not related (heterogeneous) (Coulter 2010: 27). Obviously, the classification of works, and the association of sound and image materials, is dependant upon individual interpretation. But to present a dichotomy in the classification of sound and image ordering and association, appears to deny the range of associative possibilities available within the composition of audio-visual music works. By extension of this logic, there should also be a

distinct dichotomy between abstract and mimetic for, in following Coulter's argument through in full, one reaches the conclusion that an object too must be either mimetic or abstract. There can be no such thing as a "partially mimetic" sound, it either is mimetic or it is not. How can one allow for a gradient between the dual potential of materials, and not allow for such a gradient within the association of events?

Coulter claimed his theory was supported by empirical testing, but his research findings were challenged by the results of other research projects (Landy 2006, Weale 2005, Boltz 2001, Marshall and Cohen 1988). Indeed, it is highly likely that Coulter's own research methodology is the source this dichotomy. By asking participants to engage with the work in an either/or fashion, he created a set of results that demonstrate an either/or nature of perception. When sound and image objects are presented together, their joint presence modulates the interpretation that either would receive independently. Their material context is altered.<sup>25</sup>

The current language cube model of classification, in appreciating the need for flexibility and a continuum between these absolute positions (homo- and heterogeneous), is able to accommodate variation of sound and image associations through time and thus the classification of entire works. Coulter's model, in being fixed and uncompromising, is only able to accommodate individual events or moments within a work, and is unable to represent the fact that all three elements — the audio materials, the visual materials and the association of sound and image within the work's discourse — all contribute to the perceived meaning of audio-visual events, as opposed to operating as distinct isolated modes.

#### 6.2.5 - Limitations of the Language Cube

The process of developing a system of classification for works highlights the challenges which the subjective nature of interpretation presents for analysis. Because each individual utilising the Language Cube will position works in slightly different locations it is difficult to quantify the exact character of works. In this sense, the Language Cube should not be considered as an explicit and finite system for the classification of works into defined categories, rather a tool which provides a point of reference against which the perceived character and properties of a work might be compared.

The classification system of the Language Cube (figure 20) was devised for a specific purpose: to inform a rationalised judgement and evaluation of test works, so that works differing in style and content might be selected for testing within P1.<sup>26</sup> Indeed as R. Murray Schafer wrote, 'Classification is only justified if it leads to the improvement of perception, judgement and invention' (Schafer in van Leeuwen 1999: 6). The classification of works using the language

<sup>&</sup>lt;sup>25</sup> The subject might be able to deny the visual sensory input by closing their eyes, and thus attend only to sonic signal (see Coulter 2005). But the act of eliminating a stream of sensory information in such an instance is due to the personal action of the subject, and not due to any aspect of the audio-visual signal projected. In such a situation, the listener is attending to sub units of the larger audio-visual structure, and thus would be aware only of the syntax of the audio, missing any potential contrapuntal audio-visual interaction.

<sup>&</sup>lt;sup>26</sup> It is important to note that the Language Cube was devised specifically for the purposes of the empirical research in this project. Therefore, it may not function flawlessly outside of this context.

cube afforded the possibility for the P1 research to progress and for work type to be situated as a variable factor within the research. Its validity might be evaluated from, and reflected in, the P1 participant interpretations.

#### 6.2.6 - Phase One Test Compositions

With the Language Cube established and the potential variable factors assessed and normalised, the research hypotheses were utilised in order to identify the significant areas of interest for the current study. In order to explore hypotheses Three and Four (p.99), the selected test works each needed to posess diversity from one another in terms of the level of abstraction within their audio and visual discourses and audio-visual syntax. However, the individual works required a consistency within their discourse and syntax. Information about audience interpretations of style and aesthetic <sup>27</sup> would be obscured if each of the test works demonstrated a diversity of styles within their discourse. In order to collect information regarding specific interpretations to compositional styles or work types, the test methodology had to present multiple works, each consistently representing a different individual style.

The Language Cube was devised for, and utilised in, the process of selection. It was nominally divided into nine units representing three degrees of variance upon each axis (figure 21). To ensure an appropriate diversity of test works an appropriate spread across these sectors had to be represented. Due to testing practicalities — limitations in the scale and time frame of this research — it would not have been possible to utilise twenty-seven test works, with one representing each individual sector of the cube. An appropriate compromise was reached with three test works. These three works suitably represented a diversity of styles, while allowing all test works to be projected within a manageable research session of suitable overall duration. Future research sessions, utilising a different selection of test works, might be employed to explore audience interpretations to a different range of work types.<sup>28</sup>

<sup>&</sup>lt;sup>27</sup> For example: abstraction of materials, direct nature of sound and image interactions, etc.

<sup>&</sup>lt;sup>28</sup> The composed P2 work was informed by the results from P1. This P2 work was situated in a different sector of the Language cube than any of the P1 works. In this way, the second phase was able to confirm and consolidate P1 findings, whilst providing data for an independent sector of the cube.



Figure 21. Sectored language cube with P1 works positioned.

Descriptions of the selected P1 test works are outlined below. These works themselves can be found on the accompanying DVD disk (Disk One – Phase One Test Works).

**Composition A** (*Destellos* by Elsa Justel) contains audio and visual material that has a largely mimetic discourse. While processed in some instances, it generally retains its source references. The sound and image materials have been captured from similar sources (glass, water and metal among others) and the sound and image events are also largely synchronous resulting in a sound and image association that is less complex (more direct) in nature. Therefore, of the three P1 test works, work A can be though of as situated closest to the origin of the axes on the language cube.

The work begins by introducing the source materials (drinking glasses) in their least abstracted form. It then continues to develop and abstract these materials to greater degrees throughout the duration of the piece. The sonic discourse within this piece is clearly derived from the style of *musique concrète*, indeed the visual materials are processed in a similar fashion, and therefore, while presenting mimetic materials, the work seeks to explore the timbre of the material, as opposed to using any source bonded references. The sounds of glasses retain a clarity and mimetic nature unlike the sonic material in works B and C. This mimetic material is contrasted with dry, noisy granular textures.

Such materials and their articulation present the potential for inexperienced audiences to engage with the mimetic nature of the materials, and to appreciate

the development and manipulation of such materials within the work. The sound and image relationships, being largely causal, or direct, in nature, are also likely to be a significant factor in interpretation.

**Composition B** (*Portrait d'une femme* by Thierry Gauthier) contains visual materials that are largely unprocessed mimetic, and therefore relatively comparable to real world sources. However, it also contains audio material that is processed, abstracted or synthesised. The association between sound and image within this composition is also much less direct (more complex) than for composition A and C, with association operating on longer-term scales (based upon a construction of atmosphere) as opposed to the synchronicity of shorter-term audio and visual events. This work can be though of as lying slightly to the right of the half way position along the axis of audio-visual syntax, with some audio and visual materials retaining source relationships (female face / female voice) but with the majority linked in a more complex fashion within the discourse.

The work begins with low synthesised drones, which beat and interact with little reverberation to create a rich and "close" sonic backdrop. These drones complement the simple, flat, layered and contrasting imagery, with filter sweeps and swells accompanying the visual motion. The middle section of the work contains a great many layers of both images and sounds, with a much greater impression of depth, in terms of visual perspective, sonic layering and use of reverberation. The audio contains a mixture of both noisier and pitched materials, with an emphasis upon the upper mid and higher frequencies to create a bright and metallic texture. About halfway through the middle section the drones return, instigating a complex of more electronic sonic materials. Thus, for the first half of the work the sonic material is entirely abstract while the visual materials present layered mimetic shots of the human form. When the vocal materials do appear in the latter half of the work, the fact that they do not correlate directly with the visual action creates an impression of these sounds embodying the internal thoughts, feelings and emotions of the character. Indeed, the only truly direct and synchronous sound and image events within the work are those between the eyelash flickering and electronic sounds; guttural sounds are articulated with cuts in the image, and the action of filtering within the audio is accompanied by a layering of visual materials.

A greater proportion of the audio materials are abstract, synthesised or processed than was the case for work A. Thus, in terms of the language cube work B is located closer to the half way point along the audio axis. The visual materials are more mimetic and retain their strong mimetic associations, despite being layered and containing extreme close up shots. Visually, the work is in a similar position to work A, towards the abstracted and mimetic end of the visual axis; therefore the positioning on the audio and visual axes, combined with the rating of audio-visual syntax, situates work B towards the centre right, on the bottom plane of the language cube.

**Composition C (Sinus Aestum by Bret Battey)** is an entirely synthesised audiovisual piece, constructed digitally, as opposed to containing captured materials as in works A and B. The sound and image materials are largely abstract in nature but do contain motion and form that can be likened to patterns within nature (waves, flocking birds etc.) Sound and image associations within the work act to create cohesive audio-visual gestures as opposed to audio-visual counterpoint of gesture and event. However, the articulation of audio and visual streams in order to create such complexes of association requires fairly intricate, but subtle, articulation of material parameters. Therefore, this work can be thought of as possessing a syntax operating on a medium level of complexity. The audio and visual materials are constructed into recognisable forms exploring tension and resolution, but without the redundancy of "mickey-mousing", or the simple contrapuntal interaction of call and response between audio and visual events.

The entirely abstract synthesised nature of both the sonic and visual materials results in the work being situated at the "abstract" extremes of both the audio and

visual axes. Meanwhile, the audio-visual syntax in work C is one of clearly articulated audio-visual events that, while constructed from abstract materials, are recognisable and mimetic in form. The unity of sound and image within the work draws attention to the flows and forms of the audio-visual events themselves, as opposed to either of the media in isolation. Such events embody a flow of tension and resolution following trajectories, rules and patterns of a physical nature, which might be thought of as mimetic in a pure sense. Within the language cube, it would be located in the top plane stretching out of the page along the audio dimension and half way along the audio-visual syntax axis.

## 6.3 – The Research Session

## 6.3.1 - Pilot Study

In order to evaluate practically the proposed methodology for Phase One, a pilot study was run. The pilot study was attended by six postgraduate students who were asked both to complete the test process, and to reflect upon their participation as a test subject. Feedback evaluation of the research session was provided through verbal discussion.

The participants of the pilot study indicated that the duration of the research session was not such a negative factor as might have initially been postulated; this is likely due to the fact that each test work was presented only once, and therefore the session was constantly moving forwards, introducing new works, as opposed to repeating a single work.

Pilot study participants also highlighted some issues regarding the clarity of questions, and their phrasing. Appropriate alterations were subsequently made within the directed questionnaires. One important element raised by the pilot participants through their undertaking of the research session was the nature of the veracity of their interpretations. Pilot participants indicated that, in some cases, they were reluctant to express their individual opinions, due to fear of not providing the "true" or "correct" answer. Therefore, within the introduction to all subsequent sessions it was emphasised that the research sought to collected individual opinions and interpretations and that there was no such thing as an incorrect answer within the context of the current research project.

Another significant contribution and change recommended by the pilot participants was that of re-phrasing the contextual information. Because English was not the first language for two out of the three composers, some of the programme notes and contextual information were written in a rather eccentric fashion. These were subsequently rephrased and sent back to the composers for their approval, before being used in the P1 testing.

The pilot study provided a practical "dry run" before the commencement of P1 data collection and enabled the methodology to be tweaked and altered. Between each subsequent phase of the empirical study and where appropriate, minor adjustments were made to the methodology in order to improve clarity and to increase the efficiency of the research session. These alterations are outlined below within the opening section of each subsequent phase of the research.<sup>29</sup>

<sup>&</sup>lt;sup>29</sup> For Phase Two - Chapter Seven, p.210; for Phase Three – Chapter Eight, p.252.

#### 6.3.2 - The Research Session

Each of the research sessions in this project had a similar basic structure. Where possible, an identical room and equipment setup was utilised.<sup>30</sup> This setup was kept consistent in order to limit the number of variable factors affecting the collected data and to ensure consistency across research sessions.<sup>31</sup> As highlighted by Clarke and Fiske,<sup>32</sup> physical context, location and the equipment used in presentation are all likely to impact upon the impression that a work creates upon an audience. A small space with few audience members may allow a work to appear intimate and personal, while in a large space with a great audience the same work may appear lost and pathetic. In the current study, every effort was made to utilise an identical set up for subsequent research sessions.

The participants were first made to feel comfortable and the context of the research and the ethical regulations explained to them. As previously stated, this initial explanation sought to avoid any discussion of electroacoustic audio-visual music that might inadvertently influence the prospective interpretations of participants. Following this, participants were asked to sign the Participant Information and Research Agreement.<sup>33</sup> Audience interpretations were collected through a series of "directed" qualitative questionnaires. Weale suggested that the inclusion of a largely informal discussion at the end of each data collection session might provide interpretations explained in more expressive detail than for the written interpretations (2006: 191). However, as noted by critique of Delalande's research, focus groups and data collection sessions that are flexible in content and structure may not provide comparable data due to the variation between the data collection sessions.<sup>34</sup> Further, Weale noted that collecting a record of these informal discussions was challenging as any attempt to make an audio recording silenced many of the participants. As a result, while such sessions may have provided further rich data,

<sup>&</sup>lt;sup>30</sup> Genelec 8030 monitors (pair) with 1092 subwoofer receiving audio from a MOTU Ultralite audio interface connected to a MacBook Pro which was, in turn, plugged into a 30" Apple Cinema display.

<sup>&</sup>lt;sup>31</sup> The data collection session for experienced participants was undertaken at the Sixth Biennial Conference on Music Since 1900, Keele University 2-5<sup>th</sup> July 2009. This was organised due to the significant numbers of highly specialised musicologists and electroacoustic practitioners attending the event, thus facilitating a rare opportunity to solicit interpretations from a large group of experienced practitioners at one time. The "Garage studio" of the Keele Music Department was equipped with *Tannoy Reveal* passive studio monitors (plus subwoofer) and a 32" LCD television. Some interpretations from experienced participants appeared to differ with regard to the quality and clarity of the sonic materials within work C. In their response to P1DQ-8 EXP 1-9 wrote: *'General blandness, poor high frequency definition.'* It is important to note that this may have been a result of the *Tannoy Reveal* monitors employed within this test session, as such passive monitors lack clarity in the higher frequency ranges compared with active Genelec monitors. The researcher can attest to the difference between these two systems, having worked in the Keele studios, equipped with such monitors, while undertaking his undergraduate degree and having owned a pair of *Tannoy Reveal* monitors for a year, subsequently replacing them with Genelec 1029A monitors. This discrepancy within the experienced audience interpretations emphasises the importance of retaining similar performance equipment between research sessions.

<sup>&</sup>lt;sup>32</sup> See Chapter Three, p.51 and p.65 respectively.

<sup>&</sup>lt;sup>33</sup> This document is available in Volume Two, Vol.2, p.124.

<sup>&</sup>lt;sup>34</sup> Within Delalande's study, data collection was undertaken in a series of interviews. In such a situation the dynamic and flow of the conversation is likely to dictate the content and elements highlighted within the participant's response (Delalande 1998: 26). This might be considered as similar to the influence of the wording of questions within a questionnaire, but due to the fact that the conversation dynamic will be unique for each individual conversation the issues are exacerbated. Open qualitative questionnaires are consistent in the questions they ask and the order in which they ask them, thus inducing less influence, or bias, upon audience responses, and providing more comparability between participant responses.

due to issues of comparability and consistency, no focus group discussion sessions were included within the current research project sessions.

## 6.3.3 - Participant Questionnaire

In order to collect information about the participants background and lived experiences, individuals taking part were asked to complete a Participant Questionnaire (PQ). This information might have demonstrated any unanticipated levels of experience, or lend insight to individuals and their interpretations to works as informed by previous musical/visual arts training, or experiences.<sup>35</sup>

Only a selection of these questions were utilised in data analysis due to the issue of statistical reliability. If the sample size had been bigger, a more accurate assessment of demographic influences might have been possible (e.g. in terms of assessing variations in interpretations between male and female participants, participants from different cultural backgrounds, or of specific age groups). Despite this, the PQ effectively provided information about participant levels of experience, and acted as a source of reference for rationalisation of certain idiosyncratic interpretations that turned out to be based upon specific events within an individual's lived experience.

## 6.3.4 - Phase One - Directed Questionnaire

Following the completion of the PQ, participants were presented with the first of the three test works. Immediately after each test work ended, participants were asked to complete the Phase One Directed Questionnaire (P1DQ).

Participants were invited to make notes throughout the presentation of each of the works, but were reminded that this might be likely to distract their attention from the screen and audio. They were encouraged to wait until the end of the work in order to record their full and detailed interpretations in the directed questionnaire.

The term "directed questionnaire" was taken from the I/R project (Weale 2005: 114-115). It must be emphasised that, despite the name, such a questionnaire was designed to be open and to allow audiences to record their subjective interpretations. The questionnaire obviously attempted to encourage interpretations along a trajectory, but did not seek to direct audience interpretations in any way.

<sup>&</sup>lt;sup>35</sup> Full exposition of the questions within the PQ can be found within Volume Two p.133.

The P1DQ was designed to elicit four main topics of data:

- 1. The material properties of the work.
- 2. The perceived meaning of the work and the audiences emotional responses.
- 3. The audiences desire to see more/keep listening to similar compositions.
- 4. Audiences desire for contextual information and evaluation of the information provided.

Despite having these main topics of investigation, the questionnaire was not divided into separate sections addressing each topic in turn. Rather, the questionnaire contained an assortment of questions, each of which were applicable to one of the three topics. For example: questions P1DQ-2 and P1DQ-3 dealt with the work's materials, while questions P1DQ-1, P1DQ-4, P1DQ-5, P1DQ-6 dealt with the perceived meaning and audiences' emotional response, questions P1DQ-9 and P1DQ-11 dealt with a desire to see more or keep listening and question P1DQ-10 and the second directed questionnaire (P1DQ2) dealt with contextual information, its influence and the audiences reflection upon their preference for it. The questionnaire was designed in this way so as to avoid audience members passing over an entire section that they felt they might not like to answer. The questionnaire itself was developed from those utilised within the I/R project and evaluated through pilot testing (see above, p.117).<sup>36</sup>

A P1DQ was completed immediately after the presentation of each of the test compositions, while participant interpretations to the works were still fresh. The multiple copies of questionnaires required by each participant within the P1 sessions (one for each work) were colour coded, so that sets of questionnaires might be easily collated and remain clearly defined.<sup>37</sup> Participants were allowed to consult their real time notes while completing the P1DQ, but were encouraged not to communicate with each another, rather to focus their individual interpretations into completing the questionnaire. Based upon the records from the I/R project (Weale 2005: 119) and pilot test session, it was anticipated that participants would take around 20 minutes to complete each P1DQ.

#### 6.3.5 - Phase One - Directed Questionnaire Two (P1DQ2)

Hypothesis two sought to investigate the impact of dramaturgical information upon the interpretation of electroacoustic audio-visual music works by inexperienced audiences. It was hypothesised that dramaturgical information would affect the interpretation of electroacoustic audio-visual music works by increasing the contextual field of reference within which individuals were able to situate the work.

Dramaturgical information was demonstrated to impact upon audience interpretation of electroacoustic music within the I/R project (Landy 2006, Weale 2005), and contemporary

<sup>&</sup>lt;sup>36</sup> Full exposition of the questions within the P1DQ can be found within Volume Two p.134.

<sup>&</sup>lt;sup>37</sup> Work A questionnaires = Pink; Work B questionnaires = Yellow; Work C questionnaires = Blue.

dance works within Glass and Stevens's research (2005). Analysis of the responses to these questions also examined the impact that perceived intentions have upon the interpretation of compositions.<sup>38</sup>

Following the completion of P1DQ, participants were provided with the title and programme notes for the respective composition, along with the Phase One Directed Questionnaire 2 (P1DQ2).<sup>39</sup> The questions on the P1DQ2 (along with question ten on the P1DQ) were designed to provide information on the importance of contextual information to audiences and the extent to which there was a desire for such information.<sup>40</sup>

Because the audiences were presented with each composition only once, responses demonstrating any shifts in interpretation could be attributed solely to the increase in contextual information, and not as a result of any repeated presentation of the work.<sup>41</sup> It was anticipated that the P1DQ2 would take approximately 15 minutes to complete, factoring in the time taken for participants to read and digest the contextual information. Information provided to the research participants was recorded by each of the composers in response to the Composer Intention Questionnaire.

#### 6.3.6 - Composer Intention Questionnaire

The creators of the test works were asked to complete a questionnaire outlining and describing their intentions within the work. The composers were asked to provide information on their composition through the Composer Intention Questionnaire (CIQ). These interpretations were edited, where necessary, for clarity (for example, where the composer's first language was not English).<sup>42</sup>

Composer intention information was utilised as a point of reference in the analysis and discussion of participant interpretations, and was provided to participants after projection of the work, so that they might assess the validity of such detailed intention information as contextual information and an aid to interpretation.<sup>43</sup>

<sup>&</sup>lt;sup>38</sup> See discussion of creative intentions and audiences, Chapter Three, p.60. Some artists argue that they do not apply conscious intentions when they create their works, and therefore find it difficult to express or explain these intentions in words. Works of this kind cannot be investigated within this project as they come with no accompanying dramaturgic information.

<sup>&</sup>lt;sup>39</sup> Full exposition of the questions within the P1DQ2 can be found within Volume Two p.135.

<sup>&</sup>lt;sup>40</sup> Responses to this questionnaire might also have provided interesting insight into audience preference for certain types and styles of contextual information. In the same way that the work of an individual composer might embody a certain style, so might their programme notes and contextual information.

<sup>&</sup>lt;sup>41</sup> Recall that within the I/R Project test works were presented multiple times. Therefore audiences had been presented with two experimental variables, both number of repeat presentations and increasing contextual information.

<sup>&</sup>lt;sup>42</sup> All edited interpretations were double-checked by the composer to ensure that their original meaning had not being obscured or altered.

A breakdown of the questions within the CIQ is provided within Volume 2, p.131.

<sup>&</sup>lt;sup>43</sup> Responses to the composer intention questionnaire provided by the composers of the Phase One works can be found in volume two (Vol.2, p.73-76).

## 6.4 - Phase One Results: Analysis and Discussion

#### 6.4.1 - The Presentation of Data

As outlined above, the Phase One Directed Questionnaire (P1DQ) was designed in order to solicit data on four main topics.<sup>43</sup> The presentation and discussion of the results from this questionnaire, therefore, covers each of these areas in turn, for each work. Due to the qualitative nature of the responses, it is imperative that any analysis presents the actual statements recorded by each participant.<sup>44</sup> Any act of re-presentation has the potential to significantly alter any originally intended meaning of qualitative responses, and therefore it is advised that the reader has at hand the second volume for immediate and direct cross referencing. Audience responses to the perceived material properties of the work were collected by questions two (P1DQ-2) and three (P1DQ-3) on the Phase One Directed Questionnaire. Questions one, four, five (P1DQ-1,4,5) and six (P1DQ-6) provided responses on the audiences perceived meaning of the work, while guestions seven (P1DQ-7), eight (P1DQ-8), nine (P1DQ-9) and eleven (P1DQ-11) demonstrated the audiences' engagement and desire to see more or keep listening to similar compositions. Question ten on the Phase One Directed Questionnaire (P1DQ-10) and questions on the Phase One Directed Questionnaire Two (P1 DQ2-n), provided information, discussed within a fifth category, on the audiences' desire for contextual information and their evaluation of the information that provided.

5. Influence and evaluation of the volume and content of information.

Any percentages indicated below have been rounded to the nearest whole number for clarity. They are, at all times, accompanied by their exact ratio in the form of a fraction.

Within this analysis and discussion, the term "analytical response" is contrasted with that of an "aesthetic response".<sup>45</sup> These terms are derived from the distinction set out by Emmerson, and reflected by Eco, between responses that constitute: reflective discussion of the meaningful units, and the real and unmediated aesthetic response.<sup>46</sup> Though this distinction does not directly shed light upon the individual rationale for interpretation and the schemata involved, it can provide a generalised assessment of the fashion in which individuals interpret works, whether they are consciously aware of the technical aspects of the work, or whether they are engaged by the artistic discourse in such a way that the technical elements are subsumed into the larger aesthetic discourse and impression of the work. These can be pointers of engagement, for an inexperienced audience, as those who are less engaged by the work will likely describe the work utilising more technical terminology. The same might be true for

<sup>&</sup>lt;sup>43</sup> See above, p.115.

<sup>&</sup>lt;sup>44</sup> As previously outlined within Chapter Five, p.85.

<sup>&</sup>lt;sup>45</sup> The term response refers not to audiences reaction to the work, but the written answer that they provided to questions. <sup>46</sup> See, p.49.

experienced audiences but it is likely that these experienced participants, due to their training, may be more predisposed to interpret works in an analytical fashion.

The introduction of the P1 section in Volume Two contains a detailed breakdown of the analytical process of content analysis employed for each of the four topic sections (Vol. 2, p.1).

## 6.4.2 - Work A

## 6.4.2.1. Perceived Material Properties of the Work

P1DQ-2 – What sounds or images did you recognise in the composition?

**P1DQ-3** – If you heard sounds that were strange and/or unnatural, please describe (if you can) one/some/any of them?

## **Experienced Participants**

Nearly all experienced participants responded to this question citing mimetic materials. These were items and objects that they perceived directly within the piece and that resembled objects from their own lived experience. Glass (92%, 12/13), water (54%, 7/13) and ice (69%, 9/13) were the most frequently cited materials. But some participants also recorded musical instruments in the form of bells (15%, 2/13) and other metallic materials (23%, 3/13).

As well as recording perceived material objects, a high proportion of participants also made reference to techniques and technology employed within the work (69%, 9/13). Eight of these nine participants had postgraduate qualifications in music technology or electroacoustic music and were either composers or performers of electroacoustic music. The other participant (Ppt. Exp. 1-3)<sup>47</sup> was a Professor of Musicology and so professionally aware of terminology and possessing advanced skills in musical analysis and deconstruction.

More than half of the nine participants making reference to technique or technology, explicitly made reference to granular sonic material within the piece (55%, 5/9). Appropriate portions of their responses are listed below:

Exp 1-5 - ...some granular. Exp 1-7 - Granular processes in sounds from glass, pebbles, ice etc. ... Exp 1-9 - Granulation... Exp 1-10 - ...Generic EA sounds + granular textures Exp 2-3 - ...Some processed sound includes granulated gravel like sounds...

Non-electroacoustic specialists also appeared to make reference to granular materials within the piece, describing such materials contextually with non-specialist terminology. Appropriate portions of the responses are included:

Exp 1-3 - ...sparkling sounds... Exp 2-1 - ...insects... Exp 2-2 - ...fire crackling (ice?)...

<sup>&</sup>lt;sup>47</sup> Data was made anonymous so as to conform with ethical regulations for research issued by De Montfort University. Acronyms used are as follows: Ppt = participant; Exp = Experienced – trained specialist. Numerical values indicate respectively the session which the individual attended and the number assigned to them within that session.

Because these three participants were experienced in areas other than electroacoustic music (a musicologist and two visual artists respectively) they were likely unfamiliar with the electroacoustic terminologies and vocabulary that they might otherwise have used to describe this sonic material. As visible within the following section, similar descriptive vocabulary is often employed by inexperienced participants to describe the work materials.

#### **Inexperienced Participants**

Inexperienced participant responses, like those of their experienced counterparts, were also primarily mimetic in nature, (i.e. made reference to items and objects resembling those from the participant's lived experience). Ninety-two percent of participants (92%, 24/26) made reference to glass, eighty-one percent (81%, 21/26) made reference to liquid water, fifty percent (50%, 13/26) made reference to rain, and thirty-eight percent (38%, 10/26) made reference to metal or metallic sounds.

Out of the total, fourteen participants (58%) appeared to record granular materials within the piece, describing sonic phenomena with granular spectromorphological characteristics. It is important to note, that at no point were both "rain" and "crackling sounds" mentioned by a single participant, neither were "rain" sounds mentioned by the composer in the contextual information. These facts, combined with the prevalence of granular materials recorded in the responses of the experienced participants, make it probable that inexperienced participants utilised their standard, non-specialist, vocabulary in order to provide contextual descriptions of the granular sonic materials are listed below (appropriate portions of the responses listed only):

- 1-1 Rain,
- 1-2 Crackling noises,
- 1-4 rain, running water,
- 1-5 beads running in a tube,
- 2-1 pebbles dropped,
- 2-2 water bubbling,
- 3-2 cracking ice,
- 3-3 cereal/falling rice,
- 4-1 stones, small pebbles, cracking ice,
- 4-3 stones rocks,5-2 a sound like heavy falling rain but not quite, ice,
- 6-3 breaking of ice, fizzing,
- 6-5 ice cracking/melting,
- 7-1 ice cracking, a sound like that of paper maybe burning?

Inexperienced participants (by definition) lack familiarity with descriptive vocabulary and terminology available to the majority of experienced group. Therefore, they were forced to utilise vocabulary and descriptive terminology with which they were familiar, to describe the audio and video materials within the work.

The strategy employed draws mimetic associations, relating the granular material to objects or events from lived experience that possesses similar sonic morphologies and spectral content (for example: rain, ice cracking and dropped pebbles/rocks). Such responses demonstrate the inexperienced audience utilising their lived experience to interpret stimuli within their own frames of reference. Inexperienced participants might also have been encouraged to interpret

the work using such a "mimetic schemata" because of the presence and contiguity of both processed (abstract) and unprocessed (mimetic) materials. The inexperienced participants recognised and interpreted the mimetic materials and then may have attempted to apply the same strategy of interpretation to the abstract materials within the work. Whether this is the case or not, the results clearly indicate that inexperienced participants are able to interpret abstract sonic materials when such materials are placed within an appropriate "framework" for interpretation.

A high percentage of inexperienced participants (42%, 11/26) made reference to technique and/or technology in their responses. Experienced participants were expected to analyse and deduce technical processes within a work, but inexperienced participants were not. Such a prevalence of responses relating to technique and technology within the inexperienced participants responses, are an indicator that the technical processes utilised within this piece constitute a significant effect upon audience interpretation, drawing the attention of inexperienced participants to the techniques and methods of production for this work.<sup>48</sup>

#### 6.4.2.2. Perceived Meaning and Emotional Response

P1DQ-1 - What might this piece be about?

**P1DQ-4** – Did the relationships of sound and image work to signify anything? If so, please describe.

**P1DQ-5** – Did the piece communicate a meaning? Did you have any emotional responses to the piece? If so, please describe them.

#### **Experienced Participants**



Figure 22: C,I-M,E Spread – Wrk A (Exp) P1DQ-1, 4, 5

<sup>&</sup>lt;sup>48</sup> To place this figure in context, respectively only 29% and 30% of inexperienced participants recorded technical responses to works B and C, compared with 42% for work A.

The results, displayed within this sector diagram (figure 22), demonstrate a trend towards analytical intra-musical responses by the experienced participants. The majority of responses to this work (85%, 11/13) made one or more analytical comments about the musical or intramusical nature of the work. This is to be expected from a group of experienced participants, as their expertise and training make them predisposed to perceive and deconstruct works in this way. Nearly all of these intra-musical comments made reference to the relationship between sound and image within the piece (77%, 10/13). Appropriate portions of these responses are listed below:

Exp1-1 - I felt that there's too close a correspondence between sound and image and that results in redundancy.

Exp1-2 - Materials/objects - clearly derived from each other.

Exp1-3 - it was interesting; sometimes there was a "synchronism" at other times, a new mixture of new images (very interesting!),

Exp1-4 - Abstract contrast between materials and sounds. Piece attempts to link the sounds used through technical processing

Exp1-5 - I found to an extent the relationship between the two worked to unify them but this wasn't consistent Exp1-6 - first they seemed as more separated, but then they started to be in some kind of synchronisation, the water that changed to ice was very concrète sound and image collaboration,

Exp 1-7 - There were synchronisation points e.g. bubbling in both sound and image and other gestures, such as changes in shape accompanied by changes in pitch. Also ascending spectra corresponding to ascending visual ghosts of visual images.

Exp1-8 - Only very superficial connection between images of glasses and sounds,

Exp1-10 - parametrically mapped sounds to image ca. 3 mins crystalline structure moving up to top left of the screen accompanied by gestural sound increasing in frequency.

Exp2-3 - the processed sound sometimes helped to emphasise the manipulations and explorations of the image.

These responses describe a plethora of audio-visual associations with many experienced participants also applying value judgements to the audio-visual interactions that they perceived. The relationships generally fall into three categories, source relationships (Exp1-2, Exp 1-8), synchronicity (Exp1-3, Exp1-6, Exp1-7) and parametric (transformational) relationships (Exp1-4, Exp1-10, Exp2-3). As expected from the analytical interpretations by experienced participants, the majority of these relate to the technical nature of composed association (synchronicity and parametric associations), rather than perceived common source relationships.

Emotional comments by experienced participants were varied, but most appeared to be stimulated by the sonic elements of the work as opposed to the visual.<sup>49</sup> Contextual comments predominantly describe the materials of the work itself.

One interesting comment from the "Other" column is that of Exp2-3, indicating that the piece provided an increased awareness of the material objects that are the subject of the work itself:

Exp 2-3 - An increased awareness of the objects is gained.

Such a response might suggest that the experienced participant in question was not used to works of electroacoustic or audio-visual music because a similar form of response becomes much more prevalent within inexperienced participant groups (see below, p.126). However it is an unequivocal indication of appreciation as it demonstrates clear engagement with the work.

<sup>&</sup>lt;sup>49</sup> In responses to P1DQ-7, p.128; P1DQ-8, p.131, a general preference for the sonic element of the work, over the visual, becomes apparent.

#### **Issues with Experienced Responses**

This weighting to the analytical could also be due to the fact that the first group of experienced participants was provided with the composer's contextual information prior to the presentation of the work. This act invalidated the responses regarding contextual information for this first experienced group.

It was anticipated that a second group of experienced participants would attend a following session and record their responses without prior exposure to the contextual information. Thus, responses could have been compared between those experienced participants who had previously been provided contextual information and those who had not. Unfortunately a second, comparable, group of participants never materialised and the comparison was never a possibility. When the second experienced group was assembled, at a much later date, it was much smaller than the initial experienced participant group and therefore could not provide sufficient statistical weighting to make a reliable comparison.

Investigation of the impact of prior contextual information is a fascinating avenue for exploration but was soon discovered to be impractical within the current research project.<sup>50</sup> Its attempted inclusion added another layer of variable factors into an already complex equation of testing and data interpretation and would have required a doubling of the number of test subjects to provide the same statistical reliability.

The complication presents only a minor loss of extra data and does not constitute any significant issue with regard to the main aims of the research. Experienced participant groups continued to make interpretations of the test works, and because they possessed training and experience within art and music, possessed their own diverse schemas and contexts within which they could situate the work. Thus, the influence of the contextual information was likely far less significant for these participants than it might have been for inexperienced participants, who might have utilised the contextual information as the sole basis around which to construct their interpretations.

<sup>&</sup>lt;sup>50</sup> Subsequent empirical projects might choose to investigate the impact of prior contextual information on audience interpretation of electroacoustic audio-visual works.

#### **Inexperienced Participants**



Figure 23: C, I-M, E Spread – Wrk A (Inexp) P1DQ-1, 4, 5.

Responses from inexperienced participants to P1DQ-1,4,5 for work A were mostly contextual (71%, 17/24), but also provided intra-musical contextualisation of the sound and image relationships that led to them. Such a prevalence of contextual responses is perhaps to be expected for a work made from abstracted but strongly recognisable, "mimetic" materials.<sup>51</sup>

The most common contextual interpretations of work A by inexperienced participants, referred to processes of transformation or movement (50%, 12/24). Appropriate portions of the responses are listed below:

- 1-2 Change of state?
- 1-5 Water and its journey?
- 3-2 The life of a bottle?
- 3-4 Movement of water...
- 4-2 Sense of space, movement in time and space, objects colliding, moving,

5-2 - It suggests a process or travel. Something moving from one state to another.

5-4 - I think it's about glass items melting and becoming liquid and then becoming solid again as ice. Q5- I'm not sure. Maybe its about something/someone being reduced to a weak state and then reforming/rebuilding.

6-2 - I think it could be about breaking relationships or anything in life but on the other hand everything seems to be connected again,

6-3 - What nature gives - starting from ground with earthly suggestions - noise of glass, metal, then movement out of space through some mystical way, ghostly, then back to earth through rain and then a freezing process.

6-4 - A theme that came to mind was tracing the life of a liquid from the noisy pub backwards to when it was rain, with the loud mid section being the distillation process.

6-5 - Possibly something to do with the cycle of water,

7-2 - Process of water and/or fluids and how water eventually finds its way and filters itself out decomposes objects through time.

Although making reference to transformation, all of these responses are contextual interpretations of the meaning of the work and not contextual descriptions of the processes and

<sup>&</sup>lt;sup>51</sup> This mimetic association in the materials is reinforced by fact that the work makes use of sounds and images of drinking glasses abstracted, but then presented back alongside one another in the work, thus reintroducing "mimetic" source bonding between the sound and image materials in participants' perceptions of the work. See: Smalley 1997.

techniques used in the composition. Any contextual descriptions of technique or materials have been classified as intra-musical responses.

It should also be noted that a significant proportion of these contextual responses were uncommitted and brief. Three ended with a question mark, while others were more suggestions of a possible meaning (for example: 1-1, 6-2, 6-5) and most related directly to the materials that were visible/audible within the work. As can be seen below, in responses to work B and C for P1DQ-1,4,5, the same participants demonstrated a stronger commitment in their responses, providing more extensive comments upon the work and thus signalling the creation of more clearly emergent interpretations (see below, p.151 & p.175). Responses to P1DQ-9, 11 for work A also support this analysis (see below, p.135).

Eleven of the inexperienced participants recorded some form of intra-musical response to work A (46%, 11/24), with only four relating to the form of the work and the remaining seven referring to the work materials. Nine of these intra-musical responses recorded a close relationship between the sounds and images within the work:

1-2 - Synchronised images with the sound

1-3 - Images + sounds related to each other but I didn't know if they signified anything

2-3 - The images of glasses fitted in with the sound of clinking glass/ice

 $3\mathchar`-1$  - Sound and imagery felt very connected with some distortions in both parts of the composition to question

4-2 - Yes I could associate some of the visuals to the sound and they were complementing each other.

5-3 - The images showed many glasses in the beginning and sounds of them. Then sounds of water/rain/ice but less images of them but both did not work together that much...more parallel.

5-4 - Yes when the glass was solid the sounds reflected this, we then heard it twisting and becoming liquid and then ice in each case the sound/video matched

6-1 - The sounds related to the images that were shown, but didn't seem to have a significance overall.

6-3 - The music change corresponded to the object movement changes. Sometimes that music went quite loud there wasn't much of a relationship, but afterwards, as the music changed, you could realise the change.

As with the responses from experienced participants, these relationships can be classified as source relationships (2-3, 5-3), synchronicity (1-2) and parametric (transformational relationships) (1-3, 3-1, 4-2, 6-3, 5-4). The weighting here towards perceived parametric or transformational relationships indicates that, just like the experienced participants, the inexperienced participants were engaging in a more analytical assessment of sound and image relationships.

Emotional Responses to work A were quite polar, with a few participants indicating positively and others indicating negatively. However, no participant provided a solely emotional response outside of a value judgement, indicating that emotional depth was not a significant element in inexperienced audiences' interpretation of work A.

Another interesting trend in responses to the work, involved a number of responses that could not be classified in an existing category and one that was classified as an emotional response:

<sup>6-3 -</sup> Emotional response was like we alone in the universe. Everything is still to be discovered everything is still a myth.

<sup>3-1 -</sup> How we perceive what is everyday material. How we look at a material that everyone takes for granted - taking a different perspective on things.

3-3 - Seeing magic + peculiarity in the mundane. Exaggerating sounds of mundane images, made them appear so much more magical. Look beyond the ordinary. It was pleasant and enjoyable except the swamp like part.

4-2 - I felt as if I have become hyper sensitive to sounds and I could hear everything and all the little unnoticed changes in my environment. It was as if I shrunk down into a little Lilliputian and I could hear all the sounds no one else could hear.

Such responses indicate that the re-contextualisation of abstracted material, even without contextual information, can lead to development of an understanding or acceptance within audiences, of how such materials can be used musically/artistically. These responses are very similar to that of experienced participant Exp 2-3 to P1DQ-1,4,5 (PN). Such responses are a clear measure of appreciation as they demonstrate clear and deep engagement with the work far beyond that expected or called for within the test process.<sup>52</sup>

**P1DQ-6** - Did the composition suggest a narrative, be it a story or any other time-based discourse? If so what might this concern?

#### **Experienced Participants**



Figure 24: C, I-M, E Spread – Wrk A (Exp) P1DQ-6

Narrative interpretations of the work by experienced participants indicated an analytical evaluation with the majority or responses situated in the intra-musical sector (figure 24).<sup>53</sup> Almost half of the experienced participants (46%, 6/13) recorded intra-musical responses to the work, with all of these regarding the form of the work. This trend suggests that experienced participants were able to look past the materials of the work and to assess the compositional processes taking place behind them.

<sup>&</sup>lt;sup>52</sup> Another interesting occurrence within the data was that, with source materials easily recognised as drinking glasses and the reappearance of these materials in an abstracted and/or processed way, inexperienced participants in some instances were led to interpret the work as signifying an altered perception or intoxication (drunkenness).

<sup>1-1 - [</sup>S]omething to do with being high or drunk.

<sup>7-1 -</sup> A night out, Even though I didn't see any alcohol I kept thinking about it and about partying. I related to alcoholism problems.

<sup>&</sup>lt;sup>53</sup> Four experienced participants recorded an apparent lack of explicit narrative (31%, 4/13) and these responses have not been classified within any of the three sectors above but can be found in the "other" column (see Volume Two, Vol.2, p.13).

However, two of the participants from the second experienced group, and one from the first did respond with contextual interpretations apparently inspired by the materials of the work:

Exp1-9 - Only that of melting ice/ thawing frost.

Exp2-1 - yes water moving from being in one state to another, change/ metamorphosis.

Exp2-2 - The shot of drinks glasses might imply a potential narrative although that didn't work for me as the piece progressed. I felt the piece might be dealing with the passage of time in terms of change/renewal etc.

This could perhaps indicate the power of recognisable materials to distract analytical attention away from non-electroacoustic experienced participants (Exp2-1 and Exp2-2 were visual artists and Exp1-9 was an MA sound design student). Instead of regarding the intra-musical nature of the work, non-electroacoustic specialists are drawn to interpreting the materials of the work as they lack the training or experience to dissect compositions analytically, this effect becomes much more visibly pronounced within the inexperienced participant responses.

#### **Inexperienced Participants**



Figure 25: C, I-M, E Spread – Wrk A (Inexp) P1DQ-6

Over one third of participants (38%, 9/24) did not discover any narrative in work A, but those inexperienced participants who did record narrative interpretations tended to provide contextual interpretations (73%, 11/15). These contextual interpretations were largely attempts by the participants to rationalise the work and to assign to it a narrative story. This demonstrates a significant cultural or experiential difficulty with which inexperienced participants are faced when presented electroacoustic audio-visual works. They immediately attempt to interpret them as they might a Hollywood film, or other artefact of popular media containing sound and image (utilising traditional schemata), and therefore apply the familiar schemata and strategies that they have devised for this purpose in order to attempt to understand a very different type of work. Such traditional schemata for interpretation apply, or attempt to discern, a specific implicit meaning or narrative story within the work.

The four intra-musical interpretations from this inexperienced group (27%, 4/15) appeared to demonstrate an awareness of abstract, non-representational art forms, or indeed recognition

that they were dealing with a different type of work than a representational film. All of these interpretations focussed upon the materials of the work.

It is interesting that despite being made up of the most "mimetic" materials, this work received fewer contextual responses to P1DQ-6 than either work B or work C. Indeed the interpretability of these materials may have acted to obscure the form of the work by drawing and holding the participants' attention.<sup>54</sup>

## 6.4.2.3. Engaging aspects and desire to see more/keep listening

P1DQ-7 - What aspects, musical or otherwise, did you find most engaging in the composition?





Figure 26: C, I-M, E Spread – Wrk A (Exp) P1DQ-7

The majority of responses to the most engaging elements in the work were of an intra-musical nature (62%, 8/13), continuing the trend of analytical responses from experienced participants (figure 26). Two emotional responses were received (more than for either work B or C), describing the sense of mystery and dynamic atmosphere constructed within the work. Of the eight intra-musical responses, only three made reference to the materials of the work (38%, 3/8), and the remaining five reference to the musical form (62%, 5/8). This is perhaps unexpected for a work containing arguably the most "mimetic" materials, but it should be noted that this work received fewer intra-musical responses from experienced participants than either work B or C (see below P1DQ-7, Work B p.156; Work C p.180).

Exp – DQ-7	Materials	Form
Work A	38% 3/8	62% 5/8
Work B	50% 6/12	50% 6/12
Work C	50% 6/12	50% 6/12

<sup>&</sup>lt;sup>54</sup> This is an example of what Susan Langer terms obstruction in her semiotic theory. Its impact upon interpretations of work A will be discussed within the summary below (p.196) 'A symbol which interests us also as an object is distracting. It does not convey its meaning without obstruction' (Langer 1957: 75).

The focus upon the form of work A remains significant because it occured only within the experienced responses to this work. Experienced participants are expected to respond to more technical aspects within works. However, the fact that work A received a higher proportion of comments regarding the form than either of the other test works, signifies the importance to audience interpretations, of the structures in the work and the associations operating between materials.

Exp DQ-7	Sound	Image	Sound + Image
Work A	5	1	1
Work B	4	5	5
Work C	2	7	7

The sonic element was evaluated by experienced participants as the most engaging aspect of work A, receiving more responses than the sonic element in either work B or C. However, when compared with responses to P1DQ-8 (discussed below p.133), it becomes apparent that almost equal number of experienced participants cited the sonic element of work A as both the least and most engaging aspect of the work. Nonetheless, responses to P1DQ-7 indicated that experienced participants were most engaged with the sonic forms found in work A.<sup>55</sup>

## **Inexperienced Participants**



Figure 27: C, I-M, E Spread – Wrk A (Inexp) P1DQ-7

Breaking from the inexperienced trend towards the contextual, the majority of inexperienced responses to work A for P1DQ-7 were weighted towards the intra-musical (73%), thus initially appearing to follow the experienced participant trend. Eighty percent (80%,16/20) of intra-musical responses related to the musical materials of the work, as opposed to only twenty

<sup>&</sup>lt;sup>55</sup> Interestingly no discrepancy exists between the experienced participant groups (Exp1-n and Exp2-n) in terms of their responses to P1DQ-7. In responses to P1DQ-1,4,5 a marked difference could be noted between the two groups. However in the responses to P1DQ-7 there is no such division with the same trends visible across both participant groups. This suggests that the introduction of contextual information prior to presentation of the works might not be such a significant factor in influencing experienced participants with regard to identifying the most engaging elements of the work.

percent referring to the musical form. This suggests that the mimetic nature of the materials within work A was a more engaging element for inexperienced participants than elements of their processing or the works form. Therefore, while inexperienced participants did also provide intra-musical responses, the two different experience levels demonstrated opposing preferences for the work materials and form, experienced participants responded most frequently to forms within the work, while inexperienced participants responded to the works materials. Such a trend in responses might further reinforce the suggestion than the recognisable nature of the work's materials obscures the perception of musical forms (and material relationships) by non-trained participants (see responses to P1DQ-6 for work A, p.128).

Inexp – DQ-7	Materials	Form
Work A	80% - 16/20	20% - 4/20
Work B	71% - 10/14	21% - 3/14
Work C	39% - 7/18	61% - 11/18

Many inexperienced participants used contextual vocabulary to describe their responses to DQ7, but the focus and aim of their descriptions related specifically to the intra-musical nature of the work, for example:

## 3-3 - The opening part sounds of drinks glasses and the rain falling and cereal falling.

This response refers to granular and other sonic materials within the piece, using contextual vocabulary to describe the qualities of the sound.

Of the sixteen participants that refer to the work's materials, eleven (69%, 11/16) referred explicitly to the audio materials of the work and only four (25%, 4/16) to visual elements as being the most engaging. All participants who provided a strong positive response to the work cited the sonic element of the work in their description.

Inexp DQ-7	Sound	Image	Sound + Image
Work A	11	4	4
Work B	5	7	3
Work C	4	8	9

It is interesting that the results to this question indicate inexperienced audience appreciation for the work's materials, irrespective of their context. However when responses to P1DQ-6 are recalled (p.128) it is possible to observe that participants do not appreciate or interpret the work as an exploration of materials. Instead these materials are used as a basis for and to feed into a context and purpose for their interpretation, for example:

Participant	DQ-6	DQ-7
4-1	As I mentioned before it gave me the thought that I was located in an old bar.	Crystal clear sounds of water and ice that were captured and added to the strange kind of odd picture slideshow of the presentation

Therefore inexperienced participants are shown to demonstrate a trend towards appreciation of the sonic materials in work A.

P1DQ-8 - What aspects, musical or otherwise, did you find least engaging in the composition?

## **Experienced Participants**



Figure 28: C, I-M, E Spread – Wrk A (Exp) P1DQ-8

Experienced participants responding to the least engaging aspects of work A did so with intramusical responses (85%, 11/13). The majority of these responses made reference to the materials of the work, as opposed to the form. This correlates with, and confirms experienced responses to P1DQ-7, in which participants evaluated the form of the work to be more engaging than the materials.

Exp – DQ-8	Materials	Form
Work A	82% 9/11	18% 2/11
Work B	50% 5/10	40% 4/10
Work C	80% 4/5	20% 1/5

Of these intra-musical responses, the visual materials were mentioned most frequently (45%, 5/11), with the sound and image interactions mentioned almost as frequently, (36%, 4/11) and the audio mentioned only three times (27%).

Exp DQ-8	Sound	Image	Sound + Image
Work A	3	5	4
Work B	8	3	2
Work C	3	1	0

Within experienced responses to P1DQ-7, the sonic element was mentioned most frequently as an engaging element of the work, with the visuals and sound and image interactions mentioned considerably less often. Upon further examination of responses to P1DQ-8 it is possible to observe that the sonic element of the work was mentioned only once in isolation. Other references to the audio are preceded by reference to the visuals, and their phrasing refers more generally to the materials and their recognisable real world nature:

Exp1-1 - Too specific objective references of visuals and sounds.

Exp2-2 - Too recognisable shots and sounds.
These responses do not specifically indicate distaste for the sonic materials in the work, but take issue with their role in the discourse of the work conjuring up associations with lived experience.

Therefore experienced participants can be seen to highlight the visual materials of the work as least engaging, along with the strongly mimetic nature of the piece in general.

#### **Inexperienced Participants**



Figure 29: C, I-M, E Spread – Wrk A (Inexp) P1DQ-8

The majority of the inexperienced responses to work A, with regard to the least engaging aspects, fell within the intra-musical category (54% 13/24). This is perhaps unexpected because the majority of responses to P1DQ-7 were also found within the intra-musical category. Seven of the intra-musical responses to P1DQ-8 referred to the materials of the work and seven also made reference to the work's form (one participant referred to both).

Inexp – DQ-8	Materials	Form
Work A	54% 7/13	54% 7/13
Work B	64% 9/14	29% 5/14
Work C	55% 5/9	55% 5/9

Of these intra-musical responses, two related to the audio within the piece, while another two related to the relationship between the sounds and images in the work. However, by far the largest proportion, eight of these intra-musical responses, referred to the visual element of the work.

In responses to P1DQ-7, inexperienced participants most frequently indicated the sonic materials as an engaging factor in the work, while in P1DQ-8 sound was only very infrequently mentioned. From this, a clear non-contradictory pattern of response emerges, in which participants are engaged by the sonic but not the visual elements of the work.

Inexp DQ-8	Sound	Image	Sound + Image
Work A	2	8	2
Work B	6	7	1
Work C	4	3	0

One participant indicated that their dissatisfaction with the piece was due to it not having a clear purpose (1-5), while six other participants were unable or neglected to record a response for P1DQ-8.

P1DQ-9 – Did the composition make you want to keep listening? Why?

**P1DQ-11**- Now that you have heard the composition, would you choose to listen to a similar type of composition again in the future? If yes, why? If no, why not?

#### **Experienced Participants**

#### Scores + Percentages

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
4	1	5	1	2
31%	8%	38%	8%	16%

#### **Positive Keywords**

#### **Negative Keywords**

Emotion	3
Sound and Image	2
interaction	
Materials Audio	4

Form	4
Materials Video	4

As with other sets of responses from experienced participants, nearly all were analytical responses making reference to the intra-musical nature of the work. There were no clear distinctions between each of the experienced participant groups (Exp1-n and Exp2-n).

Perhaps unexpectedly<sup>56</sup> the majority of strongly positive responses (3 out of the 4 comments assigned a score of 1), were emotional responses making reference to the relaxing and compelling nature of the work. However, alongside this it is possible to observe the previously demonstrated preference for sonic material over the visual.<sup>57</sup>

Indeed three of the responses that were awarded a score of 3 and the response awarded a score of 2, spoke in a positive way about the audio and a negative way about the video.

 $\mathsf{Exp1-1}$  - Listening yes, throughout there was suspense because the sound transformation was continuous with no repetitions. Viewing less so

Exp1-2 - Yes but just listening. I enjoy this type of sound world as a composer I wanted also to hear how this composer continues to work with the sounds

Exp1-4 - Listening, maybe not watching. Yes I would like to see a more detailed investigation

Exp1-5 - Yes really liked the sound material + juxtaposition of granular and pure resonances. Pace of the audio much more fluid than visuals. Visuals distracting

Therefore taking only the sonic element into consideration, work A would have received a much larger proportion of positive scores (1 and 2) (Score for audio only: 1 = 54%, as opposed to 31% when both are considered).

<sup>&</sup>lt;sup>56</sup> It is not indicated within previous responses.

<sup>&</sup>lt;sup>57</sup> See experienced responses to P1DQ-7, p.128 and P1DQ-8 p.131.

Barring one, all of the responses scoring three, two and one (69%, 9/13), demonstrated engagement and appreciation for this electroacoustic audio-visual composition.

#### **Inexperienced Participants**

#### Scores + Percentages

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
6	1	2	6	10
25%	4%	8%	25%	42%

#### **Positive Keywords**

Materials Audio	3	1
Emotion	3	

#### **Negative Keywords**

Lack of engagement	14
Lack of Understanding	2
Materials Audio	3

Inexperienced responses to P1DQ-9,11 for Work A were disappointingly negative. The majority of responses were graded 4 or 5, with just over half of the total participants (58%, 14/24) explicitly indicating that they were not engaged with the piece. Twice a lack of understanding was explicitly cited (1-2, 1-3).

Five of the participants who recorded overwhelmingly positive responses all indicated an excitement of a new experience and four of these explicitly make mention of the audio component of the work:

2-3 - Yes I liked the sounds and the feeling of music.

3-1 - Yes, because I found it interesting that there was virtually no musical instrument in the piece. Yes not for frequent listening but just out of interest.

3-4 - Yes in terms of different interesting sounds made by something that you can relate to. Almost like guess work.

4-2 - Yes out of curiosity and emotional excitement. Yes because I'm more familiar with it and I'm more curious.

6-3 - Yes time flew and I wanted to hear more and more. There was always something new to reveal and the associations that come at the beginning were building a continuous storyline. Yes it was interesting to open your mind to new associations and emotions being built in your mind and feelings.

Interestingly, participants also cited the audio materials in a negative context. But instead of relating to the properties of the materials themselves, these comments suggested that participants were unable to accept the use of concrète audio materials as music.

1-2 - Yes, unexpected pieces of sound kept happening,

4-1 - No, because of abstract sound like this isn't really the kind I like to hear.

6-5 - This did not seem like music to me. There seemed to be more of a series of sounds rather than a tune or riff.

When combined with inexperienced responses to P1DQ-7 and P1DQ-8, the positive response to the sonic elements within work A becomes even more starkly apparent (see above p.130 & 133 respectively).

Further, the number of responses recording a lack of engagement provides confirmation of our earlier assumptions with regard to the uncommitted responses to P1DQ-1,4,5 and 6 provided by the inexperienced audiences.

Therefore, a pattern becomes apparent in which inexperienced participants appreciated the musicality of the sonic materials within the piece, but in some instances were unable to accept the use of mimetic, recognisable, materials as the building blocks for an audio-visual composition.

# 6.4.2.4. Desire for contextual information and reflection upon this desire after its provision. <sup>58</sup>

**P1DQ-10** - Do you think that having more information about the composition might help you to understand it? If yes, why? If no, why not?

#### **Inexperienced Participants**

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
18	1	1	1	3
75%	4%	4%	4%	12%

The majority of inexperienced participants (75%,18/24) indicated affirmatively that they would like more contextual information about work A, thus scoring a 1 representing a strong positive response. The majority of those calling for more information cited a desire for the meaning within the work (of total participants: 50%, 12/24), suggesting that they desire the "intrinsic meaning" in the work to be explained to them. This differs from the responses categorised as "desire to understand", recorded by six participants (25% of total), who indicated a more general confusion about the nature of the work and the use of concrète materials in a composition:

1-1 - Yes, didn't know what was going on.

1-2 - Yes, didn't understand it at all.

1-3 - Definitely, apart from recognising sound and image I saw no meaning

2-3 - Yes more info would help as images tied closely with sounds and maybe influenced the sounds and how I interpret them.

3-1 - Yes, why make a composition using everyday materials?

4-3 - Yes because it would be more clear the purpose/ meaning of the sound. It would be better to include more sounds.

These individuals appeared to desire more general information about the genre. For example: a context for the use of abstracted and concrète materials in electroacoustic audio-visual music.

The four participants who responded negatively to P1DQ-10, indicated a desire to retain their own uninfluenced interpretation, or a complete refusal of potential future engagement with work A:

3-3 - I don't feel I want to understand it further. Taking it at pace pleases me enough.

5-4 - I doubt it. I wasn't interested in this piece as much as the others. It was less immersive and less engaging.

2-1 - No having heard the piece I can honestly say I do not like it and no wish to interpret or understand it therefore more info unnecessary.

<sup>7-1 -</sup> I don't know, depending on the response you were looking for. I think not knowing the context generates a more genuine response, a truly aesthetic response.

<sup>&</sup>lt;sup>58</sup> Experienced participant data was invalidated and thus could not be analysed within the context of the current research project. The raw data is however provided within Volume Two, should it be of potential use to any future investigation or analysis (Vol. 2, p.139).

These few negative responses (16% of total), were significantly outweighed by the proportion of inexperienced participants strongly desiring more information about the work (75%).

**P1DQ2-2:** Would you have preferred to have been given access to this information before being presented with the piece?

#### **Inexperienced Participants**

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
12	2	0	2	8
50%	8%	0%	8%	33%

In contrast to the responses for P1DQ-10, only half (50%, 12/24) of the participants provided a strongly positive response, a drop of a quarter (25%) from those that initially desired more contextual information. All of the participants who responded in a strongly positive fashion to this question had previously indicated in P1DQ-10 that they would like more information about the piece. Participants indicated that more information would have helped them to appreciate the composition through providing a context in which they might better understand the work.<sup>59</sup>

Two participants indicated in a lightly negative way that they would prefer to make their own interpretation of the work and to compare it with the composer's intention after watching. Both of these participants (2-3, 6-3) had previously strongly desired more information about the work. Such responses suggest that the provided information did not satisfy these individuals and was discordant with their own interpretations.

While eight participants indicated in a strongly negative way, five of these had previously been in favour of more information from the composer. These participants indicated that it was better not to have composer intention information presented before the work, preferring instead their own uninfluenced interpretations of the piece.

Participant	P1DQ-10	P1DQ2-2
3-1	Yes, why make a composition using everyday materials?	No prefer to leave an open mind about it first.
4-2	Yes it could but this will depend whether the info will be about the creators intention. However the piece communicated enough by itself.	No
4-3	Yes because it would be more clear the purpose/ meaning of the sound. It would be better to include more sounds.	No, I like to understand the piece in my own way
6-4	Yes because I will be able to attach my own meaning to the established and intended one.	No as the best part of the piece was trying to work out what it was about
7-2	Yes it could probably have a disturbing effect that seeks to make people aware of something that I just couldn't understand.	No

Though seventy-five percent of participants had initially stated a preference for contextual information, only fifty-eight percent of participants recorded such a response after the provision of the CIQ. One of the main reasons for this change of heart appears to be a desire to retain an individual and uninfluenced opinion, thus suggesting that the content of the information may

<sup>&</sup>lt;sup>59</sup> The two participants providing a lightly positive response also indicated that it would provide a context for assisting appreciation of the work. Participant 1-5 had previously wanted more information, 1-4 had been undecided.

have been inappropriate for these participants. In some cases it appears that the contextual information gave the impression that participants own interpretations were incorrect.

Contrary to this, four participants indicated that the contextual information provided a framework for them to more effectively understand the work and that through this they might have more likely appreciated the nature of the work (use of concrète materials etc.).

The response of inexperienced participants to the provision of contextual information was still largely positive. However, responses bring into question the most appropriate type and style of content for aiding interpretation, and suggest that contextual information should empower and encourage audience members to create their own emergent meanings from the work.<sup>60</sup>

#### 6.4.2.5. Influence and evaluation of the volume and content of information

**P1DQ2-1**: Has access to this information from the composer influenced your appreciation of their composition? How?

#### **Inexperienced Participants**

Seven of the participants (29%, 7/24) cited that the provision of contextual information helped and increased their understanding of the work:

1-1 - Yes, now I understand better, didn't have a clue during.

3-2 - Yes it has helped me to understand it. I felt some of the concept before the context was given but did not understand the relevance.

4-1 - Yes gave me a better understanding of the meaning and goal the creator has set for me to see

6-1 - The sparkle part now comes clear. In the video I hadn't realised that the shinning parts were highlighted, I thought that it was just random. The whole point of the video becomes clearer now and improves my impression of it.

6-2 - It helped me a lot to understand what author was trying to express because I understood it totally differently.

6-3 - Now I understand some parts of the whole idea that I didn't closely understand from the movie itself. I liked the composition from the beginning, but If I was to see the animation again I would appreciate the means of getting everything, interpret his idea more, the way he seems to highlight the idea.

6-5 - A little, it has made the work clearer but does not enhance my enjoyment of this piece.

As can be seen, participants 6-1 and 6-3 also cited an increased appreciation for techniques employed and the overall form of the work, following provision of the contextual information. A further four participants (16%, 4/24), recorded an increased appreciation for the work due to an appreciation of the composers intention to explore the materials within the work.

1-4 – Realise should not worry about explicit meaning + just enjoy.

2-2 - Yes, interesting to know that cellophane paper was used.

3-4 – A little, made me rethink behaviour of objects rather than sound, but still think the visual image was very boring and I couldn't get a message from it. It didn't seem to match the sounds, minus the glass mentioned before.

5-2 – I liked their inspiration - the nature of things. The openness to interpretation is great.

Therefore, almost half of the inexperienced participants (46%, 11/24) indicated an increased appreciation as a result of the provision of contextual information.

<sup>&</sup>lt;sup>60</sup> This is supported by responses to P1DQ2-1, discussed directly below.

Four participants (16% 4/24) stated that the contextual information only acted to confirm their own initial interpretations of the piece, although these do suggest a sense of positivity in having "got the answer correct".

- 3-1 It has only confirmed my initial feelings for the piece.
- 3-3 No I pretty much guessed it right.
- 4-2 No because I have already felt and saw the intentions in the actual piece. Reading the information has reinforced what I felt this piece was about. In this respect the piece is successful because It speaks by itself. 7-2 In a way it disclosed things that I've sensed in the beginning.

While another six participants (25%, 6/24), cite no influence of information either because they did not previously enjoy the work or still did not understand it. Such responses suggest that, in the opinion of the participants, where a work is found to be incomprehensible or un-engaging, subsequent provision of information, post projection, is likely to be "too late" with regard to contextualising and aiding understanding.

- 1-3 No, point is still unclear
- 1-5 No, still find piece pointless, shows no meaning or technical ability.
- 2-1 No the piece left me cold and I had no desire to receive any further information.
- 4-3 No I have the same feeling for this piece as before.
- 5-3 No
- 7-1 Not really because I already had the "experience"

Three participants indicated that their appreciation for the work had actually decreased due to the contextual information:

- 6-4 It has lessened my appreciation as I find the project not to be as interesting as I imagined.
- 5-4 No, although once again I interpreted a narrative where there wasn't one.
- 1-2 Thought there would be a deeper meaning

These participants had clearly anticipated a clear compositional intention and implicit meaning within the work, perhaps based upon their experience of narrative film and television, something to fulfil the conditions of their schemata of association. When the composer did not provide information they were expecting, thus failed to satisfy their desire, this resulted in severe disappointment. Had these participants been introduced to the idea of interpreting works using electroacoustic schemata, as opposed to those of narrative based film, they might not have attempted to conform work A to this model, and this may have made the work more accessible to them.<sup>61</sup>

<sup>&</sup>lt;sup>61</sup> These results further support the conclusions drawn at the close of discussion to P1DQ2-2, p.136.

**Chapter Six** 

P1DQ2-3: How do you feel about the volume and content of the information that was provided? Inexperienced Participants

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
13	6	2	2	2
54%	24%	8%	8%	8%

The majority of inexperienced participants (54%,13/24) were strongly positive about the contextual information. Where justification was provided, it suggested that the information was concise and comprehensible, without sacrificing its informative value. A further twenty-four percent (6/24) recorded a lightly positive reaction to the information. These participants approved of the information, but had a less intensely positive reaction to the material and generally suggested that more information should be provided. Unfortunately most of these responses were very succinct answers and so not as widely informative as other, more expanded, explanations.

Six participants provided non-positive responses, two participants (8%, 2/24) felt neither positively or negatively about the information, implying that the information did not assist interpretation and that more, or a different form of, information might be more appropriate. Two more participants (8%, 2/24) presented a lightly negatively response to the information, indicating that the content of the information was too technical and could contain more information about the work's intentions rather than technique. And two participants (8%, 2/24) responded in a strongly negatively way, indicating in despair that not enough information was provided and that the information was not up to much respectively, for example:

<sup>1-5 -</sup> Not enough information given 'WHAT IS THE POINT !?"

<sup>6-1 -</sup> I thought the information was a bit shoddy.

# 6.4.3 - Summary of Responses to Work A

# **Experienced Participants**

# Interpretation of the work

Two main trends emerge from the responses to work A by experienced participants:

1. A preference for the sonic element of the work over the visual.

**2.** The recognisable nature of the materials actually forces audiences to interpret the work in an analytical fashion and acts to distract them from interpreting the larger forms of the work or creating an aesthetic interpretation.

**1.** The sonic form was identified to be the most engaging aspect of the work (demonstrated by responses to P1DQ-7, p.130), with the emotional responses to P1DQ-1,4,5 almost all inspired by the sonic element of the work. However, the sonic materials of the work were also highlighted specifically as a least engaging element. Visual materials and the sound and image associations were also recorded as the least engaging aspects of the work (45% and 36% respectively). But in responses to "desire to see more or keep listening" P1DQ-9,11, the percentage value for positive responses to work A would have been significantly higher had only responses referring to the audio were considered (54% compared to 31%).

These responses demonstrate that the experienced participants clearly have a preference for the sonic element of the work over the visual element. With the recognisable nature of the materials, and associations conjured up by the combinations of sound and images within the work, acting as a negative factor in appreciation.

**2.** Building upon a preference for the sonic form of the work over the materials, it is possible to observe that almost all experienced participants recorded descriptions of mimetic materials within work A. Such a prevalence demonstrates the position of authority that these materials possess in experienced participants' perception of the work. The work also received a great proportion of analytical responses, with a higher proportion of experienced participants making reference to techniques and technology utilised within the work than for either work B or C.<sup>62</sup> Further to this, responses to both the question of meaning (in which 77% of total responses analytically recorded sound and image interactions of the work), and the work's narrative structure (in which 46% of experienced participants provided analytical intra-musical responses regarding the narrative of work A)<sup>63</sup>, both suggest that the recognisable nature of the work's

<sup>&</sup>lt;sup>62</sup> 69% of responses to P1DQ-2,3 for work A made reference to techniques or technology. The proportion of such responses for work B and C were much lower (being 38% and 46% respectively).

<sup>&</sup>lt;sup>63</sup> This intra-musical trend in responses to narrative might seem insignificant, but was a greater proportion than for both work B and C. Received by a work that contains the most "mimetic" clearly recognisable materials. Indeed, four participants could identify no narrative, indicating that even some experienced participants found it difficult to discern the form of the work (suggesting again the distracting nature of the materials of the work).

materials actually acted to encourage analytical interpretations of the work, as opposed to aesthetic interpretations.

Though analytical responses were expected from experienced participants, more were received for work A than for either work B or C. The presence of the most recognisable mimetic materials, and the prevalence of analytical interpretations to the work, would suggest that the mimetic nature of the material directs participant interpretations towards analytical as opposed to aesthetic interpretations.

#### **Inexperienced Participants**

#### Interpretation of the work

**1.** Technical aspects of the piece were clearly visible to inexperienced audiences (as well as to experienced audiences) and formed a significant element of the inexperienced audience interpretations of the work.

**2.** Inexperienced participants predominantly described materials and transformations contextually in work A, with the majority of these responses regarding the materials of the piece as opposed to the form.

**3.** Responses to work A suggest a lack of engagement with the work, both through their content and the nature of their brevity.

**1.** Inexperienced participants identified "mimetic" materials in the work, but also recorded an unusually high incidence of responses relating to the technique and technology employed within the work (42%). These comments specifically related to processes of transformation, or were analytical descriptions of technique described using contextual vocabulary or association.<sup>64</sup> Such an analytical assessment of the work might be expected from experienced participants (69% of whom did provide such an analytical assessment of work A), but it was largely unexpected that inexperienced participants would comment on these aspects of the work.<sup>65</sup>

Therefore, these technical aspects of work A can be clearly stated to be a significant and recognisable factor in the interpretation of the work by **all** audiences.

**2.** The most engaging elements of the work identified by inexperienced participants are the materials of the work (76%, 16/21) (responses indicate that of these, the sonic materials of the work were the most engaging factor).<sup>66</sup> The same participants also recorded a split between

<sup>&</sup>lt;sup>64</sup> For example: 5-3 'editing/replaying/echo's' & 6-4 'Deep boom midway through. It sounded like a device often seen in sci-fi movies.'

<sup>&</sup>lt;sup>65</sup> Only thirty-three percent (33%) of inexperienced participants respond to aspects of process or technology in work B and only twenty-nine percent (29%) in work C.

<sup>&</sup>lt;sup>66</sup> A similar trend towards the materials of the work is also demonstrated within responses to work B perhaps suggesting that the mimetic nature of work materials obscures interpretations of the form of the work. This could perhaps be a result of the materials being more directly apparent and easier to comment upon than the form.

materials and form for the least engaging elements of work A (visual materials were mentioned most often).

The prevalence of responses citing the materials of the work indicate, that for inexperienced participants, this factor formed a highly significant element in their perception of the work. While materials were mentioned in both a positive and negative sense, larger forms within the work were almost only mentioned negatively. (See responses to P1DQ-1,4,5, p.126; P1DQ-7, p.131; P1DQ-8 p.134).

However, responses to P1DQ-6 demonstrate that participants do not interpret the work as an exploration of materials, rather the mimetic associations inspired by the materials are utilised to construct interpretations, recorded through contextual descriptions. As Clarke suggested, 'When a person hears what a sound means (i.e. understands the sound in relation to its source), it becomes more difficult to detect the sound's distinctive features' (Clarke 2005: 34). The majority of inexperienced participants sought to ascribe a narrative story to the work, most likely applying schemata developed for the interpretation of audio-visual media with which they were more commonly acquainted (film, television etc.). Where they lacked technical vocabulary (for example in describing granular materials within the work), inexperienced participants utilised language and terms with which they were familiar to describe these unfamiliar sonic events and textures.<sup>67</sup>

Those unfamiliar with the concept of reduced listening, or similar analytical listening strategies, created mimetic associations between the materials and their lived experience, rather than deconstruct and consider the spectromorphological properties of the materials in the work. If the forms of a work are reliant on these spectromorphological subtleties, only those experienced with composing or analysing electroacoustic music can employ their understanding of musical forms (an expanded musical-meta-language) in order to describe the work.

As a result, inexperienced participants were unable to interpret work A as an abstract exploration of materials and instead sought to employ mimetic associations with the materials of the work in order to make sense of it.<sup>68</sup> Thus, it might be suggested that the mimetic and recognisable nature of materials, acted to obscure audience engagement with the forms of the work, by drawing stronger external, than internal, associations between materials in the mind of the inexperienced audience member. As Susan Langer writes, 'A symbol which interests us also as an object is distracting. It does not convey its meaning without obstruction' (Langer 1957: 75). Therefore, where the materials of a work conjure up mimetic associations, there is a

<sup>&</sup>lt;sup>67</sup> Such contextual interpretations of the work can be seen to relate directly to experienced participant responses to the materials of the work in which materials were described as "mimetic" and processes of transformation frequently recorded. Granular materials in the work were referenced in terms of technique and technology by the electroacoustic specialists but referenced by non-electroacoustic specialists via contextual descriptions (the same strategy can be seen in the responses of the non-specialist inexperienced participants.

<sup>&</sup>lt;sup>68</sup> Four participants did record an appreciation for the exploration of materials in the work demonstrating clear engagement with this concept however these were a minority (16%, 4/24).

danger that conflicting external references might be brought to bear within the constructed interpretation and that these may obstruct the clarity of interpreted concept.<sup>69</sup>

3. Responses to P1DQ-1.4.5 for works B and C, were far more extensive and committed than the simple single sentence responses for work A. When asked to describe their interpretation of meaning for work A, participants most frequently provided brief and seemingly uncommitted contextual explanations describing processes of transformation. While describing the work as a process of transformation, (in responses to P1DQ- 1,4,5) many of these inexperienced participants (57%, 8/14) also cited technical and processing elements as being the least engaging factors of the work. Thus, participants identified the topic of the work as being that which was frequently cited as one of the least engaging elements. Alongside the brevity of the responses, no participant provided a solely emotional response outside of a value judgement, indicating that emotional depth was not a significant element in inexperienced audiences' interpretations of work A.<sup>70</sup> Further to this, thirty-eight percent of participants were unable to discern a narrative within work A and many of the responses that were provided were again brief, vague and sometimes uncommitted (P1DQ-6, p.129). The high occurrence of negative responses to questions within the directed questionnaire, and the questionable nature of the provided responses, suggests that the inexperienced participants interpreted no narrative in the work and that they sought to respond only because the questionnaire demanded it of them.

Unfortunately, two thirds of inexperienced participants also responded in a negative fashion to the question of a desire to see more or keep listening to work A or other similar works.<sup>71</sup> Fifty-eight percent of the total participants explicitly cited a lack of engagement with the work. Thus, by their own admission confirming earlier assumptions relating to the brevity of inexperienced responses to the directed questionnaire (P1DQ).<sup>72</sup>

Responses suggested that participants were unwilling or unable to project themselves into the work and to create "new meanings" or interpretations, instead they simply provided a context for the works materials. The creation of new meaning is a necessity of interpretation as described by Kramer, 'genuine understanding must do more than just reproduce prior understanding' (Kramer 2005: xiv).

It is suggested that this lack of engagement was a result of the inexperienced participants being unable to interpret the work cohesively within their existing schemata of interpretation.<sup>73</sup> The prevalence of responses citing recognisable materials within this work, combined with its apparent unintelligibility, suggests that recognisable materials are not always factors of accessibility within works of electroacoustic audio-visual music. Indeed responses to the

<sup>&</sup>lt;sup>69</sup> The activation of external complexes of association was demonstrated by Shevy in his research on schemata, see above, Chapter Three p.40.

 $<sup>^{\</sup>rm 70}$  See also responses to Work A for P1DQ-9,11, p.133.

<sup>71</sup> Ibid.

<sup>&</sup>lt;sup>72</sup> See responses to Work A P1DQ-1,4,5.

<sup>&</sup>lt;sup>73</sup> For example those appropriate for mainstream media such as Hollywood film and television with which all inexperienced participants are likely to be familiar.

materials in work A appear to have obscured aesthetic interpretations of the work, so that while inexperienced participants employed mimetic associations in decoding the work, their interpretations remained fixated on the materials within the piece as opposed to the work's form. Heidegger suggests that individuals engage with objects in an immediate connected way (an aesthetic fashion), until their practical engagement is derailed or breaks down (Heidegger 1962: 408-9). When mimetic associations are consciously stimulated, and are contradictory to their context, they have the potential to break engagement. Clarke describes how a concert situation in which mimetic materials are presented without an appropriate context, acts to:

[E]xclude you from action with which you nevertheless engage at a distance. Everyday, engaged, practical perception is replaced by disengaged, contemplatative perception. Unable to explore and engage with the environment in a literal sense, listeners in conventional concert circumstances may either quickly become bored and alienated or be drawn into a different kind of awareness in which enforced passivity engenders aesthetic contemplation (Clarke 2005: 138).

This statement is reflected in the responses to work A where participants tended to focus upon external associations relating to the work's materials, as opposed to attending to the development and exploration of materials through the work's discourse. This in turn led to confusion and disengagement due to a lack of appropriate context — an appropriate context might be afforded by: knowledge of schemata relating to electroacoustic music, although experienced participants also found it difficult to engage with the work; dramaturgic information, participant responses to which are discussed below; or through alteration of the works material discourse, to affect the context with which the audio-visual structures/objects relate. Further, responses to P1DQ-9,11 cited the audio materials as both strongly positive and strongly negative elements, those participants who mentioned the audio in a negative fashion, described their difficulty in accepting concrète sounds as musical material. Such an occurrence highlights and confirms the influence of both schemata in interpretation, as well as the impact of cultural expectations discussed within Chapter Three.<sup>74</sup>

Work A as a composition has a fairly specific subject-position, one that is reliant on audience knowledge of specific schemata, those of reduced listening and the ability to attend to the spectromorphological properties of both the sounds and images.<sup>75</sup> Inexperienced audiences who do not possess knowledge of these schemata are therefore unable to focus their interpretations onto the aspects of the work that might allow them to construct a rational interpretation, and through which they might interpret the work in a similar fashion to that which the composer intends. Because the work itself only really functions within these schemata (the work was composed as an exploration of the properties of its materials) and the fact that external and contextual associations from the materials obscure the form of the work, inexperienced participants struggle to comprehend or be engaged by work A. It could be

<sup>&</sup>lt;sup>74</sup> See above, p.40 & p.54 respectively.

<sup>&</sup>lt;sup>75</sup> Diego Garro translates some of Smalley's spectromorphological terms into the visual domain in order to allow a similar analysis of forms and materials for both sound and image (Garro 2006: 7).

Chapter Six

described that the subject-position of the work's discourse demands an understanding of reduced listening.

# **Evaluation of Contextual information for Work A (Inexperienced Participants)**

# Desire

Perhaps, as might be expected for a work that appeared to have been unsuccessful in engaging its audience, the majority of inexperienced participants responded in a strongly positive way to the desire for more information (P1DQ-10: 75%). Amongst these responses the main reasons cited were a desire to understand the work (5/24) (general information about the art-form), followed by a desire for the works meaning to be explained (12/24) (specific information about the meaning/intentions for work A).

Participants desiring to understand the work, appeared to want more general information about the nature of electroacoustic audio-visual music and the use of concrète materials in musical composition. Mixed and negative responses cited a desire for individuals to retain their own interpretation, but did suggest the interesting possibilities of comparing their interpretation with that of the composer.

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
18	1	1	1	3
75%	4%	4%	4%	12%

After provision of the contextual information, the percentage of inexperienced participants who still recorded a desire to receive it prior to projection of the work dropped form 75% to 58% suggesting that the provision of information was not as beneficial as some of the participants had hoped. In some cases, this contextual information even negatively impacted upon interpretations of the work.

Seven of the ten participants who responded in a negative way to the prior provision of this contextual information had previously responded in favour of more information about the work. Upon receiving the contextual information it appears that these participants realised they preferred their own interpretations of the piece, as opposed to being restricted to that of the composer. This might suggest that the content of the information acted to direct the interpretations of these participants in a specific fashion, one with which they did not agree.

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
12	2	0	2	8
50%	8%	0%	8%	33%

#### Content

Seven participants indicated that the provision of contextual information aided and increased understanding of the work. While four participants (16%, 4/24) recorded an increased appreciation for the work due to an appreciation of the composers intention to explore the materials within the work. Therefore, almost half of the participants indicated an increased appreciation of the work as a result of the provision of contextual information.

Four participants indicated that the contextual information supported their own initial interpretation (17%) and so had neither a positive nor negative influence, while six participants indicated that the information had no influence (25%), either because they did not enjoy the work or were still unable to understand it. Three of the participants actually indicated that provision of the information decreased their appreciation for the work, these participants appeared to anticipate the contextual information as providing a revelation of explicit meaning within the work.

When asked to evaluate the volume and content of the contextual information, inexperienced participants generally judged it to be suitable, with 54% providing strongly positive and 24% lightly positive responses to it. These responses suggested that the information was clear and concise, but that in some cases it could provide a greater context for the work. Twenty-four percent of participants (6/24) recorded negative responses with regard to the volume and content of information, indicating that a different form of contextual information was desired. Rationalisations and other comments suggested that this might need to be less technical and more focussed upon the aesthetic of the work.<sup>76</sup>

<sup>&</sup>lt;sup>76</sup> These findings are further discussed below, p.202.

# 6.4.4 - Work B

# 6.4.4.1. Perceived Material Properties of the Work

P1DQ-2 – What sounds or images did you recognise in the composition?P1DQ-3 – If you heard sounds that were strange and/or unnatural, please describe (if you can) one/some/any of them?

# Experienced

The majority of experienced responses to P1DQ-2,3 for work B, listed explicit descriptions of the sonic and visual materials found within the piece. As might be expected, nearly all of the experienced participants recorded the presence of vocal utterance (92%, 12/13) and (100%, 13/13) human form, while just over half made reference to "synthesised sounds" (54%, 7/13), and another thirty-eight percent recorded "concrète material", such as cars, trains, street sounds and metal clanking (38%, 5/13).

In some instances, the materials described as "concrète" could actually have been analogous with material described by other experienced participants as "synthesised material". For example:

Exp1-1 - train brakes, car (advancing+ receding) Exp1-7 - environmental sounds (eg. Street). Exp1-9 - synth sounds, reverberation, reversed sounds, time stretching.

Because the experienced group was made up of musicologists, video artists and not exclusively electroacoustic composers or practitioners, it is not feasible to expect all of the experienced participants to be aware of detailed terminology for discussing sound and visual imagery. Indeed, even identically qualified individuals are not likely to utilise a common descriptive vocabulary, due to variations in lived experience and thus variations in schematic associations.

While the majority of experienced responses to work B referred to contextual materials within the work, thirty-eight percept of participants (38%, 5/13) responded with technical comments relating to the composition or the use of certain devices. This was actually less than might usually be expected from an experienced audience.<sup>77</sup>

Therefore, the experienced participants identified the materials within the work, but provided an unexpectedly sparse account of the technical nature of the work itself. Such a trend in responses suggests a high level of aesthetic engagement with the piece. Experienced participants do not demonstrate analysis of the technical nature of the work, as in responses to work A. Instead, responses by the experienced participants to work B were similar to those of inexperienced participants, suggesting an engaged aesthetic response, as opposed to a detached and analytical assessment of the piece. This finding might be considered to be doubly

<sup>&</sup>lt;sup>77</sup> For example: work A and C received technical responses from sixty-nine and forty-six percent of the same experienced participants respectively, while thirty-three percent of inexperienced participants responded to the technical elements in work B.

significant within the test situation, where the methodology might be argued to encourage an analytical approach to audience interpretation.

#### Inexperienced

Inexperienced participant responses, like the experienced participants before them, recorded "human form" (79%,19/24) and "vocal utterance" (83%, 20/24) as the most common responses. However, there was a larger incidence of "concrète material" referenced by this inexperienced group (67%, 16/24), most likely as a result of participants equating abstract processed material with concrète "mimetic" events in order to rationalise them. 78 For example, potential inexperienced participant references to specific types of sonic material are listed below:

Granular material:

- 1-1 rustling, static sounds, scraping sound.
- 2-2 Lots of creaking, kind
- 3-2 popping noises, A parasitic noise near start (something tunnelling through a space where it shouldn't be).
- 3-4 Enigmatic buzzing (tuning in radio but more hypnotic)
- 5-2 - crackling sounds like an old record player
- 5-3 bugs, burning sounds
- 6-4 vinyl playing,

#### Spectral stretching/blurring:

- 1-2 Train sounds, crashes, train crashing.1-5 Car breaking, flapping bird wings
- 3-2 Traffic noises
- 3-4 squeaking swinging horror style gate
- 4-1 Weird horror like sound, Razor sound
- 6-2 squeak, sleigh bells, traffic sounds,
- 6-3 helicopter, heartbeat, squeaking of a swing, squeaking of gates
- 6-4 brakes
- 6-5 -air/wind sounds, sleigh bells
- 7-1 squeaking sounds, wind

#### Drones or synthesised tones:

- 1-5 bagpipes, electricity wires, ghost's wailing.
- 3-2 feedback, electrical current.
- 3-3 deep dial up connection sound,
- 5-4 engine noises,
- 6-2 phone sounds,

6-3 - Scottish music, bagpipes, electric guitar in the hands of a crazy person just making sounds not tuned noise.

"Abstract sounds" were recorded by forty-six percent (11/24) of participants however, these were often but not exclusively accompanied by related contextual "mimetic" descriptions. For example, the response of participant 6-3 (listed above) is a contextual description recording an interpretation of abstract sounds. The response does not constitute a contextual interpretation of the work, but describes absolute musical materials.<sup>79</sup> These responses, when compared with those of experienced participants, demonstrate the significant impact of lived experience and schematic association upon interpretation.

<sup>&</sup>lt;sup>78</sup> As opposed to describing them as processes of synthesis or editing.

<sup>&</sup>lt;sup>79</sup> An interesting isolated response to note is that of participant 7-2 who described abstract musical material but stated that none of these abstract sounds were "unnatural". This suggests that abstract musical material need not be intrinsically less engaging than mimetic materials but that it is the context in which the materials are placed which is a more significant factor in audience appreciation.

One third of inexperienced participants made reference to technique or technology (33%, 8/24). This was fairly similar to the percentage of experienced participants who responded technically (thirty-eight percent of experienced participants recorded a response with regard to technique/technology). However, in contrast to the experienced participant responses to work A. the technical responses by inexperienced participants with regard to work B were almost exclusively implied and often very general. For example:

- 1-1 continuous echoing noise
- 2-1 use of light and shade.
- 2-2 kind of a beat.
- 2-3 echo, sound of a person laughing was unsettling as it was repeated and intensified.
- 3-1 Echo's of voice, Echoed breathing,
- 3-2 Images of woman superimposed,
  6-3 cut voice, voice cuts,

Inexperienced participants generally provided a description of the materials within the work, often utilising contextual descriptions to rationalise unfamiliar sonic materials. A similar number of experienced and inexperienced participants responded to technique and technology within the piece, suggesting that both groups approached the work in a similarly non-analytical fashion. It is also interesting to note that, despite being asked only to consider the materials of the work, one quarter of inexperienced participants felt compelled to record emotional responses (25%, 6/24) to this question. Thus, indicating a highly significant emotional response to this piece by inexperienced participants. All of these responses made reference to fear and the "unsettling" nature of the work.

#### 6.4.4.2. Perceived Meaning and Emotional Response

P1DQ-1 – What might this piece be about?

P1DQ-4 – Did the relationships of sound and image work to signify anything? If so, please describe.

P1DQ-5 - Did the piece communicate a meaning? Did you have any emotional responses to the piece? If so, please describe them.

#### Experienced



Figure 30: C, I-M, E Spread – Wrk B (Exp) P1DQ-1, 4, 5

The spread of experienced responses to "meaning and emotional response" in work B indicated a complex response to the piece, in which no participant recorded a response conforming to only one category.

Experienced participants were expected to present an analytical response to the works, applying their skills and knowledge to create a deep intra-musical assessment of the work. However in this instance, the responses were spread across all three sectors (emotional, contextual and intra-musical), with a weighting towards the contextual and intra-musical. This, in accordance with the experienced responses to the works materials (P1DQ-2,3), indicates that the experienced participants did not engaging in a purely analytical interpretation of the work.

Contextual responses were almost exclusively related to the female character within the work, and presented scenarios within which this character could potentially be engaged. This was at odds with the responses to work A and C, which both deal with contextual descriptions of the materials in the work, as opposed to the interpretation of a narrative scenario.

Emotional responses to work B can be seen as directly related to these contextual responses, because the two only ever occurred together. These emotional responses described a sense of anxiety, fear or tension. When contextual and emotional responses by individual participants were compared, a direct empathic relationship between the participant's interpretation of the female characters experience and their own emotional reaction emerges.

The intra-musical responses to the work examined the techniques employed in order to construct the impressions described in the contextual and emotional responses. Seven participants (29%) responded to the sound and image interactions within the work, a far smaller proportion than for both work A (77%) and work C (86%), while other intra-musical responses described visual techniques employed within the work (50%, 6/12) or the influence or action of the audio upon the narrative of the work (42%, 5/12).

This interrelationship between responses, demonstrates the experienced participants responding to the work in a less analytical fashion than might have been anticipated. Experienced participants appeared to utilise their experiential knowledge in order to justify their responses to the work with an analytical, or critical, assessment of their own aesthetic interpretation. This resulted in a far less pronounced emphasis to the analytical when compared with the experienced participant responses to work A,<sup>80</sup> and suggests that experienced participants did engage with the work in an emotional fashion only to later rationalise the experience in an analytical fashion.

<sup>&</sup>lt;sup>80</sup> See above, p.121.

# Inexperienced



Figure 31: C, I-M, E Spread – Wrk B (Inexp) P1DQ-1, 4, 5

The responses by inexperienced participants to P1DQ-1,4,5 for work B, demonstrated a majority trend of contextual and emotional responses (79%, 19/24). Intra-musical responses to the piece were found only within complete spreads across all three sectors (17%, 4/24), with two of these referring to how emotional effects were received.

5-2 - Q4- Sound helped to build intensity which was made negative through dark imagery e.g. black 7-2 - Q4- Not exactly although at some point the high contrast seemed of signified some tension.

Contextual responses frequently referred to the female character in the work (52%, 12/23), providing a narrative to accompany the feelings evoked within the work. Other participants referred to an impression of emotional states, without these being explicitly accorded to the character of the woman.

Every single participant recorded an emotional response to this piece and all but two participants referred to the piece as being disturbing, unsettling or as evoking a sense of fear. Some participants empathised with the female character, while others recorded a state of mind, or feeling, that the piece evoked in them.

These results suggest that the presence of the human form (and utterance) within the work, positioned it within a conceptual framework (schema) with which audience members were very familiar, dealing with and interpreting other humans. In the situation of work B, the human character provides a node for empathic connection with the participants, this form of connection can be recognised as synonymous with the archetypal "primitive encounter", which became the subject of much discussion, and the inspiration for many art works, during the enlightenment (Kramer 2006: 125).<sup>81</sup> This connection may also be directly related to the lack of intra-musical

<sup>&</sup>lt;sup>81</sup> See also Chapter Three, p.38/39.

responses, and suggest an aesthetic and emotional engagement with the work, of the type defined by Reynolds as "depth" (Reynolds 2001: 8).<sup>82</sup>

Unlike the experienced participants, these inexperienced participants did not all seek to rationalise their responses to the work, instead openly responding to the work in an aesthetic fashion.

**P1DQ-6** - Did the composition suggest a narrative, be it a story or any other time-based discourse? If so what might this concern?

# Experienced



Figure 32: C, I-M, E Spread – Wrk B (Exp) P1DQ-6

Once again, the spread between the intra-musical and contextual for the experienced participants, indicated that the expected bias towards analytical interpretations (for experienced participants) was supplanted by more "aesthetic" contextual interpretations. The majority of experienced responses to narrative (P1DQ-6) for both work A and C lay within the intra-musical sector. Within responses to P1DQ-6, as with the experienced responses to work B in the previous questions (P1DQ-1,4,5 and P1DQ-2,3), it is clear that a larger proportion of the participants were engaging with the work in a non-analytical capacity, indicating an increased aesthetic appreciation and connection with the work.

<sup>&</sup>lt;sup>82</sup> See also Chapter Three, p.50.

## Inexperienced



Figure 33: C, I-M, E Spread – Wrk B (Inexp) P1DQ-6

Narrative responses to work B were overwhelmingly contextual for the inexperienced participants, with almost three quarters of participants (73%, 16/22) recording contextual interpretations to the work. These interpretations focussed mainly upon the mental state of the character within the work, but in some cases participants projected themselves and their own fears or concerns into their interpretation, for example an international student wrote:

5-2 - A story of how moving to another place or environment can be difficult but exciting. I guess the smile occurred when something good happened at a difficult period. The whole experience for the young lady brought about mixed feelings of fear and happiness, perhaps relief.

Whilst not being explicitly emotional, responses to the work were all laden with emotional undertones, for example:

3-1 - I would assume the narrative would be about isolation and problems with personal image.

3-3 - a woman was being watched from all around.

6-1 - same as above. Initially it was like going inside the person, then an idea of their inner turmoil - sounds of fear mixed with laughter. Maybe an internal conflict of some kind, then realisation at the end of the piece.

The contextual responses created a background for inexperienced participants' emotional responses to the work, much as they did in their responses to P1DQ-1.4.5 for work B.<sup>83</sup>

Unlike within inexperienced responses to work A and C, almost all participants provided an interpretation to work B (only sixty-two percent of participants provide a response to narrative within works A and C, while ninety-two percent provide responses to work B). This may suggest that work B has a more intelligible narrative, or that it more suitably presents a framework which conforms to existing schemata and upon which inexperienced participants might most easily ascribe a narrative. The presence of a human character afforded the audience a point of empathy and association with which they could relate and construct their contextual interpretation of the works narrative. The presence of a protagonist made work B most similar to

<sup>&</sup>lt;sup>83</sup> See above, p.149.

the vast majority of filmic and literary human discourse that engages with human action and emotion.

## 6.4.4.3. Engaging aspects and desire to see more/keep listening

P1DQ-7 - What aspects, musical or otherwise, did you find most engaging in the composition?

#### Experienced



Figure 34: C, I-M, E Spread – Wrk B (Exp) P1DQ-7

With responses to P1DQ-7, experienced participants appeared to apply an analytical assessment upon the work in order to justify their responses to previous questions. This demonstrated that it was indeed possible for the experienced group to provide a largely analytical interpretation of this work, and further highlights the significance of the fact that they did not respond in this intra-musical way to earlier questions about work B.

There was an even spread with regard to responses dealing with the form (50%, 6/12) and the materials of the work (50%, 6/12).

Exp – DQ-7	Materials	Form
Work A	37.5% 3/8	62.5% 5/8
Work B	50% 6/12	50% 6/12
Work C	50% 6/12	50% 6/12

And a fairly even weighting to responses regarding: sounds, images and sound and image interaction within the work. These responses suggested that the work was effective in blending audio and visual, as encapsulated by the following response:

Exp1-5 - I found the visuals engaging and the sound worked well. Neither seemed to suffocate the other, they had a good relationship.

Exp DQ-7	Sound	Image	Sound + Image
Work A	5	1	1
Work B	4	5	5
Work C	2	7	7

However, this mixed spread of responses might also demonstrate that participants were so engaged with the work on an aesthetic, non-analytical, level that they only attempted to apply analytical responses after the fact of the work. Therefore suggesting that no individual component of the work stood out for them during the piece, and thus reflected in the fact that no specific trends emerged in the analytical responses.

#### Inexperienced



Figure 35: C, I-M, E Spread – Wrk B (Inexp) P1DQ-7

Just as with the experienced participants, inexperienced participants predominantly (50%, 12/24) responded in an intra-musical way when attempting to rationalise what they evaluated to be the most engaging aspects of work B.

But, it is important to note that this proportion of intra-musical responses was indeed the smallest for any of the inexperienced responses to P1DQ-7 (A = 79%, **B** = **50%**, C = 67%), with participants instead recording a significant number of contextual and emotional responses to work B (25%, 6/24).

The majority of intra-musical responses (83%, 10/12) pertained to the musical materials of the work and thus were less analytical than experienced responses to work B, which regarded the form and materials of the work in equal measure.

Inexp – DQ-7	Materials	Form
Work A	80% - 16/20	20% - 4/20
Work B	71% - 10/14	21% - 3/14
Work C	39% - 7/18	61% - 11/18

When these intra-musical responses were further divided into: sonic, visual and those relating to sound and image relationships, it was possible to observe a fairly even spread of responses, but with the visual element mentioned most frequently, followed closely by the sounds within work.

Inexp DQ-7	Sound	Image	Sound + Image
Work A	11	4	4
Work B	5	7	3
Work C	4	8	9

The contextual and emotional responses were frequently related, providing a contextual description of emotional response or vice versa. This trend towards the contextual and emotional was only present within responses to work B, indicating the strength of the engaged depth in audience responses to work B. Tension, and the unsettling nature of work B, was often referenced in inexperienced responses to previous questions and it was positive to find that inexperienced audiences find this to be an engaging factor in the work.

P1DQ-8 - What aspects, musical or otherwise, did you find least engaging in the composition?

#### Experienced



Figure 36: C, I-M, E Spread – Wrk B (Exp) P1DQ-8

Three experienced participants failed to respond with classifiable responses to P1DQ-8, leaving the remaining participants to record unanimous intra-musical responses. Again there was an almost equal split between responses regarding the musical materials (5/10) and those regarding the musical form (4/10) (The response by participant Exp1-7 included both).

Exp – DQ-8	Materials	Form
Work A	100% 11/11	0% 0/11
Work B	50% 5/10	40% 4/10
Work C	80% 4/5	20% 1/5

It is interesting that intra-musical properties of the work were evaluated to be both most and least engaging aspects of work B. When experienced responses to P1DQ-7 and P1DQ-8 are compared however, it emerges that the responses to P1DQ-8 referred to specific events or individual instances within the work. This suggests that experienced participants were engaged by the work as a whole, but took issue with certain details of it. An example is shown below:

Exp1-7 - Unnecessary synch between electronic burst and eyelash flick, this is too different from the other audio-visual relationships and is not resolved convincingly.

Exp1-9 - Grainy clicky stuff in the middle was too predictable + is so overused as to be quite distracting.

These comments might also refer to the same element described by participant Exp1-5:

Exp 1-5 - not so keen on the harsher electronic sounds mainly due to context (or lack of) in which they were presented.

The element of the work to which all three of these comments likely refer, occurs between 4min 43s and 5min 03s with work B, this section of the work was specifically identified and a clip isolating this section can be found upon the DVD accompanying P1 (Disk One, Example-B1).<sup>84</sup>

Exp DQ-8	Sound	Image	Sound + Image
Work A	3	5	4
Work B	8	3	2
Work C	3	1	0

One of the unclassifiable responses for this work was that of participant Exp1-8 who indicated that there was nothing un-engaging or inappropriate about the work, this response could not be classified within any of the columns but was clearly a positive response:

Exp 1-8 – Nothing, everything was finely woven, there was nothing that did not fit in or was superfluous.

#### Inexperienced



Figure 37: C, I-M, E Spread – Wrk B (Inexp) P1DQ-8

Inexperienced responses to P1DQ-8 for work B, lay predominantly in the intra-musical sector (54%, 13/24), with the majority of these related to the materials of the work. Seven participants (30%) failed to record a response to P1DQ-8 for this work, and one indicated that there were no un-engaging factors to the work.

Inexp – DQ-8	Materials	Form
Work A	54% 7/13	54% 7/13
Work B	64% 9/14	29% 5/14
Work C	55% 5/9	55% 5/9

Comments on the musical form were spread across both visual and sonic aspects, with a nonsignificant trend towards the musical. Some of the inexperienced participants seemed also to

<sup>&</sup>lt;sup>84</sup> A similar element was also identified by a number of the inexperienced participants. Due to the frequent references to the event, it was isolated and included independently upon the audio-visual media, see: Disk 1, Example-B1.

make reference to a section of the work with less integrated, "electronic" sonic material, and the section with close-ups of the characters eyes:

4-2 – Not sure about some of the sounds and whether they worked so well with the visual as I could not make and interpretation of them

- 5-3 Eyes, hair, face, musical/artificial sounds.
- 5-4 some electronic effects were off putting
- 7-2 the very detailed close up of her eyes.

It is possible that these participants made reference to a section of the work between 4min 43s and 5min 03s (Disk One, Example-B1), this same section was also mentioned by a number of experienced participants as being the least engaging element of the work.<sup>85</sup> Marshall and Cohen suggest that direct temporal relationship of sound and image accentuates events (Marshall & Cohen 1988: 109). Because such close temporal relationships exist only within this short section of work B, and are so accentuated by their close synchronous relationship, it is likely that alien nature of these events was most specifically highlighted to the participants, who were then unable to rationalise these within the larger context of the whole work. Boltz highlights the significant influence of expectancy violations and how '[individuals] devote more processing effort toward unexpected information in order to make sense of the anomaly' (Boltz 2001: 429). Thus, events which differ considerably from the rest of the discourse have the potential to distract the audience member from the flow of the work's discourse and thus hindering the individual's aesthetic engagement with the work; 'if [...] expectancy is subsequently violated by a mood-incongruent scene, then this creates a "surprise" that becomes more salient in memory than does a mood-consistent scene' (Boltz 2001: 429). The "out-of-place" nature of this event, indicates the importance of consistency within the discourse and how it is important for the composer to retain a perspective upon the work's overarching concept at all times, in order that all events and sections of the work might serve the larger work as opposed to their own individual aims.

Inexp DQ-8	Sound	Image	Sound + Image
Work A	2	8	2
Work B	6	7	1
Work C	4	3	0

The few emotional responses to the work (12.5%, 3/24), indicated that some participants were intimidated or scared by the work and its material, however this value was far lower than that of the inexperienced responses to P1DQ-7 in which a significant proportion of participants indicated that this emotional element of the work was an engaging factor. Therefore, while the work was recorded as unsettling this was largely a positive factor in appreciation.

<sup>&</sup>lt;sup>85</sup> See above, p.156.

P1DQ-9 - Did the composition make you want to keep listening? Why?

**P1DQ-11**- Now that you have heard the composition, would you choose to listen to a similar type of composition again in the future? If yes, why? If no, why not?

## Experienced

Materials

#### Scores + Percentages

4

1 Strongly Positive	2 Lightly Positiv	e 3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
5	5	3	0	0
38%	38%	23%	0%	0%
Positive Keywords				Negative Keywords
Form	6		Materials	3

The responses by experienced participants to P1DQ-9,11 were diverse but largely positive, with thirty-eight percent being strongly positive and thirty-eight percent lightly positive. Two of the three participants who provided a mixed response to the work cited the audio element as being a negative factor, with the visuals as being positive. However, the third of these enjoyed the materials but not the form of the work.

The mixture of responses to this piece perhaps make more subtle trends difficult to discern, but responses to P1DQ-9,11 demonstrated an overall bias towards the positive with experienced participants commenting positively on the form, and responding both positively and negatively to the materials.

#### Inexperienced

#### **Scores + Percentages**

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
4	9	2	0	8
17%	38%	8%	0%	33%

#### **Positive Keywords**

Curious	6
Human (identification with)	2
Form	5
Emotional	5

#### **Negative Keywords**

Emotional (Distressing,	5	
listurbing, uneasy, negative,		
orror)		

Responses to work B for P1DQ-9, 11 by inexperienced participants, were weighted towards the positive (17% strongly, 38% lightly). Positive responses cited a curiosity about the work and indicated that the sense of mystery surrounding the character was an engaging element of the work (6/24). Two responses stated that engagement with the character in the work was a positive aspect, while five inexperienced participants commented on their more general emotional engagement with the work as being a positive element in their response (5/24).

However, in contrast to responses for P1DQ-7,8, emotional comments were just as frequent within negative responses to work B for question P1DQ-9,11 (5/24) as they were for positive

responses. This demonstrates that, while some participants found the uncomfortable and tense nature of the work engaging, others found themselves engaged with feelings that were too intense for them and thus uncomfortable. Participants assigned a score of 3 to further demonstrate this, as they both described indecision between judging the nature of the emotional tension as engaging or repulsive

This conflict between unease and enjoyment became less clear cut with the introduction of responses to P1DQ-9,11. However, the fact that the tense nature of the work was not cited as a least engaging factor in responses to P1DQ-8, still positions this element of the work as an engaging factor. The challenging nature of the work, and the tensions invoked, likely contribute to a situation whereby audiences do not wish to be presented with a similarly valenced work immediately following the projection of work B. Had responses been recorded to this question after a longer period of time had elapsed, between the end of the work and the questionnaire session, audiences may have demonstrated a different pattern of responses.

# 6.4.4.4. Desire for contextual information and reflection upon this desire after its provision.

**P1DQ-10** - Do you think that having more information about the composition might help you to understand it? If yes, why? If no, why not?

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
18	2	2	0	2
75%	8%	8%	0%	8%

Three quarters of participants (75%, 18/24) indicated in a strongly positive way that they would like to have more information about the piece. Seven of these participants indicated a desire to increase their understanding of the work, while another seven participants responded with a desire to discover the "true meaning" within the piece:

Desire to understand	Desire for meaning
1-5 - Yes, who is girl what is going on?	1-2 - Yes many possible meanings, confusing
2-2 - Yes I feel it would help me to understand the	1-3 - Yes needed for clear meaning, just random without.
motives behind the piece.	
2-3 - Yes. Didn't understand what it was about.	3-4 - Yes it might give me a less creepy impression, one which I'd prefer. Knowing the aim of the piece would help me discover true meaning,
5-2 - Yes it would narrow down the possible answers to the questions that arose whilst watching.	4-1 - Yes because I'm still not sure of the meaning.
5-3 - Yes it is very abstract. It works through feelings through sound/visual aids. The intention would have made it more clear what the intended reaction could be. I would prefer it for any such abstract work.	4-2 - Yes because the piece gets you confused in the general meaning that the woman is trying to show you.
5-4 - Yes I'm not exactly sure what the person is experiencing the thing she have stated. There's a very good chance I've completely misinterpreted the piece. If I knew the artist better this might not be an issue.	6-1 - Yes interested to know what the meaning is
6-2 - Yes because I am not into that sort of art, simply didn't understand it.	6-3 - Yes as I might be wrong in interpreting and there were some associations with the life around which I would want to check with more information.

Eight participants indicated a desire to find out more information from the composer, specifically with regard to their intentions, with three expressing a desire to compare their own interpretations with that of the composer.

Only two participants responded in a negative fashion, indicating the desire to retain an individual uninfluenced interpretation.

**P1DQ2-2**: Would you have preferred to have been given access to this information before being presented with the piece?

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
8	4	1	3	8
33%	17%	4%	13%	33%

Responses to P1DQ2-2 for work B were in astonishingly sharp contrast to those of P1DQ-10, more markedly so than for inexperienced responses to the same questions with regard to work A. Only fifty percent of participants responded in a positive fashion.

Eight participants (8/24) responded in a strongly positive way, but without description or contextualisation of their response. All of these participants had previously desired further information (all except 6-5 demonstrated a strong desire for more information, participant 6-5 themselves had given a lightly positive response to P1DQ-10). Of the four participants who responded in a lightly positive way (4/24), all except participant 7-2 had responded in a strongly positively way to P1DQ-10, indicating that the information would have made the piece more accessible to them.<sup>86</sup>

- 1-5 Probably would have connected more with the piece
- 3-2 It may have made it less unsettling for me.
- 5-4 Yes I think so. Though I still like my initial interpretation.
- 7-2 Yes the title at least.

Participant 2-2 responded in a neither positive or negative way but echoed the response of participant 3-2, indicating that information would have made the work more accessible and less emotionally upsetting:

2-2 - Either would have been fine. Would have been less "shock value" but I could have spent time concentrating on the details.

The remaining participants responded in a negative fashion, three in a lightly negative way and the remaining eight participants in a strongly negative way:

- 1-4 No, as composer mentions interpreting piece in own way.
- 2-1 No
- 5-2 I don't think so. Seems like fun somehow.
- 1-1 No, good to have own interpretation + compare with composers.
- 1-2 No, womans state of mind clearly shown.
- 3-1 No because the whole point of this art is interpretation.
- 3-3 No I prefer to have an untainted judgement of the piece (view with an open mind).
- 6-2 No.
- 6-3 No as the movie talked for itself.

<sup>&</sup>lt;sup>86</sup> Participant 7-2 had previously responded to P1DQ-10 in a strongly negative way.

6-4 – No I enjoyed discovering the meaning for myself.

7-1 – No I prefer to be confronted by/ with the piece without previous knowledge.

Six of these participants had previously responded to P1DQ-10 in a strongly positive way (1-2, 3-3, 4-3, 5-2, 6-2, 6-3) and two of these participants had previously responded in a lightly positive way (1-4, 3-1). The majority of these participants had previously desired more information about the work, but once the contextual information was provided they disapproved of it. This indicates that the nature of the provided information may not be appropriate for a significant proportion of participants.<sup>87</sup>

#### 6.4.4.5. Influence of and evaluation of the volume and content of information

**P1DQ2-1**: Has access to this information from the composer influenced your appreciation of their composition? How?

The majority of participants (46%, 11/24) indicated that the contextual information increased their understanding of the work, through providing some context for the female character and information about the work's concept, the lack of which was previously unsettling for the participants:

- 1-1 Yes, increased understanding makes you realise the relevance.
- 1-2 Yes, can now appreciate sound/image interaction
- 1-3 Yes, shown narrative, shown point no longer random or disturbing.
- 1-4 Yes, greater understanding, now understand composers thoughts and feelings
- 1-5 Yes, interesting concept
- 2-2 Yes I wanted to understand the meaning behind the piece from the artists perspective.

3-3 - Only to a limited extent. It has confirmed some initial thoughts but still it's made me aware of some additional meanings within the piece.

4-1 - Yes because I was not able to read all f the meaning only some. I understood the point of intimacy and conflict in human nature but I had no idea about a woman specifically but about a person.

5-3 - Yes it tells me more about how the creator looks at the "subject" and thus its importance. The contradictions (noted as such) are stronger this way.

5-4 - A little. I can now appreciate that the piece describes the person as a whole and not as an individual event/ memory we're seeing inner conflict.

6-5 - Yes it has clarified the meaning of the piece. Also I misinterpreted the extreme close up at the start as a male face. This was an error on my part.

In total fourteen participants (58%) found the contextual information a positive factor in their appreciation and only six (25%) found that it had no impact on their interpretation, or a negative impact:

2-3 - Yes although I thought the film might be more about something other than mood.

3-2 - No I feel like they have created something completely different to what they intended in some aspects. Although they have mentioned conflicting relationship with "subject" and not feeling what the artists point of view is.

4-2 - Not really since it has a lot of interpretations and I mostly found out what it meant to show us.

6-1 - Not really. I can appreciate why some of the images were used but it doesn't add much to my perception of the piece.

6-3 - It didn't influence me as I already appreciated the composition. To choose a human is a very great way to express anything. I think as they can show emotions with bodily movements of facial expressions. The movie really represented his wish and didn't need further explanation.

7-1 - No in a sense because I stick to my first response but I can understand know what she was trying to do and she eventually manages to do it.

All of the participants recording a negative interpretation did so because they valued their own interpretation more highly than that of the composer.

<sup>&</sup>lt;sup>87</sup> As was discovered within participant responses to the information provided to accompany work A. See above, p.137.

P1DQ2-3: How do you feel about the volume and content of the information that was provided?

The majority of participants found the volume and content of the contextual information to be positive, with thirteen participants responding in a strongly positive way (50%, 12/24). These participants, though providing strongly positive responses, did not provide contextualisation or justification for their interpretation. Nine participants responded in a lightly positive way (10/24, 42%), indicating their approval of the contextual information but with some reservations or a less affirmative manner, these are shown below:

1-2 - Info was clear.

- 1-3 Enough to portray composers intentions + enthusiasm.
- 1-5 Little more explanation of meaning required.

2-1 - The information gives some more clarity to the images: my feelings were that of claustrophobia and a feeling of unease. This is reflected by the information I have just read.

3-2 - It was a nice volume but I'm not sure the composer fully gets their message across and I found it almost contradictory.

5-3 - The content was partially unpleasant... but because I read the creators notes I know it was meant this way.

- 5-4 Some of it was repetitive. But it is nice that the artist is open to alternative interpretations.
- 6-2 Got all the information.
- 6-3 I think it is always interesting to listen to the author's idea and what they expect.
- 7-2 Better although not all the information is necessary.

These responses suggest that the style or content of the contextual information could be more appropriate, but that it was beneficial for the participants to receive it. Only two participants responded in a lightly negative way to the contextual information.

The vast array of positive responses to P1DQ2-3 (22/24, 92% participants responded positively) are in keeping with the trend towards the positive for P1DQ2-1, but do contradict the six negative responses to received to the previous question (P1DQ2-2).

Participant	P1 DQ2-1	P1 DQ2-3
2-3	Yes although I thought the film might be more about something other than mood.	Fine
3-2	No I feel like they have created something completely different to what they intended in some aspects. Although they have mentioned conflicting relationship with " subject" and not feeling what the artists point of view is.	It was a nice volume but I'm not sure the composer fully gets their message across and I found it almost contradictory.
4-2	Not really since it has a lot of interpretations and I mostly found out what it meant to show us.	Not really useful but reading it before watching the presentation would still be a good idea
6-1	Not really. I can appreciate why some of the images were used but it doesn't add much to my perception of the piece.	It is fine
6-3	It didn't influence me as I already appreciated the composition. To choose a human is a very great way to express anything. I think as they can show emotions with bodily movements of facial expressions. The movie really represented his wish and didn't need further explanation.	I think it is always interesting to listen to the authors idea and what they expect
7-1	No in a sense because I stick to my first response but I can understand know what she was trying to do and she eventually manages to do it.	Again I think it is too much. If given before watching the piece it could lead or guide the experience in a negative way.

Two of these six participants (4-2, 7-1) do respond in a consistently negative way with regard to the contextual information, but the remaining four respond negatively to the influence of the information and then evaluate the contextual information to be "fine"<sup>88</sup> in volume and or content.

# 6.4.5 – Summary of Responses to Work B Experienced Participants Interpretation of the Work

**1.** Throughout the experienced interpretative responses to work B, the spread between intramusical and contextual demonstrated that the experienced trend for analytical interpretation was being supplanted by more contextual interpretations. These results suggest that a larger proportion of the experienced participants were engaging with the work in a non-analytical (or not purely analytical) capacity, indicating an aesthetic appreciation or connection with the work. This trend can be directly related to Reynold's theory of depth versus dimensionality<sup>89</sup> as experienced participants — those whom would usually be expected to provide analytical responses — are found to provide aesthetic interpretations, responding to the "depth" of the work (Reynolds 2002: 9). Where experienced participants did record intra-musical interpretations it was often to justify previous contextual or emotional responses.

**2**. Participants recorded generalised comments regarding their most engaging aspects, and specific comments regarding the least engaging. This suggests that experienced participants were engaged with the work in general but took issues with specific elements within it.

**1.** Experienced participants primarily responded explicitly to the "mimetic" material, with only thirty-eight percent of experienced participants providing technical comments about the work, far less than the proportion of technical comments made by experienced participants to both work A and C (69% and 46% respectively).

Experienced participants also responded to the question of meaning and emotion in work B, far less analytically than within their responses to works A and C. These responses demonstrated a trend towards the contextual and intra-musical, but never fell within individual categories. Instead responses to the work were classifiable in more than one category, demonstrating a spread of contextual, emotional and analytical connection with the work by experienced participants. Emotional responses were directly related to the contextual responses, with the two only occurring together. They tended to describe a sense of anxiety, fear or tension, and it is possible to see a direct empathic relationship between the participants' contextual interpretation of the female character's experience, and their own emotional reaction. All

<sup>&</sup>lt;sup>88</sup> "Fine" is a term use by a number of participants to evaluate the information to be appropriate.

<sup>&</sup>lt;sup>89</sup> See Chapter Three, p.50.

contextual responses related to the female character and all emotional responses were empathic with this characters state of mind and experience.

Correspondingly the intra-musical responses provided technical justifications for how these emotions and contexts were constructed within the work. Of these, only twenty-nine percent of participants described the sound and image interactions within the piece, instead many responses focussed upon the role of the visuals (50%) and audio (41%) within the constructed narrative of the work.

Interpretations of narrative also present this same shift, with an almost equivalent number of contextual and intra-musical responses. This was quite different to the anticipated analytical bias towards intra-musical responses, as demonstrated in experienced responses to work A and C.<sup>90</sup> Instead, with responses falling into the contextual and emotional sectors just as frequently as the intra-musical, the experienced participants demonstrate an unexpectedly aesthetic and contextual interpretation of work B supported by an analytical justification of responses.

These responses directly supported Reynolds theory of depth, in which the individual is engaged aesthetically within the flux of the work, and only after the fact objectively assessing and evaluating it from an external viewpoint. This positions the experienced responses for work B closer to those of the inexperienced participants, with their trend towards the contextual — observable across all inexperienced responses to the three test works A, B and C — than to the experienced responses received to work A.

**2.** In their responses to the most engaging aspects of work B, experienced participants provided analytical justifications for their responses to previous questions.<sup>91</sup> They cited an equal regard for both the materials and forms of the work, with fairly equal weighting given to sound, image and sound image interactions. This might suggest that the experienced participants evaluated an effective balance to have been achieved within work B, between the sonic and the visual.

With regard to the least engaging aspects (P1DQ-8), experienced participants appear to have provided analytical justifications for responses to previous questions. The sonic element of the work was most frequently mentioned as the least engaging factor, however a number of these responses made reference to one section of the work, specifically that between 4min 43s and 5min 03s (Disk One, Example-B1). Despite this apparent contradiction, when the responses were examined it was possible to observe, that despite intra-musical elements being identified as both most and least engaging, participants tended to focus upon individual subsections, and

<sup>&</sup>lt;sup>90</sup> This is quite different to the experienced participant responses to work A where the weighting lay distinctly towards an intra-musical analytical assessment of the work and corroborates the responses to P1DQ-2,3.

<sup>&</sup>lt;sup>91</sup> Highlighting the significance of the fact that experienced participants did not previously respond in an analytical way to work B.

events, of the work as the least engaging aspects, while the most engaging aspects were more general comments relating to the whole of the work (P1DQ-7).

This finding is supported by the experienced participant desire to see more and keep listening (responses to P1DQ-9,11), in which seventy-six percent of participants responded positively. The majority of these responses discussed the form of the work positively, and provided a mixed assessment of the materials.

Thus, in responses to both P1DQ-7 & 8 and P1DQ-9,11, experienced participants can be observed to be engaged by aspects of the work's form — and thus more overarching and generalised aspects of the work — but present a mixed response to the materials of the work — and thus a mixed response to specific moments or properties of the piece.

These responses might also add to the suggestion that experienced participants responded to the work (during the work) in an aesthetic, as opposed to an analytical, fashion. If engaged with the work in an aesthetic and "deep" fashion, then participants would be unable to recall and identify specific engaging aspects — and indeed responses to P1DQ-7 were more general, referring to forms of the work. Elements that interrupted the aesthetic interpretation are likely to be more recognisable and thus are more readily recalled by the experienced participants when they employ an analytical reflection after the work has ended. This assertion is also supported by the fact that experienced individuals responded in a largely contextual fashion to questions of interpretation, and then provided an intra-musical and analytical justification for their action.

Therefore it is likely that experienced participants largely responded to work B in an unmediated aesthetic fashion, only providing analytical justifications to support their responses within the process of data collection and in reflection upon the work after its completion.

## **Inexperienced Participants**

#### Interpretation of the Work

**1.** Inexperienced participants demonstrated a strong engagement with work B, demonstrated through the prevalence of emotional responses to the work. Any contextual associations to the work attempted to provide a rational explanation for the emotional situation, and while responses to the engaging aspects in the work did indeed demonstrate an intra-musical majority, this majority was the smallest for any of the three Phase One test works. Responses to work B by inexperienced participants appear to support Reynolds' theory of depth.

2. Non-emotional responses to the work provided justification and contextualisation for the emotional responses to work B. Materials were identified in a largely mimetic fashion (as opposed to being identified as synthesised) and less technical comments were received for work B than either of the other test works. Analytical responses appeared to be reflections upon the participant experience of the work, rather than having been inspired directly by the work itself.

**3.** A higher proportion of inexperienced participants responded to P1DQ-6 for work B than for any other work. Materials were both most and least engaging, with the visuals cited slightly more frequently than sonic materials as the most engaging aspect of the work. Participants presented a positive trend with regard to the desire to see more and keep listening, but this was less significant than for experienced participants, with the uncomfortable nature of the emotional connections often cited.

**4.** The uncomfortable nature of the work was cited more regularly as an engaging element of the work, than it was as an un-engaging, or negative, element. Inexperienced participants were not so keen to watch similar works as experienced participants, but work B received more positive responses for this question (P1DQ-9, 11) than did work A.

**1.** Despite only being asked to record responses for the works materials in P1DQ-2,3, a quarter of inexperienced participants recorded an emotional response, thus demonstrating the significant nature of their emotional connection with the work. In responses to P1DQ-1,4,5 every single participant recorded an emotional response to the piece, with all but two participants referring to the piece as being disturbing, unsettling or evoking a sense of fear. Many of these responses were found in association with contextual comments frequently referring to the female character within the work (79% emotional and contextual). In their emotional responses, participants either empathised with this female character or referred to a state of mind or feeling that the piece evoked within them.

These results suggest that the presence of the human form (and utterance) within the work, positioned it within a conceptual framework with which audience members were very familiar, dealing with and interpreting other humans. In the situation of work B, the relationship between the audience and the work was further heightened as the human character provided a node for empathic connection with the participants. This form of connection embodies the form of the archetypal "primitive encounter" that became the subject of much discussion, and many art works, during the enlightenment (Kramer 2006: 125).<sup>92</sup> Inexperienced participants proved themselves to be able to provide intra-musical responses to work A and C, but where the emotional connection is strongest, in work B, there is an almost complete lack of intra-musical responses.<sup>93</sup> This heightened sense of emotional engagement is exactly of the response type described by Reynolds as "depth".

**2.** Inexperienced participants followed their experienced counterparts in responding primarily to the "mimetic" human material within the work. However, the inexperienced participant group also provided large proportion of responses citing other concrète materials (67%). Many of these contextual descriptions could be analogous with materials elsewhere described as

<sup>&</sup>lt;sup>92</sup> See above Chapter Three, p.38.

<sup>&</sup>lt;sup>93</sup> See above, p.151.
synthesised or abstract. Indeed, almost half of the inexperienced participants stated that there were abstract materials within the piece (46%) before appending contextual "mimetic" descriptions of the said "abstract" materials.

One third of inexperienced participants responded with technical comments about the work (a very similar proportion to the number of experienced participants responding with technical comments (38%)), compared with fifty-four percent for work A and twenty-nine percent for work C. The few technical comments recorded to work B also tended to be very general and even implied, as opposed to the explicit nature of the technical comments received to work A and work C.

Analytical intra-musical responses received in response to P1DQ-1,4,5, were largely a justification of how the work evoked certain emotions. This is in clear contrast to the experienced participant responses to the work, visible when the two sector diagrams are compared.<sup>94</sup>

**3.** Unlike the inexperienced response sets to work A and C, almost all participants provided responses to the question of narrative (P1DQ-6) for work B (ninety-two percent (92%); only sixty-two percent (62%) provided responses to works A and C). These responses demonstrated a strong trend towards the contextual (73%), with many containing emotional undertones regarding the mental state of the character, or with participants projecting themselves and their own fears into their interpretation. These responses appeared to provide contexts for the inexperienced participant's emotional responses to the work.

While the majority of inexperienced participants recorded intra-musical responses to the question of the most engaging aspects in work B, this majority was the smallest out of all of the inexperienced responses to P1DQ-7 (50%, work A received seventy-nine percent (79%) and work C received sixty-seven percent (67%) analytical responses). Inexperienced participants also recorded a mixture of contextual and emotional responses to the work (25%), and this trend was only present within responses to work B. Such a pattern of responses indicates the significance of the deep aesthetic engagement of inexperienced participants to work B, the participants were frequently compelled to provide analytical statements in order to justify their responses to previous questions.

The high percentage of inexperienced responses to narrative in work B indicated that the work presents a framework upon which participants can more readily ascribe a narrative interpretation, more so than for work A and C. This is most likely due to the presence of the human character offering a point of empathy and connection, with which inexperienced participants can relate in order to form their contextual interpretations.

<sup>&</sup>lt;sup>94</sup> See figure 30, p.149 and figure 31, p.151.

**4.** Despite the uncomfortable nature of the work, often referenced in responses to previous questions, it is positive to observe that inexperienced audiences identified this as an engaging factor considerably more frequently than they found it to be a non-engaging element of the work.

Inexperienced participants were less keen to "see more or keep listening" to work B (P1DQ-9,11) than their experienced counterparts (Inexp – 17% strongly and 38% lightly positive; Exp -38% strongly and 38% lightly positive). But inexperienced responses to work B were more positive than inexperienced responses to work A (25% strongly, 4% lightly). Curiosity and engagement with the human character were some of the most frequently cited reasons for positive responses to work B, while the unsettling emotional responses to the work were used to justify both positive and negative opinions. Inexperienced participants utilised more emotional than analytical responses to this work, with responses to the works form mainly describing the progression of participants' emotional responses to the work.

Just as for experienced participants, a number of the negative inexperienced responses appear to relate to the section of the work between 4min 43s and 5min 03s, (Disk One, Example-B1).

## Evaluation of Contextual information for Work B (Inexperienced Participants)

#### Desire

Inexperienced participants again (as in responses to work A), responded with a clear trend indicating a desire for contextual information about work B (75%). Unlike for work A however, there was a more equal division of participants desiring a greater understanding (29%, 7/24) and those desiring more information about the meaning of the work (29%, 7/24). Thus, a significant proportion of participants appeared to believe that this work had one specific meaning, though this is a significantly smaller proportion than for work A. Such a desire for explicit meaning could be due to the fact that the presence of the character made this work most similar to popular film out of all the P1 works, and that in such popular films the audience are usually always fed a narrow band of meaning, a clear narrative, as opposed to being free to apply their own interpretations. Thus, when participants apply filmic schemata in their interpretations, they are positioned at a tangent to the subject-position of the discourse. Work B cannot be interpreted like a Hollywood film, even though it shares some characteristics with such art forms (it might be described as a work about human interaction and emotion, and not a narrative discourse).

Almost half of participants indicated that they would rather not have been provided with contextual information for work B. This is in contrast to eighty-three percent who previously responded positively to P1DQ-10. Such a result suggests that the provided contextual information did not fulfil the desires of the participants, many of whom had previously indicated a desire for more contextual information.

## Content

Fourteen participants (58%) recorded that the contextual information to work B had a positive impact upon their interpretation, with almost half of the participants (46%, 11) recording a greater understanding of the work as a result of receiving it. Two participants indicated disappointment with the work as a result of receiving the information, and one quarter of participants recorded that the information had no or a negative impact upon their interpretation. All participants recording a negative interpretation did so because they valued their own personal interpretations of the work.

Fifty percent of participants evaluated the contextual information to be suitable, responding in a strongly positive fashion, while a further forty-two percent responded in a lightly positive way. However, these participants did not provide contextualisation or justification for their responses.

When compared with the responses to P1DQ2-1, it is possible to observe that the majority of responses to both P1DQ2-2 and P1DQ2-3 remained positive, however some participants recorded quite contradictory comments to the two questions. This could have been due to a lack of reference, where the participants had no other set of contextual information with which to compare the work B information. Participants also seemed to particularly enjoy the composer's statement about audiences making their own interpretations of the work.

Stylistically, the contextual information provided to accompany work B provides cultural references ('My intentions are close to the work of David Lynch.') and supports the focus of the work upon the female character and the audiences' empathic connection with the work.<sup>95</sup> The implication is that audiences might make their own sense of the work, but engage in a strong emotional connection with the piece.

Despite the fact that the contextual information for work A also states 'the important thing is that the audience receives something interesting (surprise, emotion, curiosity, etc.)', the work's programme note sets out a discrete meaning ('The idea of the project is to give life to the sparkle in different materials.'). While work C's contextual information, provides technical details about the realisation of the work, supported by information about the work's original concept. Therefore the information for works A and C did not emphasise so clearly the open opportunities for participant interpretation, though these may have been implicit or implied within their content. Audiences appeared to appreciate the confidence invested in them by the composer via the Work B contextual information.

<sup>&</sup>lt;sup>95</sup> A copy of the contextual information for work B is provided in Vol.2, p.74.

# 6.4.6 - Work C

## 6.4.6.1. Perceived Material Properties of the Work

P1DQ-2 – What sounds or images did you recognise in the composition?P1DQ-3 – If you heard sounds that were strange and/or unnatural, please describe (if you can) one/some/any of them?

# Experienced

Experienced participants largely described the materials of work C as abstract, but with recognisable forms (participants utilised many contextual analogies to describe these forms (77%, 10/13)). These responses to P1DQ-2,3 for work C broke from the trend towards explicit descriptions of the works materials, established in experienced analytical responses to work A and B for P1DQ-2,3. Instead, experienced participants employed many contextual analogies and descriptions in order to describe the piece. Clouds (38%. 5/13), waves (31%, 4/13) and circular motion (23%, 3/13) were the most frequently recorded contextual descriptions of the works materials. These contextual responses to the work.<sup>96</sup> However, it may also be attributable to the abstract nature of the materials themselves. The abstract nature of the works materials means that no direct mimetic correlations can be drawn, thus complicating the task of explicit description. Such materials therefore are less likely to obstruct perception of the works form.<sup>97</sup> This is reflected in the prevalence of experienced participant descriptions of such forms.

Six participants recorded the presence of synthesised materials in the work (54%) and a further six experienced participants recorded the action of technique and technology in the work. Such analytical responses accompanied by contextual descriptions indicate that the experienced participants do interpret the materials of work C as abstract generated material, but that this does not obstruct their interpretation with their attention instead drawn to the forms of the work.

## Inexperienced

Inexperienced participant responses to P1DQ-2,3 were similar to their experienced counterparts, demonstrating a tension between using contextual analogies in interpretation and the fact that the work was made of entirely abstract materials. This was perfectly summarised with the comment:

6-4 - I didn't recognise any sound in particular but at the same time I'm familiar somehow with all of them.

The materials of the work were described, by a significant proportion of participants, as synthesised or abstract, while the form and action of these materials (and of the work) was described through the use of contextual analogies. Frequent analogies recorded were: space

<sup>&</sup>lt;sup>96</sup> As they were to work B see above, p.147.

<sup>&</sup>lt;sup>97</sup> In contrast to the way in which the highly recognisable mimetic materials of work A might have obstructed perception of the works form, see above, p.119.

(54%, 13/24), particles (38%, 9/24), waves (25%, 6/24), water/ocean life (17%, 4/24), fireworks (12.5%, 3/24) and snow (8%, 2/24). Only six inexperienced participants explicitly recorded synthesised materials within their responses to work C for P1DQ-2,3.

Six more inexperienced participants described musical instruments as constituting the sonic material within the work. Many were descriptions of inharmonic pitched instruments, such as cymbals and metal chimes, as participants sought to describe the pitched but complex inharmonic timbre of the frequency modulation (FM) synthesis material (a church organ was also mentioned).

Such "mimetic" responses to the work were derived from inexperienced participants' own lived experience, and also from cultural representations of certain concepts creating schematic associations. A participant may personally observe a swarm pattern in a shoal of fish, clouds in the sky, or even in a computer game; but they will also be introduced to computer generated (CG) swarms and other such models within education and documentaries such as those regarding the concepts of space. These documentaries (other works or media) apply the concept of swarms and other models in order to enable their own audience to understand and comprehend concepts and the other theoretical materials presented. Thus, inexperienced participants draw parallels with such social conceptual norms and apply them to their interpretation of the work, hence the number of responses regarding space.

Seven participants (30%) recorded technique or technology employed within work C, less than the fifty-four percent recorded by the experienced participants to the same work and similar to the inexperienced responses to work B (33% recorded technique/technology).

These results suggest that inexperienced participants, like their experienced counterparts, were engaged with the forms in the work, without distraction caused by the nature of the work's materials. Inexperienced participants appear to have been engaged in an aesthetic interpretation of the work's materials, drawing mimetic associations to describe the materials and forms that they perceived in the work.

## 6.4.6.2. Perceived Meaning and Emotional Response

P1DQ-1 – What might this piece be about?

**P1DQ-4** – Did the relationships of sound and image work to signify anything? If so, please describe.

**P1DQ-5** – Did the piece communicate a meaning? Did you have any emotional responses to the piece? If so, please describe them.

## Experienced



Figure 38: C, I-M, E Spread – Wrk C (Exp) P1DQ-1,4,5

Experienced participant responses to P1DQ-1,4,5 were consistent with the experienced participant responses to work C in P1DQ-2,3 presenting a mixture of intra-musical and contextual descriptions but with a weighting towards the contextual.

It is interesting that the responses to P1DQ-1,4,5 should be so weighted to the contextual for the most abstract work, but such contextual responses demonstrated the more open nature of work C than either of the previous test works. The abstract nature of the work's materials did not act to restrict or direct interpretations, but afforded experienced participants with an open subject-position and a great many possibilities for interpretation, for example: waves, swarms/flocks, ocean, space and floating.

Emotional responses by experienced participants referred to the engaging nature of the work, with reference to the meditative, mesmerising, beauty of the piece. But, these emotional responses were not found in isolation, they always related to a contextual interpretation of the work.

Intra-musical responses, too, were never found in isolation. They provided an analytical reflection upon contextual or emotional responses, with most (86%, 7/8) of the intra-musical responses making reference to the close interaction between the sounds and images within the work. Such a prevalence of responses regarding the sound and image interaction, where fewer

participants responded in an intra-musical way, highlighted the importance of sound and image relationships in experienced audience interpretation of work C. As with responses to P1DQ-2,3 these contextual descriptions act to highlight the forms within the work.

## Inexperienced



Figure 39: C, I-M, E Spread – Wrk C (Inexp) P1DQ-1,4,5

Inexperienced responses to P1DQ-1,4,5 for work C were more evenly spread across the three groups than for previous works; but again surprisingly (for the most abstract piece) the responses demonstrated a weighting towards the contextual. In their contextual responses participants cited space (67%, 14/21), life (38%, 8/21), sound and image relationship (14%, 3/21), science (33%, 7/21), transformation (10%, 2/21) or a combination of the above.

All of the intra-musical responses referred to the structure and form of the piece, with no responses making reference to specifics of the work materials. Seventy-nine percent (11/14) of intra-musical comments made reference to the close relationship between sound and image, summarised well by the following statements:

1-1 - Images moved as if they were the sound.

5-4 - It was a bit like seeing the sound.

Neither the sound nor the images were mentioned separately by participants, suggesting that their relationship was perceived clearly and that and they were afforded an equal weighting by the inexperienced participants.

Just as for the experienced participants, emotional responses were always found in conjunction with either contextual or intra-musical responses. The emotional responses to the work

indicated an enjoyment of the piece as a result of the aesthetic,<sup>98</sup> the chaos/order balance<sup>99</sup> and relaxation.<sup>100</sup>

The responses to work C were in some ways similar to the inexperienced responses to work A. Both display a weighting towards the contextual, but work C possesses fewer responses belonging solely to the contextual sector. Instead, these contextual responses are found amongst a greater spread between the sectors. This is reflected in the fact that the descriptions of work A by inexperienced participants relate to the concrète objects that are the source of the works materials, while for work C the abstract work is described using contextual allegories. This again demonstrates the focus upon form within responses to work C, for both experienced and inexperienced participants.

**P1DQ-6** - Did the composition suggest a narrative, be it a story or any other time-based discourse? If so what might this concern?

## Experienced



Figure 40: C, I-M, E Spread – Wrk C (Exp) P1DQ-6

A large proportion of the experienced participants indicated there was no narrative, or left void responses to P1DQ-6 for work C (38%, 5/13). Those who did reply, most often recorded intramusical responses (46%, 6/13), all of which discussed short-term forms of the work.

The response by experienced participant 1-4 could be either contextual or intra-musical depending on the emphasis behind it. Unfortunately no indication was given in the text and therefore it was included in both columns.

1-4 - The flow of sonic and visual particle energies.

The trend towards the intra-musical for experienced responses to work C was in keeping with

<sup>&</sup>lt;sup>98</sup> Aesthetic - Five participants, respectively: 1-2, 1-5, 2-3, 5-2, 6-5.

<sup>&</sup>lt;sup>99</sup> Chaos/Order balance - Five participants, respectively: 2-2, 3-2, 3-2, 3-3, 5-2.

<sup>&</sup>lt;sup>100</sup> Relaxation - Four participants, respectively: 2-3, 3-2, 7-1, 7-2.

experienced responses to work A and in contrast with inexperienced responses to work B. However, a significant number of both experienced (38%, 5/13) and inexperienced participants (38%, 9/24) were unable to perceive a narrative within the work. It may be anticipated that inexperienced participants found it difficult to ascribe an account of narrative for a work of such abstract materials, but the prevalence of such responses by experienced participants perhaps indicates a more complex state of affairs.

If experienced responses to P1DQ-1,4,5 for work C are recalled, it is possible to observe a focus upon individual moments in the piece, as opposed to larger forms (discursive structures in the work). Even the high number of intra-musical responses to the works form in P1DQ-1,4,5, tended to focus upon sound and image relationships within individual gestures. Such responses suggest that the attention of experienced (and inexperienced) participants reflect that defined by Reynolds as "depth", with strong aesthetic and emotional connection and with attention carried within the flux of inner time (Schutz 1976: 46), as opposed to distanced dimensional reflection and analytical critique. This can be further corroborated by the experienced participants emotional responses to P1DQ-1,4,5 work C, which record the "mesmerising", "meditative" nature of the work, further suggesting emotional engagement with the flux of the musical work. The fact that the work itself was almost entirely one single seamless process was possibly one of the reasons that it was able to engage participants in this fashion.<sup>101</sup>

## Inexperienced



Figure 41: C, I-M, E Spread – Wrk C (Inexp) P1DQ-6

Inexperienced participants provided responses to P1DQ-6 that stood in sharp contrast to their experienced counterparts. The inexperienced participants largely responded describing a contextual narrative for the work (54%, 13/24 (of those who responded 87%, 13/15)), with only

<sup>&</sup>lt;sup>101</sup> See also Reynolds "depth", Chapter Three, p.50. And the discussion of the perceptual present within Chapter Four, p.72.

two recording an intra-musical interpretation of narrative. Nine of the inexperienced participants (38% 9/24) either failed to, or recorded that the piece had, no narrative.

The diversity of contextual responses was again apparent, with a wide variety of interpretations made including space (31%, 4/13) and life (23%, 3/13), but the most common was that of a journey (46%, 6/13).

Initially it might seem that the focus of these inexperienced participants was not one of "depth"<sup>102</sup> because of the lack of emotional responses, and the prevalence of contextual descriptions of the works narrative. However, upon closer examination of the inexperienced responses to work C, it is possible to observe that many of the contextual descriptions describe only short sections within the work, or assign vague and generalised narrative contexts to indicate the experience of a journey. This is similar to the intra-musical responses of the experienced participants for P1DQ-6, in which only short term forms of the work were discussed.

Instead of providing analytical intra-musical responses like the experienced participants, inexperienced participants provided contextual interpretations inspired by short scale structures, subsequently expanded in order to suggest possible narratives for the entire work. These responses, and the inexperienced participants who could not provide any response to the question of narrative (38%, a proportion equal to that of the experienced participants who were unable to provide responses to P1DQ-6) suggest that inexperienced participants too, are engaged within the flux of inner time during the work. And that only when the questionnaire requested an assessment of the narrative, did they expand possible interpretations of individual present moments within the work in order to rationalise a narrative content that might describe the entire work.

This proposition of engagement within the flux of the work, is further supported by inexperienced responses to P1DQ-9,11 discussed below (p.186), where the most common positive responses made reference to the meditative, hypnotising and calming nature of the work, all of which are pointers towards an engagement with the non-analytical (non-dimensional), emotive (deep) perceptual present of the work.

The trend towards contextual responses for P1DQ-6 was clearly visible in inexperienced responses to all three test works. When the response sets for P1DQ-6 are compared between the works, it is possible to observe that Work C lies in the mid position with thirteen responses (54%, 13/24), more than for work A (45%, 11/24), but less than for work B (71%, 17/24). It is interesting that, despite being made from abstract materials, inexperienced participants were more able to apply contextual interpretations to work C than to work A. This is most likely due to the "open" and abstract nature of the work presenting the participants with a more open framework upon which to base their interpretations as opposed to the obscuring recognisable materials of work A which immediately conjure up mimetic associations.

<sup>&</sup>lt;sup>102</sup> As was found to be a significant feature of the experienced participant responses. See Chapter Three, p.50.

## 6.4.6.3. Engaging aspects and desire to see more/keep listening

P1DQ-7 - What aspects, musical or otherwise, did you find most engaging in the composition?

# Experienced



Figure 42: C, I-M, E Spread – Wrk C (Exp) P1DQ-7

Experienced responses to P1DQ-7 for work C are almost entirely intra-musical. Of all the intramusical responses, half (50%, 6/12) refer to the materials and half (50%, 6/12) refer to the form of the work. This is in keeping with responses to work B, but at odds with that of work A.

Exp – DQ7	Materials	Form
Work A	37.5% 3/8	62.5% 5/8
Work B	50% 6/12	50% 6/12
Work C	50% 6/12	50% 6/12

These intra-musical responses reference the sonic element of the work only twice, while images and sound and image relationships were mentioned seven times each. It is possible that the sonic element of the work was mentioned less because it was harder to describe the properties of seamless FM synthesis than it might be to describe manipulated concrète audio, but this should not be the case for the experienced group. Sound and image interaction was nearly always mentioned after the participant had discussed the images within the work, suggesting that the images were indeed more compelling (or easier to describe) than the audio, but that the sonic element of the work was appropriate to these images and worked seamlessly with them to create a cohesive and compelling audio-visual discourse.

Exp DQ-7	Sound	Image	Sound + Image
Work A	5	1	1
Work B	4	5	5
Work C	2	7	7

Thus, the results suggest a strong appreciation audio-visual nature of the work and the balance between the sounds and images in the work. The visual materials being abstract in material but with recognisable forms provided a framework within which participants could interpret the work, drawing mimetic and cultural associations.

## Inexperienced



Figure 43: C, I-M, E Spread – Wrk C (Inexp) P1DQ-7

The majority of inexperienced responses to this question made reference to the intra-musical nature of the work (75%, 18/24). Thirty-nine percent (7/18) of these made reference to the musical materials and sixty-one percent (11/18) referred to the musical form of the piece. This is in contrast to the trend set out within responses to P1DQ-7 for work A and B in which inexperienced participants generally referred to the materials of the work, as opposed to the form.

Inexp – DQ7	Materials	Form
Work A	80% - 16/20	20% - 4/20
Work B	71% - 10/14	21% - 3/14
Work C	39% - 7/18	61% - 11/18

Of these intra-musical comments, the audio elements of the piece were mentioned four times, the visuals within the piece were mentioned by eight participants and the sound and image interactions were mentioned by nine participants. This frequency of responses regarding sound and image interactions was by far the highest for any of the three test works.

Inexp DQ-7	Sound	Image	Sound + Image
Work A	11	4	4
Work B	5	7	3
Work C	4	8	9

Often, even where there is no explicit mention of the relationships between sounds and images, both are mentioned separately by the participants, suggesting a sense of equality between sound and image. Only four participants record visual only responses. The majority of participants make reference to the visuals, and then mention sound and image relationships, or

the sounds themselves). One example of a response to sound and image interactions within work C was recorded by participant 6-5.

6-5 - The link between sounds and visuals, the images were a moving representation of the sounds.

Four participants (1-2, 1-3, 1-4, 3-2) made reference to the repeating sections in the piece. A repeating structure is a common to many styles of music and thus a point of schematic association familiar to the majority, if not all, participants. This repeating section might also provide participants with a sense of security and reference, due to the familiarity of a returning recognisable repeated section (Getz 1966; Reber, Winkielman & Schwarz 1998; North & Hargreaves 2008).

A few contextual responses made reference to science and space (5-4, 6-4), with one (7-1) making reference to the science museum (it is likely that this participant had possibly seen something similar exhibited at the science museum, perhaps a 3D projection of stars and space, highlighting the significance of lived experience on interpretation as well as highlighting the common use of swarm and particle motion visualisation, within the "science" context. See Chapter Three, p.41). Similarly participant 7-2 made reference to abstract expressionism, which has been classified in the contextual category, because it appears that the participant is drawing an association between this piece and other art forms with which they are familiar. However, such a response does imply an understanding of the structures involved, and a musical interpretation of the piece, allowing for the association with abstract expressionism.

The inexperienced participant responses to work C demonstrated appreciation of the forms (structures) and sound and image interactions within the work. They did so both explicitly and implicitly within their responses. Work C is the only work in which inexperienced participants recorded a preference for forms within the work, as opposed to materials. Initially it might appear that this suggested a preference for mimetic and recognisable concrète materials amongst inexperienced participants, however the lack of responses to P1DQ-8 suggests that, as previously stated, the abstract nature of the materials allowed for the forms in the work to take precedence within interpretations. The shift to intra-musical interpretations, contrary to the previous trend of contextual responses to work C, again appears to be due to the question itself demanding a rationalisation of the interpretations provided to previous questions.

**P1DQ-8** - What aspects, musical or otherwise, did you find least engaging in the composition? **Experienced** 



Figure 44: C, I-M, E Spread – Wrk C (Exp) P1DQ-8

Experienced responses to this question desmonstrated a tendency to be negative in tone, or void and simple "no" responses. This could have possibly been a result of this work being the final test piece screened within the experienced participant session. Six participants failed to record a response for this work, one of whom indicated that there were no least engaging factors of the work. The valid responses provided were predominantly intra-musical, with two contextual responses and one falling into both categories. Five of the responses were classified as intra-musical, with four of these mentioning musical materials and one making reference to the form of the work.

Exp – DQ-8	Materials	Form
Work A	100% 11/11	0% 0/11
Work B	50% 5/10	40% 4/10
Work C	80% 4/5	20% 1/5

Within these responses, the sonic element of the work was mentioned three times and the imagery mentioned once.

Exp DQ-8	Sound	Image	Sound + Image
Work A	4	5	4
Work B	8	3	2
Work C	3	1	0

It is possible that because work C was so engaging to the experienced participants (11/13 recorded a favourable response to P1DQ-7) responses to question P1DQ-8 were unnecessary. The lack of responses to this question could provide no explicit indication of the least engaging aspects of the work, however the combination of three responses highlighting the sonic material as being least engaging, with the absence of responses praising the sonic materials in responses to P1DQ-7, might suggest that some participants did not find it to be a positive element of the work. But it is clear that the majority of participants did not take exceptional issue

with the sonic element of the work, understanding its importance within the audio-visual discourse and in construction of the forms of the work.

## Inexperienced



Figure 45: C, I-M, E Spread – Wrk C (Inexp) P1DQ-8

The majority of inexperienced responses for this question were either blank, or stated that there was nothing un-engaging about the piece (50%, 12/24). This cannot be attributed to work C being presented as the final test piece,<sup>103</sup> because the work order was altered for each subsequent inexperienced participant session. Therefore the lack of responses to this question may suggest that participants did not find the work un-engaging, and that, as a result, it was difficult to identify any least engaging aspects.

Responses were largely intra-musical (75%. 9/12), with one response split between the emotional and intra-musical. Of these intra-musical responses to the work, five made reference to the form or structure of the work and another five made reference to the materials of the work.

Inexp – DQ-8	Materials	Form
Work A	54% 7/13	54% 7/13
Work B	64% 9/14	29% 5/14
Work C	55% 5/9	55% 5/9

Four participants referenced the sonic element of the work and three participants made reference to the visual element. No mention was made of the sound and image interaction within the piece.

<sup>&</sup>lt;sup>103</sup> As it was for the experienced participants. The majority of whom were presented with work C as the final work in the session.

Inexp DQ-8	Sound	Image	Sound + Image
Work A	2	8	2
Work B	6	7	1
Work C	4	3	0

Another trend that emerged was that of the inexperienced participants within group 3 describing a dislike for a repeating section of the work:

3-1 - The white noise halfway through the sound

3-2 - When there was a period of chaos, it felt uncomfortable and broke concentration.

3-4 - The visual change to blue/ green splodges merging and the sound tried to calm down like with the sound of waves crashing.

This may relate to the portions of the work occurring at 4min2sec – 4min10sec and again at 6min50sec – 7min 15sec.

However, with regard to these responses from participants 3-1, 3-2, and 3-4, it is also interesting to note that the response of participant 3-3 stated, "*quieter sounds*". When compared with the responses of the other group 3 members this may actually mean that the participant desired for the audio level to be lower. Responses of inexperienced group 3 to other works demonstrated no similar trends or dislike for the test works, they tended to be engaged and demonstrate this with their responses. Therefore, it is likely that these anomalous responses might be a result of the playback conditions in this particular instance of the research session, the audio level of work C for inexperienced group three (3-n) was perhaps at a higher level than usual, resulting in an undesirably high amplitude for this section of the piece.<sup>104</sup>

Responses to P1DQ-8, indicated fairly few aspects of the work were objectionable to the inexperience participants. Comments on the sonic materials of the work almost all arose from group 3 participants (identified as potentially linked to issues within the running of the research session (excessive volume) see above), as opposed to that of the work. Outside of this, a significant number of participants commented on the cyclical nature of the work and the fact that it did not transport them to a specific new situation. This may be due to their expectation of a specific meaning in the work taken from other audio-visual media (film, TV etc.), but whatever its basis, such responses act to negate the inexperienced responses to P1DQ-7 calling for repeating sections in the work.

<sup>&</sup>lt;sup>104</sup> In hindsight an SPL (sound pressure level meter) should have been utilised to calibrate the playback levels within all research sessions.

**P1DQ-9** – Did the composition make you want to keep listening? Why?

**P1DQ-11**- Now that you have heard the composition, would you choose to listen to a similar type of composition again in the future? If yes, why? If no, why not?

## Experienced

#### Scores + Percentages

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
7	2	1	2	1
54%	15%	7%	15%	7%

#### **Positive Keywords**

#### Negative Keywords

Calming/Meditative	8	
Sound and Image	3	
interaction		
Form	5	
Materials	4	

Materials audio	4
Lack of Engagement	3

Over half of the experienced participants responded in a strongly positive way, with most frequently citing the calming nature of the work (8) and the form (5). The materials of the work were both recorded as positive and negative elements, however it was only the audio materials that were cited as negative. This might have been a result of the playback conditions, but is most likely due to the fact that the audio-materials invested themselves into the sound and image relationships, as opposed to calling attention to themselves as independent components of the work. Therefore, participants responding to the sound and image relationships in the work implicitly signify their appreciation for both the sounds and images in the work.

Because this work was the final piece presented within the research session it is also likely that some participants were unable to apply full concentration as demonstrated by participant Exp1-6.

Exp1-6 - No I felt sleepy, No did not get any point and inspiration from it. (possibly due to tiredness at end of session).

#### Inexperienced

#### Scores + Percentages

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
13	7	1	0	2
54%	29%	4%	0%	8%

#### **Positive Keywords**

Emotional	11
Sound and Image	4
interaction	
Visuals	3
Contextual	2
Audio materials	1

Negative	Keywords
----------	----------

Lack of meaning	1
Emotional	1
Audio materials	1

Over half (54%, 13/24) of the inexperienced participants responded in a strongly positive way to this work, with another 29% (7/24) responding in a lightly positive way. Thus, this work succeeded in engaging over 80% of the inexperienced audience. The most common positive responses were emotional in nature and often made reference to the meditative, hypnotising and calming nature of the work. Each of these responses indicated a non-analytical engagement with the work.

Two participants were not engaged by the work, one required more contextual information and the second found the audio material to be *"disturbing"*, most likely as a result of its entirely abstract synthesised nature.

In comparing the positive and negative responses to P1DQ-9,11 it is possible to observe, that in the positive responses, sound was mentioned once, image three times and sound and image interaction four times. Negative responses to the work were varied and sparse. The fact that audio materials were cited only once as a negative element, lends strong support to the suggestion outlined above (responses to P1DQ-7, p.180) that the audio materials were recorded as an engaging element of the work due to being less imposing than the visuals, instead being more committed to serving the audio-visual discourse of work C.

# 6.4.6.4. Desire for contextual information and reflection upon this desire after its provision.

**P1DQ-10** - Do you think that having more information about the composition might help you to understand it? If yes, why? If no, why not?

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative	
12	3	1	2	5	
50%	12.5%	4%	8%	21%	

In a considerable shift compared with inexperienced interpretations to work A (75%) and work B (75%), only half of the participants responded in a strongly positive way to more information about the work, with the most frequent desire being greater knowledge of the composer and their intentions behind the work. Four participants sought to discern the meaning of the work, four participants indicated a desire for a greater understanding, while three desired to compare their own interpretation with that of the composer. Participant 3-3 was unique in wanting the title and then only information about the composer of the work:

3-3 - Yes the title for example might help anchor some meaning. If I knew the creators name I might recognise other works of theirs and be able to understand more. If I knew date of composition I might be able to apply social and political contexts [sic].

Three participants responded in a lightly positive way, indicating that extra information would be beneficial but that it was not essential to their interpretation of the work, and one participant indicated in a neither positive nor negative, but rather, a confused fashion.

With a similar justification, two participants indicated in a lightly negative way that further information about work C could be interesting, but that their own interpretation was more important. Indeed participant 5-4 wrote:

5-4 - Possibly not. I don't think it matters too much what my interpretation of the piece is if I enjoy it. Knowing the actual interpretation might decrease my enjoyment if I disagreed with it!

Five participants responded in a strongly negative way about the prospect of contextual information, indicating that this work did not require any further contextualisation and that their own interpretation was preferable. One participant did not respond to P1DQ-10.

These results suggest that the work itself was interpretable without contextual information, and that the participants desired information only to direct and aid their interpretations, not to help provide them with an interpretation as appears to be the case for work A. Thus, these results support the suggestion of the work being open and easily interpretable.

**P1DQ2-2**: Would you have preferred to have been given access to this information before being presented with the piece?

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
7	1	0	3	13
29%	4%	0%	12.5	54%

Once again, following the trend in responses to work A and B, inexperienced participants have almost exactly inverted the proportions found in their responses to P1DQ-10 within their responses to P1DQ2-2 for work C (see above, p.186). Only seven participants responded in a strongly positive way, with five of them indicating a continuing desire to have received the contextual information (6-2 failed to respond to P1DQ-10 and 7-2 previously responded negatively).

One participant responded in a lightly positive but non-confident fashion, their response to P1DQ10 had previously been equally confused (participant 4-2). The three participants, who responded in a lightly negative way to P1DQ2-2, had previously responded in a positive way to P1DQ-10. When it was revealed to them, the content of the contextual information did not fulfil their needs.

However, the majority of participants (54%, 13/24) responded in a strongly negative way indicating that their own interpretation was sufficient. Six participants actually responded that the work was better off without this contextual information and that it actually affected or damaged their initial interpretations:

- 1-1 No as this would have channelled me, I thought it had many possibilities.
- 3-2 No my experience would not have been the same and I would have been searching for things described in the context.
  - 5-2 No the piece now seems quite interesting without the information
  - 5-3 No I appreciated it without this information.
  - 5-4 No I think it may have interfered with my own interpretation, which was one I enjoyed.
  - 6-1 No I think it may have put me off watching it. There is a bit too much information.

Of the thirteen participants who responded negatively to P1DQ2-2, seven had previously responded in a positive way to P1DQ-10. (Participants: 1-1, 3-2, 5-2, 5-3, 6-1, 6-3, 6-4).

These results, again, support the assessment of work C as open and interpretable to inexperienced participants. After provision of the contextual information, an even greater proportion of participants preferred their own personal interpretation to the work, although their responses to P1DQ2-1 and P1DQ2-3 do not appear to continue to demonstrate these feelings (see below, p.189).

## 6.4.6.5. Influence of and evaluation of the volume and content of information

**P1DQ2-1**: Has access to this information from the composer influenced your appreciation of their composition? How?

Despite the negative responses to P1DQ2-2, eight participants responded that the contextual information provided them with a greater understanding of the work.<sup>105</sup> Many of these (and another four) also cited an increased technical appreciation for the work, through explanation of the work's compositional ideas.<sup>106</sup>

Four participants responded that the information was too complex<sup>107</sup> and five participants (including three of those who complained about complexity) indicated that the contextual information actually had a negative impact on their appreciation of the work (the response of participant 5-4 is an implied negative response):

3-2 - Context at first understandable but get lost within the words and theories I do not understand and these somewhat scare me making feel I should not be allowed to watch the piece. Takes away much joy and emotion.

3-4 - Not really. He seems just to be exploring usage of technology in music. "Pitch curves" he should have incorporated these into a narrative.

5-2 - I feel disappointed by the lack of focus on emotion by the composer. I feel the technical details should be left out and emotions promoted.

5-3 - Yes I am more disappointed as the many words of the description do not go well with the lack of story/ deeper picture. Lack of intention is disappointing (intention stated is no proper intention in my point of view). 5-4 - Not much, although it appears that I read too much into it.

Four more participants indicated that the contextual information had little or no influence on their interpretation of the piece.

Therefore, the contextual information was evaluated to have influenced inexperienced participant interpretations of the work in a largely positive fashion, despite it being evaluated as negative in responses to P1DQ2-2.

<sup>&</sup>lt;sup>105</sup> Contextual information provided greater understanding - Participants: 1-2, 1-5, 2-2, 4-1, 4-2, 6-2, 6-3, 6-5).

<sup>&</sup>lt;sup>106</sup> Increased technical appreciation - Participants: 1-2, 1-3, 1-5, 2-3, 6-1, 6-3, 7-2.

<sup>&</sup>lt;sup>107</sup> Evaluated contextual information to be too complex - Participants: 1-4, 3-2, 5-2, 5-3.

P1DQ2-3: How do you feel about the volume and content of the information that was provided?

1 Strongly Positive	2 Lightly Positive	3 Neither Positive nor Negative	4 Lightly Negative	5 Strongly Negative
9	3	0	4	8
37.5%	12.5%	0%	17%	33%

The responses with regard to the volume and content of the contextual information for work C were split equally, with half of the participants indicating in a positive and the other half in a negative fashion. Nine participants responded in a strongly positive way to the contextual information, providing little other contextual explanation other than to comment on the informative nature of the text.<sup>108</sup> Participant 2-1 offers a warning however:

2-1 - A good level of detail. Could be a turn off if the piece was not to my liking.

Three participants responded in a slightly less positive way, indicating that there was a lot of information and that some of it was too complex, but that it still provided them with insight into the piece.<sup>109</sup>

Four participants responded in a lightly negative way about the contextual information<sup>110</sup> and eight participants responded in a strongly negative way,<sup>111</sup> with the responses once again indicating that the information was too complex and that there was too much of it to absorb.

Responses to P1DQ2-3 may provide some justification for the mixed responses to P1DQ2-2 and P1DQ2-1 with the participants commenting on the overly technical nature of the contextual information. The open nature of work C results in a lack of such a strong necessity for extra contextualisation, while the detailed and technical nature of the information is far too dense and runs the risk of alienating and decreasing engagement with the work.

<sup>&</sup>lt;sup>108</sup> Informative - Participants: 2-1, 3-3, 4-1, 4-3, 5-3, 6-2, 6-3, 6-5, 7-2.

<sup>&</sup>lt;sup>109</sup> A lot of information, some too complex - Participants: 2-2, 4-2, 5-4.

<sup>&</sup>lt;sup>110</sup> Lightly negative – Participants: 1-2, 1-4, 3-1, 7-1.

<sup>&</sup>lt;sup>111</sup> Strongly Negative – Participants: 1-1, 1-3, 1-5, 3-2, 3-4, 5-2, 6-1, 6-4.

# 6.4.7 - Summary of Responses to Work C

# Work C Directed Questionnaire Responses

# **Experienced Participants**

The trend for experienced responses to work C was noticeably different from that of work A and B.

**1.** Experienced participants utilised contextual analogies and descriptions to describe the forms in the work, while recognising the abstract nature of the material. Analytical interpretations of the work were often used to justify contextual or emotional responses and to focus upon the sound and image interactions in the work.

**2.** Though participants commented upon forms within the work, their focus was upon individual short-term, rather than larger forms, suggesting that their conscious reception of the work was held within the perceptual present.

**3.** Clear and direct sound and image interactions were recorded, with this element of the work frequently cited as the most engaging element.

4. Very few responses were received indicating the least engaging elements of the work.

**1.** Despite work C being the most abstract of the test works, the majority of experienced participants recorded contextual interpretations of its meaning. The materials of work C were described as abstract, while experienced participants used contextual analogies and mimetic associations to record the forms in the work. The responses to work C were more analytical in character than the responses to work B, but these intra-musical responses were never found in isolation. Instead they acted to provide justification and explanation for contextual and emotional responses (in responses to both P1DQ-2,3 and P1DQ-1,4,5).

Thus, the work was judged to be made from abstract materials but possess recognisable form. This is in distinct opposition to the responses for work A, which recorded recognisable materials but struggled to record the work's forms. In interpretations of work C, the abstract materials themselves did not distract participant interpretations into the mimetic domain. Instead, their transparency allowed participants to perceive the forms of the work and relationships between events, it is with these forms that the participants draw mimetic associations. As a result of this, the possibilities for cohesive interpretation were greatly increased, with participants free from the challenge of rationalising material properties and forms.

**2.** Emotional responses to P1DQ-1,4,5, referred to the mesmerising meditative nature of the work and always related to, or informed a contextual interpretation of the work. Alongside this,

in responses to work C for P1DQ-6, a significant number of experienced participants (38%) failed to record any clear narrative structure (an identical number of inexperienced participants (38%) were also unable to recognise any narrative in work C), while those who did respond, described only short-term gestural forms within the work. Such difficulty to ascribe narrative might be anticipated for inexperienced participants dealing with an abstract work, but such prevalence in experienced responses perhaps suggests some other factor at work.

Because a significant majority of experienced responses to P1DQ-1,4,5 dealt only with individual moments or short sections of the work, and these same participants were unable to identify larger forms within the work, it seems to suggest that experienced participants were engaged within the flux of work C, responding to the work in an aesthetic fashion, and as such their focus was held from perceiving larger structural forms in the work (see Chapter Four p.72).

**3.** In responses to P1DQ-1,4,5, eighty-six percent of intra-musical responses (86%) referred to the sound and image relationships within the work. Such a high incidence of citation within a set of responses weighted away from the intra-musical, again highlighted the significance of the sound and image interaction within the experienced audience interpretations of the work.

The sound and image interaction, and the visual element itself, were mentioned more frequently as the most engaging elements in experienced responses to work C than within responses to either of the previous works. The frequency of responses regarding the sound and image interactions indicates that the experienced participants evaluated both the sound and image to be appropriate to one another, and, effectively associated with one another in the works discourse.

The sonic element of the work was described explicitly less often than the visual or sound and image interactions in the work. Sound and image interaction was frequently referenced after the experienced participant had discussed the visual element in the work. This suggests that the participants did appreciate and find the sonic materials appropriate within the work, but perhaps found the visual materials easier to reference, or describe, than the FM synthesis of the audio.

**4.** Work C received fewer responses to P1DQ-8 than either work A and B. Five participants provided no response and one participant indicated that no elements of the work were least engaging. Valid responses were mainly intra-musical, but there were also contextual responses, with those who did respond to the work listing the sonic element. Contextual responses found fault with the mimetic references and associations that experienced participants made between specific sections of the work and "space".

Experienced participants predominantly responded in a positive way to a desire to see more or keep listening to work C or other similar compositions (54% strongly positive, 15% lightly positive), with the most frequently cited reasons being the calming and meditative nature of the work and the works form.

## **Inexperienced Participants**

**1.** Inexperienced participant responses to work C were similar to their experienced counterparts, demonstrating a tension between using contextual analogies in interpretation, and the fact that the work is made of entirely abstract materials.

**2.** Sound and image interactions were a frequently referenced property of participant interpretations.

**3.** Interpretations suggested that participants were engaged in a deep and aesthetic fashion, within the flux of the work.

**4.** Group 3 complained about the audio volume, this was because the playback was probably too loud for this group.

5. High levels of engagement.

1. Inexperienced participant responses to the materials in work C demonstrated a tension between using contextual analogies in interpretation and the fact that the work is made of entirely abstract materials (similar to their experienced counterparts). The materials of the work were cited as abstract, but participants recorded recognisable mimetic forms using contextual associations.

Inexperienced responses to meaning in work C were distributed between the three sectors more evenly than for either work A or B, but demonstrated a trend towards the contextual. Despite being a work made from entirely abstract materials, work C was ideal for contextual interpretation as its materials did not demand an explicit interpretation, they did not need to be recognised as a specific object or material. Instead, participants were able to employ a diversity of plausible interpretations, in order to rationalise the abstract forms within the work. The work might be described as more "open" than either work A or B, and the diversity of interpretations for work C evidences this.

The diverse range of contextual interpretations for the work, as opposed to analytical intramusical responses, also indicate personal aesthetic, and deep, engagement with the work for a large number of the participants. Emotional responses further support this reading of depth for the piece, with participants indicating enjoyment of the piece as a result of its aesthetic, the balance between chaos and order, and as a relaxing or meditative experience. Unlike the experience participants, only twenty-nine percent of inexperienced participants recorded responses relating to the technique or technology utilised within the work (this is in keeping with work B (33%) and less than work A (50%)), indicating that inexperienced interpretations were far less analytical than those of experienced participants.

The weighting of contextual aesthetic interpretations is likely a result of audiences being able to project their own idiosyncratic interpretations upon the more open abstract material of this piece,

than for either of the other P1 works. The multiplicity of contextual responses demonstrate this openness of interpretation, with each individual participant engaging fully with, and interpreting, the work in their own way.

**2.** A large proportion (79%) of intra-musical responses made reference to the sound and image relationships within the work (almost exactly the same proportion as for work A (81%) and far more than for work B), but at no point were sound and image mentioned in isolation, indicating the significance of sound and image relationships within inexperienced interpretations of work C.

Inexperienced participants most frequently made intra-musical responses to work C, highlighting the sound and image relationships as the most significant factors in inexperienced audience engagement (more so than for any other P1 work). References to the visual element and the sound and image relationships were only very rarely found in isolation (only four participants mentioned solely the visuals, all others mentioned the visuals specifically followed by reference to the sound and image relationship or part of the sonic element itself). This frequent combination of references to both visual and sonic interaction further indicates the significance, and the extent to which, inexperienced participants ascribed the relationship of sound and image as an engaging factor in the work.

**3.** Inexperienced participants, again, provided largely contextual responses to the question of narrative in work C and thirty-eight percent of participants did not, or could not, provide responses to this question.

Even though they provided contextual responses, inexperienced participants still continued to refer to small segments within the work (and in this way their responses were similar to the intra-musical responses by the experienced participants to P1DQ-6). These responses continue to corroborate the theory that inexperienced participants were engaged aesthetically, within the flux of the work, with many of the small scale forms in the work, expanded and utilised in order to suggest possible narratives for he entire work.

Work C also received the highest proportion of positive responses by inexperienced participants for the question of "desire to see more or keep listening" (Work C - 83%, work A – 29%, work B – 55%). The majority of these responses were emotional, relating to the calming and meditative nature of the work, while only two responses were contextual, indicating a non-analytical engagement with the work.

These responses continued to support the thesis that participants were engaged with the emotional depth of the work.

**4.** Repeating sections were listed as engaging elements of the work, most likely as a result of inexperienced participant familiarity with popular forms of music, based upon basic and frequently repeating structures. However, participants of group three all describe their distaste for one repeating section in the work.

When the responses of the inexperienced participants within group three were examined (3-n), it became apparent three of the four participants found the work to be offensive in terms of volume level. The fact that these responses only occurred in comments by participants of group 3, suggests that they were a result of the audio playback being set at an incorrect level, thus resulting in playback being too loud for this test group.<sup>112</sup>

**5.** The majority of inexperienced participants provided no response when asked to record the least engaging aspects of work C (50%), suggesting perhaps that these participants found nothing about the work un-engaging. The participants who responded, did so with primarily with intra-musical responses, in which the sound and image elements of the work were mentioned in fairly even measure (four and three respectively).

# Evaluation of Contextual information for Work C (Inexperienced Participants)

## Desire

Only half of the experienced participants indicated strong desire for more information about the work, less than for either work A (75%) or work B (75%). The most frequent desire was for more information about the composer and their intentions behind the work.

Twenty-one percent of participants responded in a strongly negative way, desiring to retain their own uninfluenced interpretation of the work. Participants who responded in a lightly positive, negative or mixed fashion were unconvinced of the need for contextual information but were happy to receive it, generally after having made their own interpretations of the work.

Once information had been provided, inexperienced participants responded in a largely negative way to P1DQ2-2, completely inverting the trend in responses for work C set out in responses to P1DQ-10. This left only twenty-nine percent of participants still preferring provision of the information prior to projection of the work, while fifty-four percent responded in a strongly negative way. Over half of those responding negatively to P1DQ2-2 had previously responded in a strongly positive way to P1DQ-10. All of those responding in a strongly negative way cited a desire for their own uninfluenced opinion of the work.

Six participants recorded that the provision of contextual information had actually decreased or damaged their appreciation for the work.

<sup>&</sup>lt;sup>112</sup> In future test sessions where multiple works are to be presented it would be advisable to utilise an sound pressure level (SPL) meter in order to set a constant volume for all works and to standardise playback levels for multiple iterations of the research session.

## Content

The majority of participants (63%, 15/24) recorded that the contextual information had a positive effect on their interpretation, while five participants (21%) indicated that the information actually had a negative impact on their interpretation of the work. Participants recording a negative impact, most often cited the complex nature of the information. One participant cited that the information had no influence on them because, as a result of its complex nature, it was incomprehensible to them.

When asked to assess the volume and content of the contextual information half of the inexperienced participants responded in a positive and half in a negative way. Those responding positively commented on the informative nature of the text, while those responding negatively indicated that the information provided was too dense and that the quantity was excessive.

This positive/negative proportion was equal for work C, in contrast with responses to the contextual information for work A, therefore indicating that this information set contained appropriate information but required editing, as in its current form was unsuitable for inexperienced audiences.

# 6.5 - Phase One Results: Summary and Evaluation

Comparison of experienced and inexperienced responses to each of the three works in Phase One (P1) has afforded insight into the processes of interpretation. This section outlines the main findings emerging from the data discussed in individual detail above. The summary and evaluation of Phase One engages with theoretical materials in an attempted rationalisation of the findings, these theoretical approaches have largely been kept isolated from the majority of the results in an effort to avoid the influence of theoretical concepts within the process of data analysis. It is hoped that reference between the current section and previous sections will afford an unbiased link between theory and results.

Experienced responses to work A were largely analytical, while responses to work's B and C were more aesthetic. Of the latter two, it was work B that received the most aesthetic responses from experienced participants, with analytical reflection providing justification for emotional and contextual responses. Experienced responses to work C tended to be more contextual in nature, again rationalised with analytical justification.

Inexperienced participants also responded to work A in an analytical fashion, suggesting that the work itself encouraged an analytical approach to interpretation. Again, responses to works B and C were more aesthetic but varied in character. Inexperienced responses to work B were more emotional in content — empathic with the female character — while responses to work C were more contextual and widely diverse. Such responses were rationalised and justified less by inexperienced participants than they had been by experienced participants, but did demonstrate similar overall trends.

## 6.5.1 - Schemata and lived experience in negotiated interpretation

The impact of schemata and lived experience upon interpretation was clearly demonstrated by the first section of empirical evidence to be set out within this chapter, responses to P1DQ-2,3 for work A, and was also found within responses to the materials of work B (again P1DQ-2,3) and interpretations of meaning in work C.

Interpretations of the granular materials within work A were distinctly different between the experienced and inexperienced participants. Experienced participants, with a background in electroacoustic music, approached the work (and recorded descriptions of its materials) using the schemata of electroacoustic music analysis. Such responses utilised advanced analytical terminology derived from academic literature and study. In contrast, the inexperienced participants (and non-electroacoustic experienced participants) interpreted the same materials in the work using their own schematic associations, drawn from lived experience. Lacking the expertise and knowledge of electroacoustic literature and terminologies, these inexperienced participants were forced to utilise schematic associations with which they were familiar in order to negotiate a description and interpretation of these granular materials, for example describing the granular materials contextually as "rain", "crackling", "falling pebbles" etc.

Responses to work C further demonstrated the action of experience within interpretation with the abstract materials of the work inspiring mimetic associations. These mimetic associations took the form of culturally accepted conceptions of space<sup>113</sup> and concepts derived from the physical world, in the form of swarming and flocking of animals for example: birds and fish. However, these associations were not utilised to construct an overarching interpretation of work C, but instead cited as interpretations of the materials and individual gestures in the work.<sup>114</sup>

Responses to the drones and processed material within work B also potentially demonstrated the action of schemata and lived experience, but with less distinct clarity than the responses to work A or C. Responses from experienced participants again provided descriptions replete with electroacoustic terminologies, while responses from inexperienced participants often utilised contextual descriptions to quantify the nature of the materials. Such contextual responses did not relate to a contextual rationalisation of the work, but a use of contextual objects as reference objects in description. Furthermore, unlike in inexperienced responses to work A and C, almost all participants provided a narrative interpretation for work B (only sixty-two percent of participants provided responses to narrative for works A and C, while ninety-two percent provided responses to work B). This may suggest that work B has a more intelligible narrative, or that it more suitably presents a framework upon which inexperienced participants can most easily ascribe a narrative. However, this increased level of engagement may also be a reflection of lived experience as the presence of a human character affords the participants a point of empathy and association with which participants can relate and construct their contextual

<sup>&</sup>lt;sup>113</sup> From diagrams and scientific documentary.

<sup>&</sup>lt;sup>114</sup> See also 6.5.4 - Depth/Dimensionality, below p.200.

interpretation of the works narrative. Such a schema is incredibly prevalent in humans, as all humans negotiate relationships with other individuals. Therefore, the construction of work B around such a universal concept makes interpretation of the work highly likely, because humans are predisposed to make such interpretations.<sup>115</sup>

Due to the individuality of schematic associations their influence upon interpretation is far harder to isolate, however, when responses to the question of narrative are observed (P1DQ-6) inexperienced participants demonstrated a clear contextual trend for all three test works (work A - 73%, Work B 73% and Work C 87%). These responses indicated an expectation for clear linear narrative discourse, something that is not fulfilled by the electroacoustic audio-visual music presented (though partially fulfilled by work B). Such an expectation might be seen to demonstrate the attempted application of existing schemata, for example those developed to interpret mainstream cinema or television. Abstract or abstracted sequences are relatively common in film and provide a point of reference with which audiences might relate electroacoustic audio-visual music.<sup>116</sup> Throughout the responses to P1 individual participants can be seen to provide interpretations based upon their personal lived experience, for example the international student who projected her on fears onto the character in work B and interpreted her to be concerned about travelling and living in a new location.

Responses to the works within P1 provided evidence to support multiple aspects of schemata and learned association at work within the interpretation of electroacoustic audio-visual music. Both training and lived experience are demonstrated as significant factors in the interpretation and process of understanding for works, supporting theoretical materials and the phenomenological perspective introduced and discussed within Chapter Three (p.37).

## 6.5.2 - Subject-position? : Materials and obstruction.

The concordant nature of interpretations for work A from both experienced and inexperienced participants perhaps indicate that the work itself encouraged a specific response from its audience, thus to some extent overriding variation in the lived experience of participants. The subject-position of the discourse was postulated to present the subject with a specific physical signal, perhaps limiting the interpretative potential.<sup>117</sup>

In the case of work A, audience interpretations were frequently analytical with comments regarding the works materials and referencing the techniques and processing utilised within the work. Both experienced and inexperienced participants responded to the work in a similar fashion, with all participants struggling to approach the work aesthetically.

The mimetic nature of the materials within work A, and the clear and direct relationships between sound and image, were plainly perceived and recorded by both inexperienced and

<sup>&</sup>lt;sup>115</sup> See Chapter Three for further discussion of the primitive encounter and intention, respectively p.38 & p.60.

<sup>&</sup>lt;sup>116</sup> This is clearly demonstrated within the responses to the test work within Phase Two as many popular cinematic films are often referenced. For example: *2001: A Space Odyssey, LOST* see Chapter Seven, p.220.

<sup>&</sup>lt;sup>117</sup> See Chapter Three, p.43.

experienced participants. Thus, despite the variation in specialist electroacoustic or musical schemata, audiences responded in a similar fashion.

Work A appears to have been technically inspired by the possibilities of development and processing available from its sonic and visual materials. It is described by the composer to be a work about: 'the direct observation of the nature of things' (Vol.2, p.73), based upon the musique concrète ideas of abstraction and reduction (both reduced seeing and listening), in which materials are to be analysed and perceived as entities free from association. As such it seeks to demand a "reduced" hearing intention.<sup>118</sup> The composer intention document describes the work as an exploration of technical processing, seeking to highlight the sparkling nature of the materials. Therefore, it might be asserted that this intention is reliant on an explicit code, the understanding of reduced listening and an application of analytical and electroacoustic schemata in interpretation.<sup>119</sup>However, even those individuals with specialist knowledge and possessing the appropriate schemata to approach works within a reduced fashion struggled to respond to the work aesthetically.

The results from Phase One (P1) might initially suggest that the recognisable materials in work A obstruct aesthetic interpretation and comprehension of the work. The nature of the materials within work A induced mimetic interpretations and extra-musical interpretative schemata in the inexperienced participants. In turn, these participants were then unable to then correlate these outside associations with the work's discourse, or understand it as a musical exploration of materials.<sup>120</sup> On the contrary, work C — made from entirely abstract materials — did not act to obstruct interpretations to the piece and indeed provided an open framework upon which participants could project their own interpretations. This work (C), afforded audiences the possibility of multiple interpretative options, without the necessity for previous technical or aesthetic knowledge. If this discrepancy were a result of the variation in abstraction of the works materials, then it might be argued that mimetic materials obstruct engagement.<sup>121</sup>

Such an assertion is significant, because results of the initial I/R project (Weale 2005) indicated that "real world" materials were a significant accessibility factor. Responses to work A and C perhaps suggest that mimetic materials (in work A) might be recognisable objects within the work, but that the external schematic influences that accompany them are potentially obstructing and distracting for audience perception and musical interpretation of the work. On the contrary, the open nature of the abstract materials (in work C) affords inexperienced participants the opportunity to apply a plethora of plausible interpretations in their rationalisation of the work.

<sup>&</sup>lt;sup>118</sup> That of *entendre*, as defined by Schaeffer.

<sup>&</sup>lt;sup>119</sup> Also see Chapter Three, p.40.

<sup>&</sup>lt;sup>120</sup> See responses to P1DQ-6 & P1DQ-7 by inexperienced participants, Vol. 2, p.127 & p.129 respectively.

<sup>&</sup>lt;sup>121</sup> As asserted by Clarke, 'when a person hears what a sound means (i.e. understands the sound in relation to its source) it becomes more difficult to detect the sound's distinctive features (Clarke 2005: 34). Thus, the application of mimetic materials could be described as obscuring reduced listening, and indeed this is the argument behind Jonty Harrison's term "expanded listening" (Harrison 1996: 16).

Yet, a significant proportion of responses demonstrating emotional engagement with work B (both experienced and inexperienced) were almost exclusively instigated by the mimetic female character of this work. Therefore, quashing the assertion that mimetic materials in general, are obstructing factors within works of electroacoustic audio-visual music. Instead, perhaps lack of engagement with work A might be a result of the "type" of mimetic materials within this particular work (work A utilised inanimate glasses, while work B utilised a female person), or as a result of the articulation of materials within the work and the contextualisation provided by the works discourse to the structures of perceived objects.

As previously stated, work A sought to investigate the nature and properties of its mimetic materials, utilising ideas and techniques stemming from the concept of reduced listening. Therefore, it could be argued that work A embodies a contradiction between its materials and discourse. It is a work composed from mimetic materials (which retain strong source bonding and inspire extra-musical associations), but that attempts to utilise these materials as if they were entirely abstract. The discourse of work A fails to provide a diversity of suitable, or effective, musical contexts for complex association of materials and forms, and thus, mimetic extra-musical associations are highlighted (see also Atkinson 2008: 91). Thus, it could be described that the subject-position of work A is far more restrictive than that of works B and C. Work A demands a specific model audience, one that is well versed in the theories of electroacoustic music and that is able to relinguish mimetic connection with the materials of the work. While works B and C present more open forms upon which a diversity of interpretations might be applied. Subsequently, the lack of aesthetic engagement with work A might be a result of the fact that participants are unable to fulfil the idealised position in relation to subject-position demanded by the work.

Therefore, where the composition of a work is reliant upon, or assumes, explicit schemata of interpretation, it anticipates a specific "model audience". Where the audience does not conform to the model audience envisaged by the composer, there is the potential that conception and interpretation of the work aesthetically will be obstructed. Works B and C do not demand a specific listening mode, and instead utilise techniques and theories of electroacoustic music to create works that explore themes beyond those of the compositional processes themselves. Works that explore concepts of reduced listening and theory (such as work A) are indeed valid, but composers of such works must recognise the essential need for audiences to have the nature and contexts of these works clearly explained and introduced to them if obstruction is to be reduced and the works made more accessible. Within the context of work A, both the materials and forms (structures) of the work contributed to obstruction of aesthetic engagement. 122 123

<sup>&</sup>lt;sup>122</sup> Phase Two and Three of the empirical research were developed to further investigate this. The test work for these sessions was composed using mimetic materials and the contexts of the discourse altered between the two phases.

<sup>&</sup>lt;sup>123</sup> The following section discusses the role of visible/audible technique in obstruction.

## 6.5.3 - Visible/audible technique and obstruction.

Responses to P1 questionnaires demonstrated that, where the technical nature of the work is highlighted, for example within the processing and manipulation of work A and within the middle of work B (Disk 1, Example B-1), the aesthetic appreciation of the work is lost, and subsequent responses are more analytical and critical.<sup>124</sup> Such a finding is presupposed by Heidegger's discussion of immediate engagement (Heidegger 1975), in which the presence of explicit technique, or process, distracts from engagement with the object (in this case the works discourse) and instead encourages contemplation of the acts or transformation as opposed to the materials or discourse.<sup>125</sup>

Where the technical nature of the work is not highlighted, for example within the majority of responses to work B, and within work C, the form and abstract nature of the works materials afford audiences a relatively open and flexible subject-position for interpretation of larger structural forms, and interpretations of meaning. Such a shift suggests that, where the techniques and processes are clearly present they act to obstruct aesthetic interpretations, as Adorno warns, 'those works where intention (in the form of either a fabula docet [narrative] or of a philosophical thesis) is all too conspicuous, content tends to be blocked' (Adorno 1972: 216).<sup>126</sup> This suggests that where explicit and academic conceptual ideas (such as the twelve tone system, or reduced listening and transformation of materials) are used too explicitly, in and of themselves, as opposed to being tools to articulate another conceptual idea, they obstruct aesthetic interpretations of the work.

Thus, within work A, and within the middle of work B, the technical means of production become foregrounded to such an extent that the audiences attentions were drawn more to the action of the composer upon specific events and materials, rather than to the flow of the discourse or larger structures of the work. Furthermore, the presence of directly congruous audio-visual events have been demonstrated to accent the interpretations and subsequent responses to these audio-visual events (Botlz 2001: 429; Marshall & Cohen 1988: 109). Such an act of accentuation appears to distract audience attention from larger structural forms and disrupt aesthetic interpretation. Acting to focus interpretation upon the immediate and individual events as perceived objects, rather than objects composed of complexes of events. The result of this is that the technical nature of a work, and direct sound and image associations, where not amply contextualised within the work, can act to distract and obstruct aesthetic interpretations of electroacoustic-audio visual works.

<sup>&</sup>lt;sup>124</sup> As discussed above, Work A — being built upon the concepts of reduced listening, exploration of sounds and sonic processing — foregrounds these technical processes, because the development and exploration of the materials are fundamental elements of the works concept.

<sup>&</sup>lt;sup>125</sup> 'Thus it comes about that prevailing thing-concepts obstruct the way towards the thingly character of the thing as well as towards the equipmental character of equipment, and all the more towards the workly character of the work' (Heidegger 1975: 30).

<sup>&</sup>lt;sup>126</sup> Reynolds also distinguished between 'the logical domain of methods and materials from the global realm of form' (Reynolds 2002: 13).

## 6.5.4 - Depth versus dimensionality / Emotion and engagement

Reynolds coined the terms depth and dimensionality to represent the distinction between analytical and aesthetic interpretations, with aesthetic emotional engagement and conscious reflective analytical interpretation positioned as equally desirable but mutually exclusive approaches to interpretation (see above Chapter Three, p.50). One may switch between the two, but the two cannot operate simultaneously. As Reynolds describes:

[D]imensionality is not a function of how deeply engrossed we may become in the singular evolutionary trend, but rather of the way in which our listening perspective resituates itself during a performance: at one moment thoroughly engrossed, at another reflective, at another comparative, at yet another anticipatory. Depth on the other hand seems to admit far less of calculation, consideration, comparison. ... the deeper the emotional engagement, the less one is able to assess one's experience. (Reynolds 2002: 9)

Responses to each of the test works appear to support this theory, with both experienced and inexperienced responses to work B and work C demonstrating greater levels of emotional engagement alongside more aesthetic interpretations of the work. In contrast work A received fewer emotional responses (those that were received were all value judgements as opposed to emotional connections with the work) and solicited a higher proportion of analytical responses.

If a binary model of engagement were correct (either analytical or aesthetic), then experienced participants would be expected to adopt solely analytical perspectives. However, when these experienced participants were asked to record their responses to work C they attempted to apply memory and engagement with the flow of events, to construct an interpretation of the piece as a whole (equal proportions of experienced and inexperienced participants were unable to provide narrative interpretations for work C). This suggests that participants were engrossed within the flow of the discourse, and that therefore they were unable to discern or rationalise any overarching structure of the work — these participants were less able to assess their own experienced participants emotional responses to P1DQ-1,4,5 and P1DQ-9,11 for work C, which record the "mesmerising" and "meditative" nature of the work and directly suggest engagement in a rolling perceptual present of the work.

The fact that work C is almost entirely one single seamless process is possibly one of the reasons that it captures participants so effectively within the flux of time. Reynolds states 'as soon as complementary processes are placed in superposition, the singularity of immersion (and its substantial pleasures) are necessarily disrupted' (Reynolds 2002: 10). This disruption of immersed depth is demonstrated effectively by work B. When responses to work B are interrupted by the accented eyelash flick, it is possible to observe a derailing of the deep emotional interpretation and a quick adoption of an analytical reflection of the accented event (see also Visible/audible Technique and Obstruction above, p.200).

At the other extreme, Work A holds participant responses within a more analytical, less emotionally engaged state, with audiences constantly attempting to rationalise the purpose and reason for the presence of materials within the discourse of the work, unable to enter an immersed "deep" interpretative state. The foregrounding of the array of technical processes and the exploratory nature of the discourse (exploring the nature of the materials), both of which shift rapidly, do not afford audiences the opportunity to settle into an extended, engaged perceptual present in interpretation of work A.

## 6.5.5 - Emotion and Engagement

The P1 finding of greater emotional connection with work B and C than work A, corroborates the research of Geringer et al. (1996) who discovered that abstract works engaged more significant emotional responses. However, Geringer et al. also asserted that mimetic works tended to engage contextual responses. It is true that the largely mimetic work A engaged contextual responses, but the abstract work C also received a high proportion of contextual responses. This may be due to the fact that work C is abstract in terms of materials, and yet contains recognisable forms, but may also be related to the process and intentions of composition.

Works B and C, those soliciting higher levels of emotional engagement, were composed as a result of, and with regard to, the individual composers personal experience and with emotional connection as a significant factor. This can be demonstrated by observing extracts from the Composer Intention Questionnaire:

WHERE	DID	THE	INSPIRATION	то	CREATE	THIS	PARTICULAR	COMPOSITION	COME
FROM?									

WORK A	The direct observation of the nature of things				
WORK B	A conflictual relation with the subject				
	Continuation of the series and its premise; desire to continue to develop the potentials of the approach.				
WORK C	[The Luna Series pieces all have a relationship, albeit not a direct or explicit one, to my experience as a Vipassana meditator].				

These statements, combined with the knowledge of audience responses to the P1 works, seem to concur with Tarkovsky's observation that, 'if the external emotional structure of a film is based on the author's memory, when impressions of his personal life have been transmuted into screen images, then the film will have the power to move those who see it. But if a scene has been devised intellectually following the tenets of literature, then no matter how conscientiously and convincingly it is done, it will still leave the audience cold' (Tarkovsky 1986: 183).

It is possible to observe that both work B and work C were inspired by an emotional connection between the composer and their respective concept, while the contextual information surrounding work A demonstrates less explicit emotional connection. Thus, work A might be considered as being inspired by a more formal compositional idea. Work B is described by the composer as an emotionally inspired work investigating personal experience of human interaction and conflict. Responses demonstrate that it was indeed successful in engaging participants emotionally, with the human character in the work stimulating empathic emotional responses. Work C too, was emotionally inspired but within an aesthetic framework. Thus, as a work it embodies emotion within a conceptual frame, beauty and harmony through form. Responses demonstrating emotional engagement with work C cited the beauty and relaxing nature of the work.

Therefore the intent to encode emotional information within works B and C can be seen to have been successful in that audiences responded to these works emotionally. The exact emotional intent of the composer is not transferred to the audience members, however the tension, suspense and release encoded within the materials demonstrably engendered an emotional response in the audiences. Thus, the nature of the physical signal and subject-position of the discourse can be seen to have influenced the subject's interpretation, leading to the prevalence of either depth or dimensionality as interpretative forms and thereby impacting the subsequent connection of events with pre-existing schemata.

## 6.5.6 - Desire for Contextual Information

Desire for contextual information from inexperienced audiences was more pronounced for works A and B than for work C.<sup>127</sup> This trend is, in part, inversely proportional to the number of participants who were able to make interpretations of the works, however a significant proportion of inexperienced participants felt it appropriate to desire further information about the compositions. Therefore, as might be expected, where interpretations of the works were made, audiences felt less need for the provision of contextual information.

The percentage of participants desiring contextual information dropped for all three works after the actual provision of information (work A 83% to 58%, work B 83% to 50% and work C 50% to 29%). Such a finding suggests that the provision of information did not enlighten participants as they had hoped. In some cases (across all three works) this contextual information even negatively impacted upon interpretations of the work. This shift is most clearly reflected in responses to work C (see above, p.188). As outlined above, following the provision of information about work C there was a significant drop in approval for contextual information (a drop of 21%) with fifty-four percent of inexperienced participants responding in a strongly negative way. All of these individuals (those responding negatively) cited a preference for their own uninfluenced interpretation of the work over that of the provided contextual information. Such a response indicates that these participants value their own interpretations of the piece more highly than the interpretation of the work outlined by the composer. This might suggest that the content of the information acted to direct the interpretations of these participants in a specific direction, one with which they did not agree. Twenty-five percent of participants recorded that the provision of contextual information for work C had actually decreased or damaged their appreciation for the work.

<sup>&</sup>lt;sup>127</sup> Eighty-three percent (83%) of participants responded positively to A and B, only fifty percent (50%) responded positively to C.

## 6.5.7 - With regard to content of Contextual Information

The style of contextual information was different for each of the three works. And yet, significant trends emerged within audience responses to contextual information in general.<sup>128</sup>

Information for work A was quite specific to the work itself, amply explaining the goals for the work as an exploration of the works materials. Participants assessed the nature of this information to be generally positive,<sup>129</sup> clear and concise but with some desire for a greater sense of context. The remaining participants indicated a desire for less technical or analytical information and more focus upon the aesthetic of the work; precisely the message pronounced by Clozier.<sup>130</sup>

Responses to the contextual information for work B were largely positive but demonstrated contradiction within individual response sets. It is possible that this could have been due to a lack of reference, where the participants have no other information with which to compare the work B information (caused by the order of presentation within the research sessions, specifically those in which work B was presented first). Participants also seemed to particularly enjoy the composer's statement about audiences making their own interpretations of the work.

For the contextual information supporting work C, responses were split equally, half positive and half negative. Those responding positively commented on the informative nature of the text, while those responding negatively indicated that the information provided was too dense and that the quantity was excessive. This positive/negative proportion is far more equal than for responses to the contextual information for work A, indicating that while the work C information was potentially useful to the participants, its current form was unsuitable for inexperienced audiences.<sup>131</sup>

Significant proportions of inexperienced participants desired an explicit meaning to be explained (of total participants: 50% for work A, 29% for work B. 16% for work C). This was most pronounced for work A, but also present within responses to work B and to some extent within work C responses also. Such a finding might suggest that inexperienced audiences expected that an explicit meaning exists within works.<sup>132</sup> However, such an assertion clashes with the preference for individual interpretations. Therefore, it is possible that this desire for an explicit meaning, and the subsequent rejection of the provided information, could be a result of some aspect of the test situation.

Where participants were able to draw interpretations, for example in work C, there was less need for a meaning to be provided. Work C fitted more appropriately within existing schemata of

<sup>&</sup>lt;sup>128</sup> P1 contextual information can be found in full within volume two, Vol. 2, p.-76.

<sup>&</sup>lt;sup>129</sup> Seventy-eight percent (78%) responded in a positive fashion.

<sup>&</sup>lt;sup>130</sup> 'Information provided often deals with "how" (technical), and sometimes with "for whom" (place, year, commission) but only rarely with "what" and "why", that is, with the conditions of the "message" rather than its nature.' (Clozier in Landy 2007: 36).

<sup>&</sup>lt;sup>131</sup> One participant cited that the information had no influence on them because, as a result of its complex nature, it was incomprehensible to them.

<sup>&</sup>lt;sup>132</sup> See also the discussion of cultural expectation for compositional intention, Chapter Three, p.60
interpretation, while work A did not. Work B did fit to some extent within existing schemata, that of traditional narrative film, but the nature of the work itself did not conform entirely, containing a character but no explicit linear narrative. Where participants were unable to position the work within their schemata of interpretation they required information about the explicit meaning of the work.

Another frequent response from participants was that of a desire to understand the art form (work A 20%, work B 29%, 16% for work C). These responses were more general than those regarding meaning, and instead sought information on how to interpret audio-visual works and the ways in which the works were intended to operate. For example, responses to work A sought information about the nature of electroacoustic audio-visual music and the use of concrète materials in musical composition. Though a smaller proportion of participants desired such information prior to receiving the CIQs, the importance of such information became apparent within participants' reflections on the information provided. These results were more concordant with the audience preference for individual interpretations, with audiences being equipped with skills for interpretation but allowed to make their own interpretation individually.

In keeping with this, reflection on the information for works A and B demonstrated an increased appreciation where the provided information was not specific, and a negative shift where participants had either anticipated explicit meaning in the contextual information or where they felt that explicit meaning was being forced upon them. This is in contrast to the apparent desire of participants to be provided with explicit meaning within responses to P1DQ-10, however, these desires are subverted by the disappointment of participants when such information is provided and does not confirm their own individual interpretations.

Such results demonstrate that, where contextual information provides audiences with a schema of interpretation appropriate for electroacoustic audio-visual music, information is approved of and acts to increase appreciation. However, where information is specific or attempts to direct a certain reading of the work, there is a danger that audiences will react against it, rating it as unsuitable and in some cases participants may actually find the information damaging to their initial interpretation. Audience reflections upon the content of the provided information offer further opportunity to clarify this situation.

Participants generally wished for their interpretations to be supported and not contradicted by the provided information. Therefore, based upon these findings it is suggested that programme notes should not imply a specific reading of the work, but should instead be restricted to discussing aesthetic background and intent surrounding the development of the work. Overly technical information, such as the information provided alongside work C was reported to be unsuitable and incomprehensible,<sup>133</sup> however responses to the contextual information provided in support of work A suggested increased appreciation from participants once they knew that

<sup>&</sup>lt;sup>133</sup> This finding is concordant with Rosemary Mountain's assertion: '[To many listeners] aesthetics, characteristics and function of a work may be more salient features than those of the medium of composition' (Mountain 2004: 305).

the work was about exploring the materials (Work A P1DQ2-1 p.138). This assertion highlights the significance of contexts, both those relating to the individual work but also those relating to the larger art form in question. Practitioners and experts should not assume common knowledge between audience members and be prepared to provide more general introductions about electroacoustic audio-visual music as well as specific contexts relating to the work in question.

Responses from P1 have demonstrated that audiences favour their own interpretations over those provided in the contextual information from the composer, despite generalised cultural expectations regarding compositional intention. As identified by Radbourne et al. audiences approach concerts as an experience from which they might learn (2009: 23). To be told "the ideal meaning of a work" by the composer potentially invalidates that experience.<sup>134</sup>

If contextual information is to provide a framework that is usable by a diversity of individuals with different levels of specialist experience, then it needs to provide a non-specific outline upon which interpretations can be constructed. Therefore, in order to maximise the rewarding nature of the experience it is important that audiences be encouraged to make their own interpretations of works rather than expect to receive a fixed meaning intended by the composer. The nature and content of contextual information must therefore primarily encourage a diversity of interpretation, whilst providing (in a secondary position) key points of information regarding the aesthetic intentions and the style and history of the art form.

Such a style of contextual information can help to mitigate the audiences risk concerns, by rationalising the context for the work, whilst subsequently affording a framework upon which they might construct their own unique interpretations.<sup>135</sup>

<sup>&</sup>lt;sup>134</sup> Recall also that within the pilot testing, audiences were terrified of making and communicating an incorrect interpretation.

<sup>&</sup>lt;sup>135</sup> Future research might consider the impact of stylistic variations within contextual information and seek to develop innovative ways to provide constructive and non-limiting contextual support for non-specialist audiences of electroacoustic audio-visual music.

# 6.5.8 – Phase One: Key Findings

- Responses to P1 provided evidence of multiple aspects of schemata and learned association at work within the interpretation of electroacoustic audio-visual music. Training and lived experience were demonstrated as significant factors in influencing the interpretation of both materials and forms within the work, thus, supporting theoretical materials and the phenomenological perspective introduced and discussed within Chapter Three.
- One common connotation from inexperienced participants was an expectation for clear linear narrative discourse, which proved to be potentially obstructing to the interpretation of electroacoustic audio-visual music works.
- Both the "type" of mimetic materials within work A, and their articulation, acted to create a highly restricted subject-position, which demanded a highly specific model audience for aesthetic interpretation. Works B and C contained more open subjectpositions, perhaps aided by the more abstract nature of their materials, and thus were more easily interpretable for audiences.
- Responses to work A and B demonstrated that the presence of clear technical intervention by the composer, can act to distract and obstruct aesthetic interpretations of electroacoustic-audio visual works. Consistency within the works discourse is a key factor in obscuring technique. Events which are not consistent with the remainder of the discourse highlight compositional intervention.
- The significance of emotional connection in accordance with aesthetic response to works was highlighted.
- Desire for contextual information prior to projection of the work dropped significantly after actual provision of the information, with audiences demonstrating a preference for their own interpretations of the work.
- Where contextual information provides audiences with schemata of interpretation appropriate for electroacoustic audio-visual music, information is approved of and acts to increase appreciation. However, where information is specific or attempts to direct a specific reading, there is a danger that audiences will react against it, rating it as unsuitable and in some cases participants actually find the information damaging to their initial interpretation.

# **Chapter Seven**

# Phase Two

This chapter presents the processes of development for Phase Two of the empirical testing (P2), followed by analysis and discussion of the results. Phase Two (P2) was the first stage in the empirical action research model within this project.<sup>1</sup> Results from Phase One informed the composition of a new work, which was subsequently presented to new participant groups so that they might record their interpretations. Responses to the Phase Two composition, informed the development of Phase Three (P3 aims and methodology) and re-composition of the P2 test work, thus resulting in the creation of the P3 test work (outlined in Chapter Eight).<sup>2</sup>

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<sup>&</sup>lt;sup>1</sup> An action research model was outlined above in Chapter Five p.88.

 $<sup>^2</sup>$  Once again, the transcribed responses of Phase Two are available for direct comparison with the analysed and categorised data, these can be found in Volume Two (Vol.2, p.81-98).

#### 7.1 - Phase Two (P2) Aims

Phase Two of the empirical research project was conceived to corroborate and further investigate the responses to Phase One. Utilising the model outlined by Kolb to describe the process of learning<sup>3</sup> it is possible to observe the four-stage process at work within, and between, each phase of the empirical research: "Concrete Experience", "Reflective Observation", "Abstract Hypothesis" and "Active Testing". For Phase Two, the concrete experience of participants within Phase One, provided interpretations for reflective observation and analysis, leading to the development of research hypotheses and aims for the P2 tests.

Responses to Phase One identified the role of lived experience within interpretation and the complications that arise as a result of existing assumptions and schemata when utilised for the interpretation of electroacoustic audio-visual music works. As outlined within the key findings of Phase One (p.218), where inexperienced participants employed their existing schemata of interpretation they sought to make narrative interpretations of the works, and struggled to make sense of the use of mimetic materials in a discursive form.<sup>4</sup>

Phase Two sought to collect audience interpretations to a work made of mimetic materials, but one in which the structures and form of the work did not form an obstruction to interpretation. Therefore, the chosen mimetic materials for the work were inanimate (non human or biological), similar to those within work A, while the articulation of these materials followed the structural lead of works B and C (with some abstraction, recognisable forms and the use of tension and resolution in an attempt to inspire emotional engagement).<sup>5</sup> Responses from P1 indicated that clear and interpretable structural form, but not one that necessarily implied a narrative discourse, might be useful to participants when forming their interpretations.

Thus, Phase Two sought to investigate if the use of mimetic materials in composition might be divorced from the requirement of audiences to have had training in reduced listening and the instigation of analytical approaches to interpretation. It was intended that the composed work for Phase Two would seek to engage the audience in an emotive fashion, and therefore be informed by the composer's emotional engagement — as opposed to a purely technical engagement — with the creative process and materials.

<sup>&</sup>lt;sup>3</sup> Introduced in Chapter Five, p.88.

<sup>&</sup>lt;sup>4</sup> The mimetic materials of work A, and technical processes, were demonstrated to obstruct the larger musical forms of the work because audiences were unable to conceive of them musically. This trend was common across both experienced and inexperienced participants suggesting perhaps that some element of work A specifically, obstructed audience engagement and interpretation. This was rationalised to possibly be a result of the works highly specialised subject-position (Chapter Six, p.198).

<sup>&</sup>lt;sup>5</sup> Emotional engagement was also demonstrated to be linked to aesthetic appreciation demonstrating the connection set out by Reynolds in his theory of Depth (see Chapter Six, p.203).

The main aims for the composition in Phase Two might be set out as follows:

- 1. To limit the negative, distracting, impacts of source bonding and associated connotations encouraged by schemata with regard to mimetic materials,
- 2. Create a work with a relatively open subject-position that does not require a specific model audience with any experience of listening training or an understanding of the concept of reduced listening.
- 3. To discourage an expectation for explicit narrative or meaning but to provide a clear trajectory.
- 4. To create a work with emotional investment from the composer that might engage audiences in an emotional fashion, instigating what Reynolds termed "depth" and characterised by empathic submission (Reynolds 2002: 10).

## 7.2 - Phase Two (P2): Empirical Research Session:

## 7.2.1 - The Research Session: Phase Two

The P2 research sessions were developed directly from those of P1, and with only minor modifications. Experience of running the research sessions within Phase One (P1) informed revision and development of the research questionnaires, with the findings of P1 highlighting areas of interest for subsequent phases of the research and helping to inform development of the research aims and hypotheses for P2. The same room and equipment setup was again utilised for projection, in order to reduce variable factors and to allow responses to the P2 work to be compared fairly with the responses from P1.<sup>6</sup>

A unique composition was developed by the researcher for presentation within the P2 research sessions. This work was consciously informed by audience responses to P1 in an attempt to reexamine and confirm the P1 results, but was composed to be a cohesive work of electroacoustic audio-visual music which might represent itself within concerts and exist externally to the research project.

With only one composition for presentation to audiences, the P2 research sessions were far shorter than those in P1, lasting approximately forty-five minutes in duration. Within these shorter sessions two iterations of contextual information were presented, in an attempt to begin to assess the participants desire for different styles, or types, of contextual information.

Within the introductions to P2 research sessions, it was essential to conceal the fact that the researcher had composed the test work.<sup>7</sup> Had P2 participants been aware that the researcher had created the piece, their responses would likely have been far more guarded and significantly influenced. As in the introductions to P1 sessions, participants were informed that the composer of the work would remain anonymous. It was hoped that making this assertion at the very beginning of the sessions would allow for the matter to be broached and settled without allowing time for the participants to reflect, consider and postulate.

<sup>&</sup>lt;sup>6</sup> See Chapter Six, p.114, for information on the research sessions setup.

<sup>&</sup>lt;sup>7</sup> Subsequent P3 sessions also contained a work composed by the researcher, adapted from the P2 work.

Once more, information about the participants was collected using the participant questionnaire,<sup>8</sup> and the participants were provided with a copy of the Research Agreement to sign, and be countersigned by the researcher (Vol.2, p.124).

Research findings from P1 demonstrated the influence of experiential knowledge and lived experience within interpretation. These findings call into question the very classification of individual participants as "experienced" and the division of participants into defined audience groups. All experience can impact upon interpretation, and all individuals have had a unique experience of the world. Therefore, every individual will approach works in a unique fashion and with their own unique schemata of interpretation. As a result, within Phase Two no quantifiable categories of experience were positioned. The majority of participants were new to electroacoustic music, but in some cases possessed training within the visual arts or extensive familiarity with film.

## 7.2.2 - Phase Two - Directed Questionnaire

After analysis of the data for P1, it was recognised that in some instances the P1DQ-n had perhaps acted to obstruct or confuse participants within the process of recording their interpretation, and that certain questions needed to be re-phrased or reconstituted. This resulted in the "Phase Two Directed Questionnaire" (P2DQ).

These changes focused upon simplifying the questions through the removal of any advanced terminology and by ensuring that the phrasing of the questions kept them as open as possible. Full details of the alterations made can be found within the questionnaires exposition in Voulme Two, p.136.

Just as within P1, the P2DQ was completed after participants had been presented with the P2 test work. Participants were informed about the possibility of utilising the back of the questionnaire in order to record real time notes, but were encouraged to focus their attention on attending the sounds and images of the work.

## 7.2.3 - Phase Two – Directed Questionnaire Two / Three

Within Phase Two, two versions of contextual information were provided. After provision of each of these versions, participants were asked to complete the "Phase Two Directed Questionnaire Two" (therefore each participant completed two copies of the P1DQ2). The two types of information provided were: Brief, constituting the title of the work and a paragraph of programme notes. Detailed, containing the brief information alongside responses to the full composer intention questionnaire. In order to differentiate between these two sets of responses to contextual information, responses to the brief information were indicated as being recorded to phase two directed questionnaire two (P2DQ2), and information to the detailed information were

<sup>&</sup>lt;sup>8</sup> See Chapter Six, p.116 and Volume Two, p.130.

indicated as recorded to phase two directed questionnaire three (P2DQ3). However, these two questionnaires were in fact identical, only the evaluated contextual information was altered.

The content of the P2 contextual information was influenced by responses to the contextual information in P1 (see Chapter Six, p.203). This indicated that the participants required a framework upon which they might build their own interpretation, but that they disliked being given the impression of a singular fixed meaning, especially where this contradicted, or was divergent, from their own interpretation.

The brief information sought to provide such a context, providing general information about the development of the work and its inspirations, without revealing any specific details that might conflict with participant interpretations. The detailed information was largely directed by the nature of the CIQ and information was provided as the questionnaire sought to solicit it, with far less consideration for audiences and potential interpretability. It is important to note that as the researcher and composer were the same individual, a far greater insight was available with regard to motivations and working processes behind the work, for comparison and cross referencing with the received audience responses in analysis.

Participants were asked to evaluate the brief information using a P2DQ2 before being provided with the detailed information. It was hoped that within their responses the participants might indicate the types of contextual information that were most desirable to them, this was further aided by the addition of an extra question to the P2DQ2.

The second directed questionnaire for Phase Two was nearly identical to the second directed questionnaire from the first phase (P1DQ2), only it contained one extra question.

#### P2DQ2-4: Do you feel that you need more information? What type?

In P1 participants were asked to judge the information that was provided to them but were provided no explicit opportunity to comment on the information that they would like to be provided with. After the P1 participants reacted in such a strongly negative way to the provided contextual information this question allowed participants to comment on the type of information that they would ideally like to receive.

#### 7.3 - Development of the Phase Two test work: "Perpetual Motion"

#### 7.3.1 - The Process of Composition

'We come nearer to the understanding of [film's] true position in the esthetic world, if we think at the same time of [...] the art of musical tones' (Munsterberg in Cohen 2001: 252).

In seeking to develop this composition, and in light of the similarity between tools for working with sound and those for image, it was decided that the visual materials should be developed and moulded utilising a workflow that was as similar as possible to that utilised in the development of the sonic materials. This application of similar methodological procedures would play to the strengths of the composer, with more familiarity and experience in sound based editing, and perhaps allow for greater integration of sound and image elements. In realisation of

this, all materials were captured using microphones and film cameras before being processed, filtered and developed within sound and image editing workstations.

#### 7.3.2 – Development of Materials

In order to create a cohesive work that might present mimetic familiarity, but not overtly distracting source bonding, it was decided to use materials from a single source and to use the cultural significance, or purpose, of the source as a model and a means for structuring the work.

To assemble mimetic materials from a diverse array of sources potentially might inspire any number of schemata in the interpreting audience. Some these schemata may be conflicting and thus lead to confusion, lack of clarity and a lack of engagement with the work. In P1, interpretation of electroacoustic audio-visual works was demonstrated to be challenging enough for audiences without complicating matters further through the use of mimetic materials from a range of sources.<sup>9</sup> Therefore, the source location needed to provide opportunities for the capture of a diversity of interesting sounds and images for use within the composition, and which might be mimetic but not inspire highly specific schemata or contexts in their interpretation.

A Paternoster Lift was chosen as the source due to its unique specificity, but general and common archetypal role. The lift itself —a mechanical contraption — possessed a role and purpose familiar to almost all participants — that of being a lift — carrying humans, travelling up and down etc. Its mechanical sounds and imagery were deemed to be recognisable in general but not specific instances. The majority of audience members were not expected to have experienced a paternoster lift first hand, but to be familiar with all of its elements through the common nature of its materials – wood, metal handles, mechanical clanking sounds of the machinery driving it etc. — and its physical purpose and motion. The role and materials of the paternoster lift might be described as common and archetypal, but uncommon in their specific nature.<sup>10</sup>

The materials, as already mentioned, were captured at the location of the lift and presented within the work as mimetic materials abstracted from their original role. This was intended to avoid the negative and distracting possibilities of direct mimetic and associated schematic associations. Where the materials were to be abstracted, the aim was to recombine them in an attempt to create recognisable forms and gestures, thus to balance the recognisable nature of the materials and forms. The Phase Two work also intended to engage participants emotionally, as opposed to simply presenting a study of the source and its properties.

<sup>&</sup>lt;sup>9</sup> Potentially bringing with them disparate and conflicting schematic associations.

<sup>&</sup>lt;sup>10</sup> The decision to use these source materials was also directed by Fishmann's "Neutral Strategic Premises", in so much as the properties of the lift contained "pre-electroacoustic" properties of rhythmic sound as well as its visual correlates for recognisible visual textures. "Physical reality association" was also utilised in the structures and forms of the work to integrate the mimetic properties of the source within the formal structure of the piece. The lift also possessed a clear trajectory, which could be abstracted and was subsequently utilised as a model for structuring the piece (Fischman 1994: 258-261).

#### 7.3.3 - Form

As Schaeffer asserted, '[t]here must be an affinity between the material and construction, so in this new music there will be an affinity between the object as micro-structure, and the musical phrase, the macrostructure, of which it becomes an element. [...] This initial idea is the hypothesis that musical discourse can be created by bringing together sites and calibres of sound objects in perceptual fields' (Chion 2009: 59).

After opting to capture materials from a single source, the next required decision was how to structure the work and the materials within it. The nature of the material itself was initially considered as providing possible inspiration for the structure of the work. However, this was deemed to be too esoteric, potentially requiring the audience to have considerable specialised experience<sup>11</sup> in order that they might possess the specific analytical interpretative schemata which would enable them to understand this type of relationship between the materials and structure of the work. As with P1 work B, it was decided that the piece should be inspired by a single cohesive concept and the materials facilitate the realisation of this intention.

With this in mind it was decided that the structure of the work would seek to utilise the nature of the lift itself, and the process of travelling within it, metaphorically. As a result, the work was conceived as divided into three sections: the first representing travelling upwards, the second from a static perspective, "on the landing" with objects passing and travelling by, and the third and final section evoking descent. One of the most significant unique features of a paternoster are the open carriages and lift shaft, allowing those travelling on the lift to observe the passing floors and for those on each landing to observe the passing of the carriages. This element was a significant inspiration for the work, and the main reason that the location proved to be so interesting both visually and sonically. The nature of the journey around the lift, its cyclical nature but also rising and falling, also provided potential for emotional connection and inference (figure 46). No explicit, conscious, allegorical associations were made within the process of composition but where the composed work is compared with previous compositions by the researcher trends of cyclicity, transformation, journey become apparent.<sup>12</sup>

The first and third sections of the work represented the process of travelling within the lift, up and down respectively, and therefore were conceived as relying on more gestural actions and the building of tension and drawing resolution. The middle section of the work was conceived as representing a static position, observing the passing motion, standing on the landing watching lift carriages pass. This middle section was intended to present a more reflective and calm perspective and to explore some of the subtleties of the captured materials. This variation within the three sections of the work would also afford participants the opportunity to demonstrate their preferences for specific archetypal forms and structures. Obviously while the process of

<sup>&</sup>lt;sup>11</sup> Training and familiarity with electroacoustic and electroacoustic audio-visual works.

<sup>&</sup>lt;sup>12</sup> Flux 2008 and Phase 2009 are electroacoustic audio-visual works composed by the researcher that explore concepts of cyclicity and transfer between states. These works are available online, [www.vimeo.com/andrewhill].

travelling up and down in the lift is largely common, it was decided that the work would open with a section that contains both mimetic and abstracted materials structured around a concept of climbing and building tension. While utilising more abstract materials within the final section of the work to attempt to evoke the sense of falling, but without explicitly showing images of falling or descent.



Figure 46: Structural diagram of Perpetual Motion.

Although it was not consciously intended, the opening section of the P2 work was perhaps most similar in nature to work B with a central concept embodied by a mixture of mimetic and abstracted materials building in tension. The central section of the work explored the materials of the paternoster with minimal processing, thus highly mimetic, and therefore can be thought of as most similar to work A in which the materials of the work, and their subsequent elaboration and development were the primary compositional inspiration. While the final section, which attempts to embody the concept of falling with a heavier weighting to abstracted more processed materials, is most similar to work C in which a concept is elaborated through abstract materials possessing recognisable forms. Obviously the associations with each of the previous test works might be tenuous, but it is significant to note that the researcher had been present throughout the majority of research sessions with P1 participants and thus the three P1 works, A, B and C, were the three most frequently interpreted audio-visual works that the researcher was exposed to directly prior to the composition of *Perpetual Motion*.<sup>13</sup>

In the conscious decision making process, the three sections in the work were conceived as needing to be recognisably independent but to retain a consistency and flow so as not to feel like three individual and disparate works. Because of the restrictions of duration for the test process, being that of less than ten minutes, it was arbitrarily conceived that each of the three sections of the work would be three minutes in duration. The nature of three was later utilised as a compositional tool within the work.

#### 7.3.4 - First Section of the Work

The largest challenge for the opening section of the work, and subsequently the middle section too, was the removal or minimisation of clearly recognisable and potentially distracting visual

<sup>&</sup>lt;sup>13</sup> And indeed these three works have likely been watched more frequently by the composer/researcher than any other audio-visual compositions (excluding those of the composer themselves).

elements, such as text and numbers for the filed footage. On every landing there were large numbers at the opening to the shaft indicating the number of floor, and in the back of every carriage was an obnoxious health a safety message. It was conceived that the presence of text within the work would immediately attract audience attention and lead to unwanted schematic associations as they attempted to rationalise the significance of the text's presence within the context of the work.<sup>14</sup>

Every effort was made to avoid capturing these signs in the first instance, however their prominence within the context of the lift made this challenging. Where the text and warning signs were captured, tracking visual masks were used to cover them as they transitioned across the screen, these were blended with the general background of the lift in colour and with the use of blurring. This also affected the choice of materials because some of the more distant shots of the lift contained so many of the signs in motion that it proved to be impractical to eliminate all of the signs within these clips. As a result, these were rejected as potential materials. This led to the majority of materials being close-up details of the lift as opposed to larger macro shots that might have situated the lift in its wider context.

The initial intention for the opening section was for it to be composed of elements with minimal levels of processing, however the presence of such explicitly recognisable materials was anticipated to be too obstructing for inexperienced participants. The floor tiles upon each landing were an example of this. Travelling up in the lift it was possible, and fascinating, to view the light ripple and transition across the floor of each landing. However, when captured with a video camera much of the subtleties of the light and its refraction were lost. Instead the camera only captured the most apparent and fixed details of the passing floors. As a result, these presented images focussed attention upon static and unchanging elements of the building and not those that were dynamic and subtle. In response to these apparent limitations these images were blurred so as to attempt to remove the clear mimetic association of the walls and objects standing upon the landings. However, within this blurring process a much greater impression of the subtle movements and patterns of light re-emerged.<sup>15</sup>

One of the most striking elements of the opening section is the initial, three line "corner" image. This element contains minimal processing and is in-fact footage of the rear top corner of one of the paternoster carriages. Travelling between floors, subtle changes in the light and shadow fell across this back corner and combined with the slow unsteady movement of the carriage itself created a powerful and morphing visual object when presented back. Within the final work this image required only minimal motion steadying in order to soften some of the motion and slight colour balancing in order to highlight the subtleties and changes in the light.

<sup>&</sup>lt;sup>14</sup> Unprocessed footage of the lift is available on the accompanying DVD: Disk 2, Raw Paternoster Footage.

<sup>&</sup>lt;sup>15</sup> In contrast to the sharp and fixed unchanging tile edges of the unedited clip the blur process acted to average out these details, providing an amorphous texture. Any remaining large marks and streaks between tiles were eliminated with masking, and the colour of the resultant texture was exaggerated from a dull grey to a rich blue.

These processes discussed, demonstrate the slowly modulating intentions of original concept and reassessment through evaluation and development of the work.<sup>16</sup> Due to limitations with the source materials and the impression that these gave when combined, it became necessary to abstract and lightly process these materials in order that they might display their archetypal properties of movement and subtle changes in shading and lighting, as opposed to specific details of the source.

Sound was used as the main structural element within the first section, around which this opening section was structured. The intention was, at all times, to create a piece with a balanced audio-visual nature, however, the composers proficiency in moulding sounds exceeds that of moulding images and thus in a structural sense it was logical to allow the sonic element to direct the development of this initial section. The rhythmic mechanical clunking of the machinery was chosen as the material to open the work because this is a significant component of the paternoster experience and presents a natural filtering effect as the carriage travels further away from the motors at the top and bottom of the building. This was further accentuated with time stretching and equalisation in order to create a brooding bass thump out of which the work emerges.

In order to give the impression of rising, these mechanical tones slowly increase in tempo and frequency and became accompanied by slowly rising glissandi constructed from the blurring and stretching of captured sounds. The combination of these cyclical rhythmic patterns and the smooth glissandi, while rising together, also contribute to the creation of tension through their contradictions with one another. These audio materials follow a similar overall trajectory upwards, but interact with one another along this trajectory according to their differences (rhythmic versus smooth glissando, and the varying rates of pitch change) and as a result acquire a strengthened sound, as outlined by Kandinsky in his line drawings (figure 47).



Figure 47: Kandinsky's contrasted curved and angular lines. When combined along a similar trajectory Kandinsky argues that they acquire a strengthened sound (Kandinsky 1979: 96)

With the three-minute guideline set for the duration of the section, and this basic ascending theme as a foundation, the section was embellished with other mechanical sounds, creaks groans and clunks from the lift. In order to enhance the sense of motion and speed it was

<sup>&</sup>lt;sup>16</sup> As postulated in the discussion of compositional intention within chapter three, p.60.

decided that spectrally stretching some of the creaks and groans might provide some quick swooping pitches that might add to the sense of urgency and impression of rapid movement.

In order to emphasise the climax of the crescendo, a number of recordings of the lift were compressed in duration (thereby increasing in pitch) and layered before receiving a further, but in this instance variable, time compression in order to create the impression of a sudden gathering of speed in the build up to the climax of the initial section. At the point of climax these materials were further emphasised with a sharp boost in amplitude and a strong panning motion, sonically articulating the visual "flash" to white.

#### 7.3.5 - Middle Section

The middle section of the work, as previously mentioned, was inspired by the idea of passing carriages from the stationary perspective of the landing. It was made distinct to the opening and closing sections through the rotation of the footage and motion about 90 degrees so that the images passed horizontally instead of vertically. It was hoped that this rotation might emphasise demarcation between the sections and infer the impression of stasis – in contrast to the impression of vertical motion in the opening and closing sections. Close-up shots of the passing lift and mechanics were utilised to project the sense of objects passing, with offset reflection and mirroring of these objects utilised to create symmetrical patterns and to give a sense of the recurrent pattern and looping nature of the lift itself. Within this middle section it was the visual element that was the first to be composed and the element around which this section was structured.

The opening of the middle section presented a transition from the abstract first section into to the more mimetic elements of the middle section. This was achieved by gradually decreasing the levels of processing,<sup>17</sup> drawing attention into the textures of the works materials. Due to the close-up nature of the raw visual materials used within this section, it was possible to avoid excessive levels of processing as the captured materials contained few clearly referential objects.<sup>18</sup>

Spectral drones and resonators were applied in order to impart a sense of harmonic stasis and fixed perspective, contrasting with the dynamic pitch movement of the first and last sections. While the textures of the visual materials were highlighted by the granular audio materials – specifically those of wood. The contrast between the static and sustained nature of the drones and the granular and dynamic mechanical sounds provided a sense of divergence between the material, contributing to some limited tension within this section of the work. This focus upon subtleties and detail also acted to reinforce the sense of stasis and a lack of significant change.

<sup>&</sup>lt;sup>17</sup> Mainly, the levels of motion blurring in the image, and reverberation and spectral freezing in the audio.

<sup>&</sup>lt;sup>18</sup> With the footage being captured "close up", it was possible to avoid the health and safety signs within the raw materials of the middle section.

Reverberation, sample delays and panning were utilised to provide a sense of space, specifically with the "pings" accompanying the image shuttling back and forth, while offscreen space was utilised to a significant degree throughout this middle section in order to provide a sense of a larger context, with the main focus of attention upon the detail of a small area (Chion 1994: 82).

## 7.3.6 - Final Section

The closing section of the work marked a return to the use of vertical imagery and the embodiment of movement and transition, similar to that of the first. Where it differed from the first section was in its use of more abstract visual and sonic materials. In contrast to the transition between the opening and middle sections, the transition between the middle and final section is characterised by the gradual transition of the visual elements into a more abstracted state, in which the shapes and forms are more lines and tones which embody a sense of movement and descent. Elements from the opening section, those of the passing blue landings, were utilised once again to provide a sense of completion but were reversed in collaboration with the descending tones, acting to impart the impression of descent. The use of an array of descending tones<sup>19</sup> provided an interlocking but organic texture of descent accompanying the changing textures in the visuals. The use of Sheppard tones was considered for this final section but was rejected due to the desire to project a moving and developing trajectory in contrast with the stasis of the middle section. The uniform nature of the glissandi within Sheppard tones, their rate and timing, would have acted to impart a sense of stasis and would not have embodied such a sense of tension or energy as the interweaving tones utilised (see again Kandinsky's diagram above, figure 47).

In order to bring this final section and the work to a close spectral freezing was utilised, in which complexes of fixed tones emanated from the descending glissandi at the frequency of the initial mechanical thumping of the lift (first heard at the beginning of the piece present with formants around 28Hz and 160Hz). This was intended to provide a holistic sense of resolution and closure to the work.

<sup>&</sup>lt;sup>19</sup> These tones were all developed from the initial rising tone of the first section reversed and time/pitch stretched to differing degrees

# 7.4 - Phase Two Results – Analysis and Discussion

# 7.4.1. Perceived Material Properties of the Work

**P2DQ-2** – Were there any sounds or images that you recognised in the composition? How did these relate to your interpretation (q1)?

The majority of responses to P2DQ-2 contained contextual, mimetic, descriptions of the materials of the work (18/20, 90%). None of these explicitly made reference to a paternoster lift but described the component materials perceived. The most frequently recorded are shown in the table below:

Wood	7
Door (or drawer) handle	5
Birds	7
Machinery/industrial	7
Lift	4
Transportation (aeroplane, train, (one mention each for ambulance, submarine)).	9

Although no participants explicitly mentioned a paternoster, the concept of travelling in a lift was mentioned, as were the motion of submarines and aeroplanes (35%, 7/20). All of these objects might be conceived of as rising and falling, and are likely to be more familiar to individuals than a paternoster due to their relative ubiquity. General motion was mentioned by sixty percent of participants (12/20, 60%). Such attribution and rationalisation demonstrates the influence of lived experience in the construction of interpretation and might also support theories of attribution of causality (Michotte 1962).<sup>20</sup>

References were also frequently made to popular culture and film (25%, 5/20). Stanley Kubrick's *2001: A Space Odyssey* was mentioned by one participant possibly due to similarities between sequences within the two works, for example the visually abstracted "stargate" sequence and/or the audio within the P2 work and the microtonal music of Ligeti used in *2001* (1968). Other references included those to the television programme *LOST*, where abstracted sound design is used to add a sense of mystery and other-worldliness throughout this television series (2004). Alfred Hitchcock's *Psycho* was also referenced with participants perhaps relating the glissando tones in the first and final section of the work to the music written by Bernard Hermann (1960).<sup>21</sup> In these situations it is likely that participants made associations between the sound design within the television programme and the sonic material and gestures within the piece.

<sup>&</sup>lt;sup>20</sup> Attribution of causality is discussed below (p.254).

<sup>&</sup>lt;sup>21</sup> It is interesting to note that during the course of this research project the composer/researcher watched the entirety of the *LOST* television series and also watched and re-watched Kubrick's *2001: A Space Odyssey* and Hitchcock's *Psycho* many times. Therefore, these works may have contributed unconsciously to inspirations or decisions taken by the researcher within the process of developing the P2 test work.

Four participants responded emotionally to the work (4/20, 20%) with three commenting negatively, citing feelings of claustrophobia, fear, uncertainty and only one responding positively (citing calming). A number of other responses also possessed emotional undertones suggesting than an emotional engagement of the work was a fairly significant part of audience interpretations; corroborated by responses to P2DQ4 (see below, p.226).

These responses demonstrate that participants made a diverse range of contextual and mimetic associations. However, certain materials acted to incited mimetic associations in the work, obstructing aesthetic interpretations. The presence of "recognisable" mimetic materials in P1 work A acted to confound some members of the inexperienced audience.<sup>22</sup> A similar occurrence is demonstrated within the responses to the P2 test work, therefore reconfirming the recognisable nature of materials within an abstract or abstracted discourse as a strong probable cause for a lack of engagement and appreciation. Such "out of place" materials have the potential to encourage plural and contradictory interpretations, therefore presenting the work as an incomprehensible collection of sound and image events as opposed to an interpretable cohesive whole.

The prevalence of references to "birds" within the work was unanticipated, although in hindsight the spectrally stretched creaking material in the first section of the piece does resemble that of birds (Disk 2: P2 Example: "Birds"). The presence of this material inspired audience interpretations of "nature, the environment and birds". Such interpretations fall completely outside that of the composer's intention for the work and therefore are somewhat contradictory with the remainder of the work"s discourse. In some cases the references to nature inspired by this material appears to confuse participants through being an isolated occurrence. The properties of the discourse (the nature of the work's physical signal) is defined by the composer's intention to explore the properties of the lift and the motion associated with travelling in it and watching it pass. Had the discourse focussed upon the source of materials and their transformation from nature into the final object of the paternoster, then references to nature might have been more easily rationalised within interpretations. However, while audiences are free to interpret the physical signal in any way that they wish, the physical signal itself does not provide much opportunity for further "nature" associations to be drawn. Therefore the interpretations of "birds" are out of place within the context of the remainder of the P2 work and act to disrupt the apparently cohesive nature of all other interpretations for the work itself.<sup>23</sup>

This finding is another example of technique and technology overtaking aesthetic intention and concept. The use of spectral stretching was appropriate in the context of electroacoustic transformation of materials, but inappropriate within the final aesthetic discourse. The material was included in order to lend the impression of rapid motion, tension and slipping. However the mimetic associations inspired outside of an analytical electroacoustic listening paradigm

<sup>&</sup>lt;sup>22</sup> See Chapter Six, p.153.

<sup>&</sup>lt;sup>23</sup> Such a conflict can be observed by comparing the responses to P2DQ-2 with responses to P2DQ-1, p.246.

obscure this. Just as for P1 work A, audiences would have to have electroacoustic music concepts and techniques explained to them before being able to interpret these materials using electroacoustic or "reduced/expanded" listening schemata. Without this knowledge, audiences will employ their existing schemata in order to make interpretations.

Another unexpected and potentially disruptive interpretation was that of "door handles and furniture", presenting the potential to detract the audience into mimetic interpretation of the materials as opposed to appreciation for abstracted forms and the work's discourse. The handles are a significant and recognisable part of the paternoster itself, but those who are unfamiliar with a paternoster will seek to apply and interpret these elements without knowledge of this and to rationalise them within the context of their own schemata of interpretation.

Despite these interpretative issues, the prevalence of contextual and emotional interpretations of the work suggest that participants largely interpreted the materials of the work in a non-analytical way.<sup>24</sup>

**P2DQ-3** – Can you comment on the relationship between the sounds and images in this piece? Do these relate to your interpretation (q1)?

The majority of responses noted the close relationship between the sounds and images within the work (13/20, 65%), with the sonic element often indicated as the most significant and acting to direct interpretations of the visual element.

Some participants found the relationship of sound and image to be less close, however these responses appeared to reference specific individual sections or events of the work and not the work as a whole, appropriate portions of responses are shown:

1-2 - I think the sound wasn't cooperate with image that much, instead of some places.

1-3 – I feel the sounds (birds) weren't related to the image of the ark/box.

3-1 - Fused at the beginning, in the middle sound went one way image another and then at the end they joined (rhythm wise).

5-1 - There were some confounding moments, the wooden "train" sounds, felt set apart from the more synthetic sounds they accompanied.

The rest of the participants responded describing the way in which the sound and image interactions affected their interpretations. Four participants (4/20, 20%) commented on how the sound and image relationships created a sense of tension or emotional unrest<sup>25</sup> while two participants responded with contextual comments that are a little bizarre:

2-1 – Yes, first it is like watching a movie that show the animals lives in the forest or safari.

6-1 – The wooden blocks moving does not really support the idea of chopping because wood is not on an ideal cutting material. Perhaps this hints to the naivety of the person/object being slaughtered they do not know what it is.

These latter contextual interpretations of the work do not make reference to sound and image associations, but suggest that these participants were engaged with the piece in an entirely

<sup>&</sup>lt;sup>24</sup> Only two participants responded to the work in an intra-musical fashion.

<sup>&</sup>lt;sup>25</sup> Participants: 2-2, 8-1, 8-2, 9-1,

aesthetic fashion, thus they are unable to provide any analytical response. These individuals appear to have constructed interpretations of the work based upon the materials, and perceived mimetic objects have then been expanded to form larger interpretations of the work.<sup>26</sup>

**P2DQ-5** - How would you describe the structure or form of the piece? (How the piece was structured/ its architecture). Please elaborate.

A majority of the P2 participants (9/20, 45%) seemed to recognise that the piece was divided into three sections and that these three sections made up a journey or arc of time:

1-4 – Opening scene - sound of running water overlaid with birds chirping. Middle scene - moving tunnels, Ending - door handles representing moving lift or something.

4-1 – There were 3 phases marked by 2 blank bright screens when the sound stopped. The end (last phase) was marked by a dark screen. At the beginning there was a feeling of going into something - a tunnel/ a passage/ a journey into space/time. The second phase felt like movement upward. The third downwards.

5-1 – Although one could be more nuanced, broadly the piece had a rise to a climax, a peak and a fall away. Indeed, describing it like that evokes sex, although this wasn't a meaning I'd previously considered!

The visuals supported a rise up, and a fall down. With the brilliant white demonstrating the climax of the piece.

6-1 – There were several distinct scenes of different environments or views of. Transitions between scenes were initially gradual and they then switched quickly. Each scene was repetitive with changes in tempo.

6-3 – Overall the structure was segregated. There were distinct elements to the piece. I felt that it could be defined into three elements. A birth, living and death section.

8-1 - Episodic. Although the repeated movement (flow) in the visuals created connections, as did an impression of cohesion in the music. It felt a linear piece - but this does not make sense, as there was no apparent connection being made.

8-2 – It felt like a journey. Felt split into 3 parts.

9-2 – I would say the structure is similar to ABC...but all based along a theme. Each section is different but uses the same components i.e. noises, timbre, tempo etc.

10-2 – Felt like it was more flowing at the beginning, then really fast and intense, then more steady. To fit with my idea of the piece and transport, it felt like it went from sea, to air, to land. It also went from being forward travelling to vertically moving to horizontally.

Other participants (3/20, 15%) recorded a linear trajectory in time but did not divide this arc into sections. Indeed, some of these participants indicated that the work was incomprehensible in structure, but suggested that it did possess a certain trajectory:

1-1 – The structure was elaborate or without comprehension. -It seemed chronological though. The room, movement within the room (the film cube?) but only psychologically.

2-2 – It is a masterpiece, which has a very good structure making the audiences to be occupied until the piece came to an end.

10-1 – To me, the piece appeared rather random, although everything flowed together really well. The music sounds were strange in parts and completely unrelated to what's going on on the screen, although once your imagination took over they seem to be perfectly matched. The images, although interesting, were also a strange combination and seemed there to confuse you rather than show you anything.

Interpretation of the works structure by these participants indicates that the composition did possess certain cohesion and an identifiable three-part structure. In this way, the form of the work presented a framework upon which participants could project their interpretations, a clear sense of development and progress over time. Some responses to P1 work C indicated

<sup>&</sup>lt;sup>26</sup> Responses to the narrative in P1 Work C also demonstrated similar tendencies, see p.189.

confusion about the temporal discourse which was often a precursor to a lack of engagement or appreciation within the work (for example: P1 DQ-8 Work C Participant 6-1 'It always felt like it didn't quite get anywhere'). The fact that the discourse of the P2 piece presented a clear trajectory is likely to be a positive factor in terms of engagement and appreciation. Responses to P2DQ8 indicated that a desire for resolution was the most frequently cited reason for participants to keep listening, this would be consistent with a clearly interpreted structure leading to a point of resolution or release.

## 7.4.2. Perceived Meaning and Emotional Response

P2DQ-1 – What might this piece be about?



Figure 48: C, I-M, E, spread for responses to P2DQ-1

Total	Contextual: 14	Inti	ra-musical: 1	Emotional:	0	
	Contextual + Intra-music	al: 2	Contextual +	· Emotional: 3	Emotio	onal + Intra-musical: 0
		Cor	ntextual + Intra-mu	sical + Emotional: (	)	

Interpretations were largely contextual (14/20, 70% Contextual only) with all but one response having some contextual aspect. Many of the responses present an emotional undertone but only three responses contain any explicit emotional comment (3/20, 15% Contextual + Emotional). Only one participant responded in an entirely intra-musical way, referencing the sound and image relationship, however a number of participants provided a mixed contextual and intra-musical response to the work (2/20, 10% Contextual + Intra-musical). Such a trend in responses suggests that the majority of participants undertook a non-analytical interpretation of the work.

The most frequent contextual associations were that of a journey (10/20, 50%) presenting different perspectives upon the idea of transformation: rising and falling, recognised by three participants explicitly and to others through the nature of the sonic materials, suggesting the idea of aeroplanes as well as other mechanical forms of transport (trains, boats, engines etc. mentioned by five participants).

Fear and paranoia was another frequently mentioned aspect of the work (6/20, 30%) attributed to a range of reasons (aeroplanes taking off, death, uncertainty, madness and a lack of control) alongside a sense of claustrophobia and being trapped (4/20, 20%).

The content and length of the responses too, might provide an interesting insight to audience engagement with the work. When compared it is possible to observe three overall types of response. Longer responses, through their duration and content, suggest a clear and considered engagement with the work (5/20, 25%): <sup>27</sup>

3-1 - Colours and sounds related to emotional states, and the person was not in control, the movement did not stop, the speed of objects did not change happen but sounds and colours did change quite a lot. Life is passing by, Drawer handle not in control on a train or along a corridor with doors of choices but those door handles were passing but no decision was made. Eventually grew to 4th part in which the frequency was descending, corridor became less flat and descended, person no longer in control rolling down the corridor falling, less tension, direction didn't change always passing by, falling towards inevitability. Expecting an explosion or crash at the end but there was only darkness, this though is probably what it was about.

5-1 - Broadly speaking I felt the piece was about some sort of journey, with the sense that it started outside, moving upwards, before reaching a climax and a descent. Certainly the latter elements felt mechanical or industrialised whereas the initial elements felt organic. The colours too, shifted from grey/blue/green into a beating red, and then the release of white, before a very sharp decent. It would be difficult not to evoke some sort of evolutionary fight of flight in the first section – the bird songs giving the sense of a tangible human world, replaced by machines – large in the foreground both visually and audibly in the latter section. The climax could be seen to be heaven or perhaps death, the beating red before hand evoking a human heart, however this would be confounded by the decent backwards – perhaps some kind of near-death experience?

6-1 - Fear of the unknown. Initially there was a sound of a person/object approaching. Upon its arrival there was more uncertainty as we entered a "black box" on a conveyor belt. There was also imagery of mechanical chopping (wooden blocks moving). I now think this expresses the emotions of something being slaughtered.

8-1 - This piece does not ask me that immediately. I felt each time I began to relate it outwards - it altered and moved into a different style a composition visually and aurally. I would relate it to other art animations I have seen - can't remember directors, From 1930's ish set to Jazz score.

9-1 - Journey to find meaning/ hidden purpose; break through nightmarish elements of life + think you've found enlightenment, but no, more confusion so constantly trying to slot pieces together to make sense, but more you think you find out, the more you still have to puzzle out + more nightmarish it becomes; in the end discovery that there isn't anything else there after all.

The majority of responses (11/20, 55%) were briefer and present interpretations from participants who appear to find the work uncomfortable or unsettling but still seek to describe their engagement with the piece. These responses are briefer and less open and less certain than those of the previous group:

 $<sup>1\</sup>mathchar`-1$  - I think it's about claustrophobia, paranoia & a belief the subject was on a downward spiral. The music enhanced the idea of paranoia.

<sup>1-3 -</sup> Wood? I don't really know. Perhaps how wood from a tree in the forest is then turned into stairs + cupboards? Bit it's obviously not a nice experience for the tree - hence the scary music throughout.

<sup>1-4 -</sup> A moving train or ship. - Certainly sounds like a collection of different engines. An anxious/ paranoia kind of sound.

<sup>4-1 -</sup> A journey -? A plane taking off. Travelling, seeing landscape passing by from various different perspectives or vantage points.

<sup>6-3 -</sup> Transitions through life. There appeared to be birth, living and death with distinct transitions. A process of working perhaps intro.

<sup>&</sup>lt;sup>27</sup> Participant 8-1 made reference to early visual music animations and so might be considered to have an experienced level of knowledge. However this participant indicated in the participant questionnaire that they were a school teacher who had at one time previously taught film studies. This participant is not an expert engaged in scholarly research or a practitioner and so therefore while they do possess some awareness of visual music they cannot be classified as an experienced participant.

6-4 - I would say a brief summary of a soldier's experience (i.e. from battle ground to hospital, back to daily activity.)

7-1 - Someone who is very greatly disturbed. At first the person seems to be confined in a smallish room looking at the corner/ceiling and then he gradually becomes more disturbed.

8-2 - 2001 style journey into death from life. Perhaps being reborn.

9-2 - Slipping in and out of consciousness, Lack of control, Fears/Phobias, Curiosity.

10-1 - Illusion. The thought that everything is not as it seems. Confusion. Anger. Falling.

10-2 - Transport - movement. There is a feeling of high speed and falling, which is reflected in the music and is mirrored in the movement and pace of the graphics.

The final group were those participants who provided very short and often flippant responses to the work (4/20, 20%). These responses suggest a lack of engagement and a disinterest in the piece:

- 1-2 Sound of train in different aspects e.g. In tunnel or in a field, or moving an object.
- 2-1 Sound track of the movie
- 2-2 A fearful piece or the take off of a plane with its horrors.
- 6-2 Some form of cabinet or wardrobe + its construction.

Such trends in response duration would suggest that the majority of participants were engaged with the work, but that many participants found it difficult to create a cohesive, confident interpretation. One quarter of participants were strongly engaged with the work, providing detailed and in-depth accounts of their interpretation. While at the other end of the scale, twenty participants presented only a notional engagement with the work. The majority of participants (55% 11/20) presented interpretations that were at times uncertain and less confident than the detailed responses of the highly engaged group, but these responses still demonstrated an engagement with the work and attempts to construct emergent meanings.

**P2DQ-4** - Did you have any emotional responses to the piece? Did these relate to your interpretation in any way?

The majority of participants recorded a sense of fear within the work (10/20, 50%). Many of these quantified their feelings through description of a sense of tension (2/20, 10%), a feeling of being trapped (3/20, 15%) or a sense of foreboding and death. One participant recorded an obviously positive emotional reaction stating that the piece was exciting (1/20, 5%) and another indicated that the sense of tension within the work was positive. Only two participants indicated that the work itself was not emotive, in that it did not encourage emotional engagement from them.

A strong emotional engagement from participants was one of the main aims for the composition in P2 because responses to P1 test works indicated that emotional engagement was a marker of greater accessibility and reception. Responses to the P2 work support the responses to P1 work B by continuing to demonstrate the significance of emotional engagement even when the content is negative or presents high levels of tension.

#### 7.4.3. Engaging aspects and desire to see more/keep listening

P2DQ-6 - What aspects did you find most engaging?

Nine participants (9/20, 45%) identified the audio as the most engaging aspect of the work, suggesting that it provided a more enveloping and engaging experience than that of the video:

1-2 - The sound combination got my attention more than the image.

1-3 - The music very gripping and dramatic/ scary.

2-1 - Animal sounds, airplane sounds.

6-1 - The sounds of birds at the start. It reminded me of being in some beautiful places in the world! Most of thus was quite light in colours, I like this.

 $6\mathchar`-2$  - The audio was much more engaging than the visual aspect. The contrast in sounds in the piece held attention well.

7-1 - I felt that the sounds tended to show that one was tense/ "worked up" Parts, visually were well done I feel.

8-1 - I liked the sensation of surrendering to the music at times and not being "pushed out" by the visuals i.e. there were times when I forgot I was looking (became situated into the film) and other times felt like looking at a painting.

9-1 - The train sound + being drawn into a "hidden" corner in the first section was hypnotic.

10-1 - The beginning of the audio was the most interesting you were unsure of what was to come, but it definitely felt like something was coming. The sounds that reminded me of an airplane taking of were also interesting as they were paved with "bird-like" sounds.

Four of these responses (4/20, 20%) made reference to specific sonic events (birds, animal and airplane sounds, train, aeroplane + birds) while the others referred to the sonic element in more general terms.

Two participants (2/20, 10%) indicated that the combination of sounds and images within the piece were the most engaging aspect:

3-1 - First and the end when the sounds were together, the reactions were more intense, in the middle section the picture was greater than the sound as I tried to look for associations, intensity of reaction was better when the sound and image were fused.

6-3 - The use of sound and vision to increase the tension and raise the overall intensity was very captivating. The darker aspects were most interesting.

However participant 3-1 indicated that the submissiveness of the audio within the middle section of the work was a negative factor in appreciation, as it appears to have failed to hold their engagement in comparison with the first and last sections of the work.

Five participants (5/20, 25%) found the visuals to be the most engaging aspect of the piece, with the middle section of the piece most frequently referenced as the most engaging visual aspect of the work:

- 6-1 Most of this was quite light in colours, I like this.
- 8-2 Lift shaft. Ascent into white light.

9-2 - The interlinking shapes & objects, much like a Kaleidoscope, going deeper & deeper.

10-1 - The images towards the middle, which looked like optical illusions. And the image of the cube slowly appearing on stage, and the blue stage of the images towards the end which seemed to influence the experience of falling, when paired with the music sound, appeared like the sky.

10-2 - The "middle" section where it seemed like you were rushing towards something urgent was quite thrilling - a bit like a rollercoaster ride or a rocket launch. The ways the visuals seemed to "jump" forward to the white light reminded me of "jumping to" light speed on star wars!

Many of these participants mentioned not only the visual element of the work, but specifically the middle section of the work, indicating that it was the visual element alone in this section that was an engaging factor. One other participant cited the middle section as an engaging factor:

1-1 - The cyclic scenes

	Sound	Visuals	Sound and Image Interaction
P2DQ-6 – Most Engaging	9, 45%	5, 25%	2, 10%
P2DQ-7 – Least Engaging	1,5%	5, 25%	0,0%

The section of the piece most frequently mentioned as an engaging factor is that of the opening section as cited by eight participants (8/20, 40%) explicitly and a further participant implicitly:

1-4 - The opening scene was the most engaging

2-2 - Yes the beginning of the piece, which made me to think ahead.

 $3\mathchar`-1$  - First and the end when the sounds were together, the reactions were more intense.  $[\ldots]$  intensity of reaction was better when the sound and image were fused.

5-1 - I felt the initial section, which felt worldly and natural was the most engaging, tapping into a primal fear of the vastness and unknowingness of the natural world.

- 6-1 The sounds of birds at the start.
- 6-4 The first part of the piece.
- 8-2 Lift shaft. Ascent into white light.
- 9-1 The train sound + being drawn into a "hidden" corner in the first section was hypnotic.

2-1 - Animal sounds, airplane sounds.

Interestingly the final section was only mentioned once by participant 3-1, and even in this instance the response was more of a comment on the sound and image relationships as opposed to the final section itself.

	Opening	Middle	Final
P2DQ-6 – Most Engaging	8, 40%	4, 20%	1, 5%
P2DQ-7 – Least Engaging	1, 5%	4, 20%	3, 15%

Tension was another recurrent element in responses, both explicit and implicit, and mentioned explicitly by three participants (3/20, 15%).

The responses to this question suggested that the audio in the opening section and the visuals within the middle section were the most engaging parts of the work, while the sonic element itself was mentioned as an engaging factor more frequently than the visuals and was stated as providing a more enveloping experience than the images. These responses might also suggest that the sonic element in the middle section was lacking and that the visual element in the first section was less engaging than its accompanying audio. The final section was not explicitly indicated as engaging at all.<sup>28</sup>

<sup>&</sup>lt;sup>28</sup> Interpretation of these results assumed that the participants themselves determined the work to be divided into three sections.

P2DQ-7 - Which aspects did you find least engaging?

The element of the work most frequently cited as the least engaging was that of the visuals, mentioned by five of the participants (5/20, 25%):

1-1 - None really. It was very engaging, but simply visually in the section of wood grain cycling. \*

1-2 - The image

1-3 - The blurred colours/ lines

6-2 - The visual aspect of the piece left more to be desired as a lot of it was very similar to previous parts.

6-3 - The movement from the very abstract to pictorial representations I found less engaging.

	Sound	Visuals	Sound and Image Interaction
P2DQ-6 – Most Engaging	9, 45%	5, 25%	2, 10%
P2DQ-7 – Least Engaging	1, 5%	5, 25%	0, 0%

However some of these responses may relate to the visual element within specific sections of the work, for example the response by participant 1-1 may relate to the middle section of the work, while the response from participant 1-3 may refer to the initial or final sections of the work. It should also be noted that participant 1-1 cited the "cyclic section" as being both the most and least engaging aspect of the work (refer to P2 DQ-6 responses above).

The middle section of the work was mentioned four times (4/20, 20%) as the least engaging element, the closing section was mentioned three times (3/20, 15%) while the opening section was mentioned only once (1/20, 5%):

#### Middle section

1-1 - None really. It was very engaging, but simply visually in the section of wood grain cycling.

 $2\mathchar`-2$  - The middle of the piece I was wondering if that was the end and suddenly discovered there was still more to come.

8-1 - As before - see sense of alteration. This particularly occurred with the patterns sequence that flowed across horizontally.

10-2 - The wood grain panels near the end. Felt steady and a bit monotonous - like plodding through life of driving for ages on a motorway.

#### **Closing section**

5-1 – The descent felt inevitable, and as such somewhat predictable, there was an emotional release for the audience as well as the piece at the climax, and so the falling away did exactly that – it feel away. I'm not sure that's supposed to be as engaging!

6-4 – The end of piece / last part of the piece because I have problem matching it with the other parts.

10-1 – Towards the end when the audio and visual made me reminded me of falling, it almost went on for too long, it was gripping to begin with but quickly became much duller.

#### Opening section:

9-2 - The beginning, when I couldn't identify exactly what I was seeing.

Six participants (6/20, 30%) indicated that they were unable to record any elements of the work as un-engaging.

The responses to this question seem to confirm the responses to P2 DQ-6, with few mentions for the opening section (cited as most engaging by nine participants in responses to P2DQ-6 (p.227)), and no mentions for the sonic element of the work. The middle section was cited most

frequently as a least engaging factor with most of these responses discussed the visual element of the work, however this section was also cited as most engaging by a number of participants.

	Opening	Middle	Final
P2DQ-6 – Most Engaging	8, 40%	4, 20%	1, 5%
P2DQ-7 – Least Engaging	1, 5%	4, 20%	3, 15%

Comments on the final section indicated that this section was perhaps less integrated into the whole of the work (it was added later) and that it was felt to be too long in duration. Therefore the middle section was cited as both most and least engaging, while the final section received more negative than positive responses Thus, one of the main aims of the re-composition process, moving into P3 testing, has been identified as the effective integration of the final section in with the rest of the work.

P2DQ-8 - During the piece did the composition make you want to keep listening?

An overwhelming majority (14/20, 70%) had a desire watch/listen to more of the work with the most frequent reasons being the sound and image relationships and a desire for resolution in the work:

1-1 - Yes it seemed to fit the images.

1-3 - Yes, I wanted it to get happier/ cheerful but it didn't really.

 $1\mathchar`-4$  - Yes. Almost as if waiting for the scene to confirm what one considers to be making such sound.

2-2 - Yes because one needs to know when the end will come as it has to an extent a fearful feel.

3-1 - Expecting the explosion at end, fully engaged up to end of first part, towards the image in the middle part and then again at the final part with the decent.

4-1 - Yes

 $5\mathchar`-1$  - Yes, definitely. The initial suspense and the building together of tension was gratifying to watch.

6-1 - Yes definitely at the start. I wanted to know how it finished.

6-3 - Overall I wanted to keep listening as the structure had an interesting movement.

6-4 - Yes, it made me want to listen so as to separate every sound.

7-1 - Yes but only out of interest to see what developed

9-2 - I felt drawn into it, but I think it was mainly the combination of sounds & vision; I wouldn't choose to watch/listen to each individual piece.

10-1 - Yes. I did want to continue listening. I was curious as to what would come next. The images especially helped as it made me want to know what I was going to see next, and what the combination of audio and visual would make me think of.

10-2 - Yes, some of the sounds particularly near the beginning - were quite haunting and felt a bit like I needed to keep listening to check nothing serious was going to happen.

Three participants (3/20, 15%) were undecided stating that the work was engaging in some parts but not in others.<sup>29</sup> Another three participants responded in an explicitly negative fashion, but two of these did not condemn the entire work, stating that they were engaged by the work although perhaps it was not to their liking.<sup>30</sup>

It is interesting to note that despite the overwhelming emotional responses of fear, tension and claustrophobia recorded in responses to P2DQ-4 (Fear: 10/20; Tension: 2/20;

<sup>&</sup>lt;sup>29</sup> See, for example, the responses of participants 1-2, 2-1 & 6-2 (Vol. 2, p.89).

<sup>&</sup>lt;sup>30</sup> See, for example, the responses of participants 8-1 & 8-2 (Ibid).

Trapped/claustrophobia: 3/20) only one participant listed fear as a negative factor in their enjoyment of the work. Indeed the perceived tension within the work and a desire for resolution that followed it was cited by six participants (6/20, 30%) as the reason for their desire to keep listening to the work.

Responses to this question demonstrated that the majority of participants were engaged with the work.<sup>31</sup> As previously stated, the perceived structure of the work (P2DQ-5) and the emotional engagement (P2DQ-4) are ratified in responses to P2DQ-8 as engaging factors. The high percentage of responses suggesting the continued engagement of individuals with the work were gratifying and this data served well for comparison with responses to the same question in P3.

**P2DQ-10**- Do you think that you would like to watch/listen to a similar type of composition again? If yes, why? If no, why not?

The majority of responses to this question were similarly positive to that of P2DQ-8 with eleven participants (11/20, 55%) responding with an explicit "yes" and many of these describing engagement with the work as their justification:

1-1 - Yes. I enjoy the mystery of what is trying to be portrayed. I also love Aphex twin/Autechre etc/Clint Mansell scores.

3-1 - Yes, that is for sure, I like these kind of works that make me think. Reminds me of the sounds from meditation purposes. Would be interested in knowing what it was about.

4-1 - Yes it was interesting, unusual very compulsive viewing in a way, it took my attention and made me feel different moods/sensations as it went along.

5-1 - Yes, although I would like to have more context to help guide my response.

6-1 - Yes definitely this style. I liked the light colours and feeling a tense and uncertain about what is present.

6-2 - Yes if only as background noise whilst working as it is a form of noise but not so aggressive as to demand constant attention.

6-3 - The composition was interesting and very engaging and worth watching/listening to.

6-4 - Yes, would love to learn how to interpret such a piece.

8-1 - Yes - it was thought provoking on one level and engaging emotionally on another. It's the same as the experience of looking at an art work for a long times and just seeing different things. Plus without having to intellectualise it.

8-2 - Yes out of interest.

10-2 - Yes - it had a story + a theme - it felt as though there was an idea behind it and it conveyed it in a clear way. It is interesting to have no words of descriptions to aid the interpretation, but you find you can still read a lot into it.

Two participants responded with less positive comments (2/20, 10%) indicating some engagement but no clear desire to be presented the piece again, while six participants (6/20, 30%) responded in an entirely negative way. One participant indicated a lack of understanding and two participants cited the sonic element of the work:

<sup>&</sup>lt;sup>31</sup> It should be noted that it is possible that the phrasing of the question may have directed some participants to consider 'the piece' and 'the composition' as separate entities, thus recording responses regarding only the sonic element of the work. Further to this the word 'composition' itself is a loaded term conventionally associated only with music. In the same way that referring to test pieces as 'music' in the original I/R project was found to be problematic (Weale 2005: 96) so might referring to an E/A A/V piece as a composition present problems. Firstly it may be rejected as a composition but accepted as something else, and secondly as composition is a term generally associated with music and not other creative acts it focuses attention onto the sonic element of the work. The question should have been written "Did the piece make you want to keep listening/watching?".

1-2 - No it is not my type and I don't understand it.
1-3 - No, I'd like it to be happier (the music mainly) If I did :)
1-4 - No, it's a sound I only associate with transport systems and unfortunately I get pretty dizzy in such systems. Also sounds like a dead environment.
2-1 - Not really because after 5 mins it is boring.
9-1 - No - This is just not the kind of thing that appeals to me.
9-2 - Not really - it isn't exactly something I enjoy.

Despite these negative responses it is still clear that this work engaged the majority of participants and that over half have clearly and explicitly stated a desire to watch this or a similar work in future.<sup>32</sup> The negative responses generally cite a generic dislike for the art form, as opposed to listing or identifying any specific elements, and therefore can provide little insight to the contributing negative factors. However, an exception to this is the response of participant 1-4 who presents an explanation which further demonstrates the significance of lived experience and schemata within interpretation and appreciation.

#### 7.7.4. Desire for Contextual Information and Reflection on this Desire.

**P2DQ-9-** Do you think that having more information about the composition might help you to understand it more? If yes, why? If no, why not?

The majority of participants (12/20, 60%) indicated a desire for more information about the composition in order to understand it. Interestingly the most frequent reason given for this is a wish to compare their own responses with those of the composer in order to add to their own interpretation.

- 1-2 I think yes because I haven't got any background on this field.
- 1-3 Yes, Id like to know why the music with those images why it was so "not-happy" music.
- 1-4 Yes I think so, out of curiosity really.
- 2-2 Yes it would help as I wondered I thought it had to do with a death.

4-1 – Yes because now I want to know what someone else thinks - or the ideas behind the composition. No I am glad that I didn't have any before because it was good to be uninfluenced to start with and just experience the composition.

5-1 – Yes, absolutely. Although one can form their own responses without some context within which to place them, one is left wondering if the response says as much about me as it does about the piece. Context helps provide the framework to access what you're encountering.

6-1 – Yes, I am not absolutely certain my interpretation is the same as the composers. I know there is no right or wrong but I am interested to know.

6-3 – More information can help understanding as certain aspects may be lost through interpretation, however I enjoy interpretation through a lack of any information.

6-4 – Yes, but of clear image so as to give good interpretation of the piece.

8-2 – Yes. Because it felt like an abstract narrative. Like the music was doing the job that images usually do. The music was more engaging than the images.

9-1 – Yes, because I feel it played on my own insecurities rather than made me think about anything further.

10-1 – Yes. I was slightly unaware of what I was meant to see, what I was meant to feel. Was I meant to understand, or was I meant to remain confused.

<sup>&</sup>lt;sup>32</sup> Again it should be noted that the phrasing of the question may have directed some participants to respond only to the sonic element of the work (see previous footnote). The question should have been written "Do you think that you would like to watch/listen to a similar type of work again? If yes, why? If no, why not?

Previously (in P1 responses to all three test works) participants had desired more information so that they might be told the composers "true intended meaning". The fact that this trend does follow through for responses to the P2 test work and that the main reason that participants desire further information is to compare a multiplicity of interpretations, rather than to provide audience members with an interpretation, might suggest that the composed test work is more accessible to inexperienced audiences than any of the three P1 test works. Either audiences are more readily able to make an interpretation of the work and they do not require the composer to inform them of the works meaning, or the work itself does not imply an explicit isolated interpretation. Unlike P1, work A it is not wholly dependant upon explicit information to do with reduced or spectromorphological listening strategies — thus interpretable in a limited fashion — and unlike P1 work C, perhaps it is not so open that audience members feel that they might make multiple interpretations any of which might be "correct". Instead the work is positioned somewhere between these two, in the position where the work is open for multiple interpretations but not so open that participants are confused or confounded by the open nature of the work.

The three participants (3/20, 15%) who recorded an undecided response and three of the four participants (4/20, 20%) who responded with explicitly negative responses for this question were all concerned about the impact of compositional intention obstructing their own uninfluenced interpretations of the work. This again highlights the importance that audiences attach to their own personal interpretation. There is a desire for the information to support their individual interpretation and not to contradict or obstruct this.

## **Brief Information**

**P2 DQ2-2**: Would you have preferred to have been given access to this information before being presented with the piece?

Three quarters of participants (75%, 15/20) responded negatively to P2DQ2-2 with regard to the brief information, instead indicating that they preferred their own uninfluenced interpretations of the work. They stated that the information provided was not very useful in terms of assisting their interpretations, although two of these participants did state that it would be useful to have the works title.

The remaining quarter of participants (5/20, 25%) felt that receiving the information before being presented the work would have provided them with a greater understanding of how to interpret the piece and in a way that would not have influenced their own interpretation.

#### **Detailed Information**

**P2 DQ3-2** - Would you have preferred to have been given access to this information before being presented with the piece?

Fourteen of the participants (70%, 14/20) indicated that they would not wish to receive the detailed contextual information prior to the presentation of the test work. A large majority of these indicated that their justification for such a response was a desire to retain their own personal and uninfluenced interpretation.

The five participants who responded positively (5/20, 25%) to this question indicated that the information provided them with a greater understanding of the work than the brief information had, but the nature of the contextual information could be more in line with the aesthetic rather than technical/theoretical principles. Therefore the detailed information was more suitable compared with the brief information, but perhaps not the ideal type of interpretation desired.

#### 7.4.5. Influence and evaluation of the volume and content of information

#### **Brief Information**

**P2DQ2-1**: Has access to this information from the composer influenced your appreciation for their composition?

Equal numbers of participants provided negative and positive responses to this question evaluating the contextual information. Those responding positively (35%, 7/20) often referred to the text as providing them with a framework for understanding the piece. While those responding negatively (35%, 7/20) indicated that the text assisted little in their appreciation for the work.

Three participants (3/20, 15%) indicated that the title was useful in aiding interpretation and appreciation of the piece, but that the notes themselves were not. A further two participants indicated their disappointment with the contextual information (2/20, 10%) in that it stated the obvious and made the work seem like a purely technical task (participants 6-1, 6-2).

P2DQ2-3 - How do you feel about the volume and content of the information that was provided?

Only three participants (3/20, 15%) responded that the information provided was sufficient for their needs. Two participants (2/20, 10%) responded that the information was satisfactory but could be improved and by far the majority of participants (9/20, 45%) responded that more information was required. These participants also called for greater clarity within the text but presented mixed views about revealing the nature of the works source due to its influence on their own interpretation.

# P2DQ2-4 - Do you feel that you need any more information? What type?

Only twelve of the participants provided responses to this question for the brief information. Due to a printing error this question was not included on all of the participant questionnaires.<sup>33</sup> Five of the twelve participants who responded (5/12, 42%) indicated that they had no desire for further information about the work and that their own uninfluenced interpretation of the work was sufficient. Six participants (5/12, 50%) desired more information about a range of topics regarding the work but again a general trend resurfaces in which they do not desire for their own interpretation to be unduly influenced. They assert that more information should assist their interpretation and not obscure it.

## **Detailed Information**

**P2DQ3-1** - Has access to this information from the composer influenced your appreciation for their composition?

Seventeen participants (17/20, 85%) indicated that the detailed contextual information had influenced their interpretation of the work. Only two participants responded that this information had no influence upon them (2/20, 10%), one participant did not respond.

Of the seventeen participants who were influenced by the information, eleven were influenced in a positive way (65%, 11/17) and only two recorded that they were influenced in a negative way (2/17, 12%). Participant 1-4 indicated that they felt their own interpretation was wrong after exposure to this detailed information. Such a response highlights the negative impact of information as it has affected the participant in such a way that it has caused them to reject their own interpretation of the work.

One participant indicated that they preferred not to have the information, so as to retain their own interpretation of the work, but that they were intrigued about the work and so did appreciate the detailed information. This participant would likely prefer to have the information provided after projection.

**P2DQ3-3** - How do you feel about the volume and content of the information that was provided? The majority of responses to this question was either lightly or strongly negative (55% negative in total) compared to only 35% of responses that were positive. The most common response was that the information provided was far too excessive in duration and that the nature of the information too specific regarding technical nature of work as opposed to the aesthetic meaning of the work. A number of the negative comments indicated that the appropriate level of contextual information might be found at a mid point between the brief and detailed contextual information provided.

<sup>&</sup>lt;sup>33</sup> The lack of responses to this question, due to its omission on some copies of the printed questionnaire, impacted on the validity of the findings for this question. However, sixty percent of the total number of participants did provide a response to this question. Participants were not approached at a later date for clarification or reconfirmation of this question due to the fact that this might have introduced manifold variable factors into the equation. Boltz (2001) asked participants to respond to works with one group giving information directly after projection and another group, providing responses a week later. The type and quality of responses was demonstrated to be radically different between both groups. Therefore, only responses collected within the research sessions for the current project were considered as data within the analysis.

## P2DQ3-4 - Do you feel that you need any more information? What type?

Fifteen participants (15/20, 75%) stated that they required no further information about the work with two of these participants indicating that an excessive amount of information was given.

6-1 – Not really, just reduced and not so technical.
10-2 – No - too much information can restrict the artistic feel of a piece + imprint someone else's viewpoint too much.

Four participants (4/20, 20%) indicated that they would like to receive more information about the piece, with three stating that they would like more information about the composer of the work and previous compositions.

6-2 – Perhaps name of the composer and when it was composed. Perhaps some explanation of abstract.

6-4 - Yes, discussion with the composer.

8-1-I would now want to know what else this author had done - to make comparisons I guess.

Participant 3-1 stated that they would like more information and specifically requested more information about the emotional inspirations of the work. As demonstrated in the responses to previous questions, participants were rather keener to discern information about the aesthetic outcome rather than the technical realisation.

# 7.4.6 Summary of Phase Two Responses

## P2 Directed Questionnaire Responses

The P2 responses demonstrate that individuals utilised a mixture of elements within their interpretations of the work: recognition of mimetic objects, attribution of causality to gestures and small forms, and cultural associations between the P2 test composition and other works.

**1.** Mimetic and cultural associations are clearly evident within the responses to the P2 work, with some trends and commonalities between responses emerging. Ninety percent of responses to P2DQ-2 contained a contextual element, while twenty percent were emotional in nature and only ten percent made reference to an intra-musical property of the work.

**2.** The overarching form of the P2 work, its three-part trajectory or arc, was demonstrated to be highly significant factor in engagement, providing participants with an interpretable and accessible structure.

**3.** The majority of responses noted the close relationship between the sounds and images within the work (13/20, 65% (P2DQ-3)) with the sonic element often indicated as the most significant and acting to direct interpretations of the visual element.

**4.** Participants indicated that the opening section of the piece, and the audio, were the most engaging elements. However, both the visuals and middle section were referenced equally as most and least engaging.

**5.** A sense of fear and tension was frequently referenced by a significant number of the participants, however despite the possibly negative connotations, this did not appear to be a negative factor in audiences' engagement or interpretation.

**6.** A significant proportion of participants indicated positively with regard to a desire to keep listening 70% (P2DQ-8).

**7**. Just over half of the participants responded positively to a desire to see similar works in the future 55% (P2DQ-10).

1. P2 participants responded to the work making significant use of mimetic and cultural associations, although none made explicit reference to a paternoster lift. Such responses are most prevalent within responses to P2DQ-2 and P2DQ-1, but can be found within answers to all questions. Participants used the properties and morphologies of the materials to construct their interpretations. Ninety percent of participants responded contextually and mimetically to the materials in the work — with individuals referencing: wood, doors, handles and machinery —, while sixty percent of participants explicitly mentioned motion — many others implicitly mentioned motion by citing objects that move. These references to motion related to vertical trajectories — either rising or falling — and horizontal motion.

One quarter of responses to P2DQ-2 (25%) cited cultural references, drawing association with films and television programmes. Kubrick's *2001: A Space Odyssey* (1968), the television programme *LOST* (2004) and Alfred Hitchcock's *Psycho* (1960) were all referenced.

While the responses of each individual participant were unique, certain trends emerged within the set of responses. These trends highlighted common interpretations of both materials and morphologies, as well as ommon cultural points of reference. Trends in terms of emotional response emerged within P2DQ-4 as well as within P2DQ-1 — largely citing fear, paranoia or uncertainty —, while contextual interpretations demonstrated a trend towards movement (60% in responses to P2DQ-2, as mentioned above p.220) and the concept of a journey (half of the contextual responses to P2DQ-1 made reference to journey, see p.224).

**2.** Almost half of the participants (45%) identified the work as being split into three sections constituting a journey or arc of time. A further fifteen percent identified a linear trajectory in time but without the clear division into three discrete sections (responses to P2DQ-5). These narrative interpretations are concordant with the fact that the most frequent contextual interpretation of the work was that of a journey (50%, P2DQ-1).

Clear narrative trajectory was demonstrated to be a key factor in engagement within P1, and while responses to P2DQ-6 and P2DQ-7 made more reference to the materials of the work than the form, responses to P2DQ8 indicated a desire for resolution as the most frequently cited reason for participants to keep listening (70%), consistent with a clearly interpreted structure leading to a point of resolution or release.

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**3.** The majority of responses to P2DQ-3 noted the close relationship between the sounds and images within the work (13/20, 65%), with the sonic element often indicated as the most significant and acting to direct interpretations of the visual element. These findings are concordant with those of P2DQ-6 in which the sonic element was most frequently highlighted as most engaging, and with responses to P2DQ-6 in which the sound and image interactions were not referenced as a least engaging element. The combination of sound and image relationships, along with the non-narrative trajectory of the work, encouraged participants to respond to the P2 work as an exploration of materials and form, as opposed to responding to it as a narrative discourse. The cohesive sound and image interactions enabled the audiences to create a rationalisation of the work through the interaction of audio and the visual and thus to make subsequent contextual or emotional interpretations based upon the interaction of sound and image.

**4.** Participants indicated that the opening section of the piece, and the audio, were the most engaging elements. While both the visuals and middle section were referenced equally as most and least engaging.

The sonic element was cited as the most significant aspect of the work by a majority of participants (45%) in their responses to P2DQ-6, with individuals indicating that the sounds articulated and directed the action and progression of the piece (see responses to P2DQ-3 and 6). Sixty-five percent of participants reported a close interaction between sound and image within the work (P2DQ-3), and those participants who reported a disjunction made reference to individual sections or events within the work. Such results suggest that the unity of the sound and image might have been less convincing in specific or individual sections of the work but that sound and image were generally concordant throughout the piece.

Two of the participants who made reference to a lack of relationship between sound and image appeared to cite the middle section of the work. This may be significant when held up against responses to P2DQ-6 + 7, in which the middle section of the work was most frequently cited as least engaging.

	Sound	Visuals	Sound and Image Interaction
P2DQ-6 – Most Engaging	9, 45%	5, 25%	2, 10%
P2DQ-7 – Least Engaging	1, 5%	5, 25%	0, 0%

While forty-five percent of participants identified the audio as the most engaging element of the work, the visuals were often mentioned as the most engaging element within the middle section of the work. Interestingly the visual element was also cited as a least engaging with regard to the middle section of the work. This contradiction perhaps suggests that participants take no specific exception with the visual materials, but that their articulation and association with the sonic element in this part of the work was perhaps lacking.

When responses regarding work element (sound, image, sound image interaction) are compared with comments on the work's sections, a pattern emerges. The opening section, in

which the sonic element holds more influence in the discourse, received a greater proportion of positive comments, while the middle section, in which the sonic element was less pronounced, received mixed responses and an equal attribution of both positive and negative responses.

	Opening	Middle	Final
P2DQ-6 – Most Engaging	8, 40%	4, 20%	1, 5%
P2DQ-7 – Least Engaging	1, 5%	4, 20%	3, 15%

Therefore if the sonic element were to be more pronounced within the middle section of the work, acting to contextualise the visual materials, then perhaps audience responses to this section would be more favourable.

The final section of the work was mentioned most frequently as a least engaging section, despite containing a more significant sonic element. If the previous proposition were to be supported (that of a preference for the sonic element of the work and sections in which it was most articulated) then technically the final section of the work might be expected to receive a greater proportion of positive responses due to the audio being foregrounded. However, it is possible that the final section was simply not mentioned by participants for a number of reasons: Firstly, not all individuals divided the work into three sections and thus perhaps individuals distinguished between the opening section and "the rest", secondly, perhaps the final section was simply evaluated as average, neither the most or least engaging aspect.

The participants who did cite the final section of the work described how it was disjointed from the rest of the work and predictable. Such comments suggest that interpretations of the final section were more to do with the form and not the materials of the work. This would be concordant with the fact that this section is more abstract, both sonically and visually, and therefore acts to highlight form over materials.

Such responses to the P2 work provide ample scope for further investigation in the P3 testing. If the sonic element can be highlighted within the middle section then perhaps research participants will find the visual materials less abstract and confusing. Equally if the final section can be further integrated into the work and the works trajectory consolidated then increased understanding and appreciation might be achieved. Responses to P2DQ-10 demonstrated that seventy percent of individuals possessed a desire to keep watching/listening to the composition; with sound and image associations and a desire for resolution the most frequently cited factors.

**5.** Fear and a sense of entrapment were common trends in emotional responses to the work.

As mentioned previously, interpretations often contained an emotional undertone with fear and paranoia as frequent trends. This sense of foreboding was attributed to a range of reasons (aeroplanes taking off, death, uncertainty, madness and a lack of control), alongside a sense of claustrophobia and being trapped (4/20, 20%). However, only one participant cited fear as a negative element in the work. The fact that seventy percent of individuals desired to keep watching/listening to the composition, and that a desire for resolution was one of the most

frequently cited reasons, suggests that for many participants the emotional engagement with the negative emotional connotations was actually a positive factor in appreciation.

**6.** A significant proportion of participants indicated positively with regard to a desire to keep listening 70% (P2DQ-8).

The length or brevity of responses for P2DQ-1 also provided an interesting insight into audience engagement and connection with the work, with one quarter of participants providing long clearly engaged responses, fifty-five percent presenting less detailed but nonetheless engaged responses to the work, while only twenty percent of participants provided incredibly brief and flippant responses signifying little engagement. The longer responses clearly indicated engagement with the work, with their length and complexity outlining the individuals absorbed interpretation. Participants within the middle category were perhaps less familiar with expressing interpretative concepts in words, or had a less clear picture of their own interpretation, thus responded with a less lengthy description. Added to this, there were fewer responses to the question of least engaging aspects than there had been to the most engaging aspects (30% did not respond to P2DQ-7).

Indeed, responses to P2DQ-8 + 10 situated inexperienced audience preferences for this work above that of the P1 tests works A and B, but below that of work C.<sup>34</sup>

Average percentage scores for 'Did the composition make you want to keep listening? (P1DQ-9 and P2DQ-8)' and 'Now that you have heard the composition, would you choose to listen to a similar type of composition in the future? (P1DQ-11 and P2DQ-10)'

P1 Work A	P1 Work B	P1 Work C	P2 Work
29%	55%	83%	63%

7. Desire to see similar works was less significant, but fifty-five percent of the participants still indicated positively to this question, as opposed to only thirty who recorded explicitly negative responses. Dislike for electroacoustic audio-visual music in general was cited, as opposed to specifics about the test work (however it is likely that this test work is the only example of electroacoustic audio-visual music (or similar) to which audiences have been introduced and therefore suggests that disapproval may be specific to this P2 test work). However, rationalisations and contexts for the negative responses are not provided so this cannot be confirmed.

<sup>&</sup>lt;sup>34</sup> N.B. in P1 testing the results for P1DQ-9 and 11 were quantified and combined to provide percentage scores for engagement. In P2 analysis responses to the test work have been less graduated and therefore did not need to be quantified in the same way. P1 percentages are the total percentage of positive responses (strong and lightly) for P1DQ9 + 11. P2 percentage is the average of positive responses to P2DQ-8 +10.
# Evaluation of Contextual information for the P2 work

# Desire

Sixty percent of participants indicated a desire to receive further information about the composition prior to its projection. But the majority of these indicated that the reason for this was a desire to compare their own interpretations with those of the composer (unlike within P1 responses, whereby participants frequently desired the one — "true" — meaning of the work).

# Brief

However, once the brief information was provided, three quarters of participants did not approve of it. With participants citing a preference for their own individual interpretations (see above, p.233).

# Detailed

When the detailed information was provided, seventy percent of the participants indicated that they would not wish to receive it prior to the presentation of the work, with a majority citing a preference for personal interpretations (see above, p.234).

# Content

# Brief

Participants did suggest that the brief information provided them with a framework for understanding the piece, but one that was vague and non-specific. Only three participants suggested that the information was satisfactory, while the majority called for more information. Three other participants suggested that the title alone would have been useful prior to the presentation of the work.

Participants who responded to describe the type of information that they would like, called for information about the work but not information that would clash with their own personal interpretations (N.B. that there was an error in printing, resulting in question P2DQ2-4 not having been included on all questionnaires).

# Detailed

Sixty-five percent of participants indicated that the detailed information influenced their interpretation of the work in a positive fashion. However fifty-five percent of participants indicated dissatisfaction with the volume and content of the provided information. Most commonly it was cited as too extensive and technical in nature. Though after reading it, seventy-five percent of participants indicated that no further information was required.

A number of participants indicated that the ideal content of information might lie somewhere between the two sets of information provided, and that this ideal information might provide more general information about the composers background or information about the emotional inspirations of the work as opposed to the conceptual. Information about the aesthetic and not the technical.

### 7.5 - Phase Two Results: Summary and Evaluation

The aims of the P2 research sessions, outlined above, sought to corroborate and further investigate P1 findings. The P2 test work was composed with the hindsight afforded by the responses to the P1 test works and sought to use mimetic materials (and those with limited levels of abstraction) in such a way as to afford audiences multiple possibilities of open, yet cohesive, interpretations, without the need for specific schemata of interpretation (for example: spectromorphological or reduced listening) and in such a way that the audiences might engage emotionally with the work.

Responses to the P2 work both provided important insight upon the processes of interpretation and helped to highlight possible obstructions to engagement and interpretability. The most significant of these is the issue of technical process and compositional insight obstructing aesthetic intention.

#### 7.5.1 - Physical Signal / Perceived object

Diversity in interpretation, for example that visible within responses to P2DQ-1 (see above, p.224), demonstrates explicitly the division of physical signal from perceived object. Although common lived experience and the discourse of the physical signal can induce trends and commonality between interpretations, if there were no division between physical signal and perceived object, all individuals would be expected to perceive and make identical interpretations. Responses to P2DQ-1 clearly display that participants do not describe a common interpretation expressed in individual vocabularies and metaphor, but that they make genuinely unique interpretations.

The majority of participants sought to provide contextual and narrative rationalisations for the materials and their articulation in the P2 work. Some participants appeared to create associations between the motion and action of the materials in their interpretations (such as those of rising and falling etc.). This form of response was identified by the psychologist Albert Michotte and termed "attribution of causality" (Michotte 1962) (Newtson 1976). Michotte describes how events might either be perceived causally (as linked event complexes) or an independent succession of events (Michotte 1962: 369). The first and most explicitly highlighted stimulus-condition which must be satisfied for the attribution of causality, is that of temporal congruence (Michotte 1962: 369). But this alone is not enough to define the nature of causal action. Both spatial relationships and trajectories are required to further define attribution (Michotte 1962: 361).

Michotte attempts to suggest that there are innate responses to causal relationships, stating how individual subjects might become inclined to assign causal description to events without the intervention of conscious reflection (Michotte 1962: 362). But he goes on to explain that these unconscious associations stem from the familiar nature with which we interact with objects (Michotte 1962: 368). Therefore in phenomenological terms, these associations are derived

from experiential knowledge, acquired through lived experience. Further, experience and knowledge of these causal relationships and interaction are not explicitly linked to objects. Gibson highlights how the characteristics of motion may be abstracted and perceived to operate in many different objects. Thus, 'motion is defined by a change of a particular type, independent of the material which is changing' (Gibson in Newtson 1976: 237). Where stimuli are similar in character they may engage common associational schemata. Michotte references a "braking" experiment conducted by Willem Levelt. By manipulating the conditions of the test example, spatiotemporal relationships and changes in speed, Levelt was able to finally encourage fifty-eight percent of participants to respond to the test example as demonstrating "braking" (initially only 15% of participants had described "braking") (Michotte 1962: 360).

Within phenomenological philosophy, both mimetic and cultural associations (schemata of interpretation) are defined by experience. Mimetic, through experience of the natural and physical world in which the subject exists, and cultural through the social and human world within which the subject exists. P2 participants did not possess experience in the form of musical or musicological training — a common lived experience specific to the interpretation of electroacoustic works — but only individual lived experience, experience of their world and previous artworks such as film with its accompanying filmic hyper-reality.<sup>16</sup>

The action of both spheres of influence as can be plainly observed in P2 responses to the works materials (P2DQ-2,3, see above, p.220). Responses to mimetic materials within the P2 work identify and rationalise discrete objects or materials within the work. Such responses are dependant upon the recognisably mimetic character of the works materials, and might create direct and individual associations (for example: handles, wood, birds, mechanical sounds). Or lead to more complex meta level associations (for example: birds = nature, handles + wood = cupboards, mechanical sounds = heavy industry; therefore the work = industrial transformation of trees into furniture).<sup>17</sup> Mimetic associations might also relate to the trajectory of gestures and forms, such as an increase in pitch signifying an increase in height. Indeed Newtson's research outlined how individuals segment behaviour into actions, and that they are remarkably unaware of their segmentations. These segmentations were also demonstrated to vary in average size with complex and indefinable effects upon final interpretation (Newtson 1976: 246).

The physical signal of the work was presented to the individuals with little variation (other than in terms of proximity and spatial location within the testing room) but as responses to the P2 work demonstrate, the focusing of interpretation upon different aspects of the signal will lead to radically different final, interpretation complexes. This can be demonstrated through observation of the various different rationalizations of journey within responses to P2DQ-1 (see Vol. 2, p.85).

For example:

<sup>&</sup>lt;sup>16</sup> This hyper-reality is that engendered by what Chion terms verisimilitude, the reality experienced within films and other cultural artifacts (drama, theatre, documentary etc.), which is plausible but perhaps not accurately representative of the 'real world' (Chion 1994: 107).

<sup>&</sup>lt;sup>17</sup> This example is a possible rationalisation for participant 1-3's response to P2DQ-1, see Vol. 2, p.85.

- mechanical sounds + trajectory = journey via train or ship (a possible rationalisation for responses by participants 1-2, 1-4 to P2DQ-1, (see Vol. 2, p.85));
- rising + falling pitch + trajectory = journey via aeroplane (a possible rationalisation for responses by participants 2-2, 4-1 to P2DQ-1, (see Vol. 2, p.86));
- rising + falling pitch + trajectory + mechanical sounds (+ sonar ping at the start of the second section) = journey via submarine (a probable rationalisation for a possible response to the P2 work).

These examples propose how elements of the works physical signal, and the properties of the discourse, might engage the associative schemata of participants and utilise the interpretative tools of causal attribution outlined by Michotte. However, such associations are not explicit, the subject-position of the discourse is not an absolute quality but defined by the experiences of the individuals perceiving the work. Therefore it is likely that the concept of the subject-position, identified to rationalise commonalities between interpretations of works, is not the true cause of these commonalities in interpretation. Instead, the work of Michotte highlights the common causal associations which become abstracted from experience of the physical reality of the world, and it is highly likely that these abstracted properties of experience (common to all humans) are responsible for these almost universal correlations.

One example in particular, from the responses to Phase Two, demonstrates the distinction between physical signal and perceived object, but also how attribution and common lived experience can inform common interpretations. This particular sonic element is present within the opening section of the work, between 01:05-2:13, and might be described as clusters of rapid swooping gestures (swooping in both pitch and amplitude) (Disk 2: P2 Example - "Birds"). This sound was derived from a recording of the Paternoster creaking and rattling. The sound underwent spectral stretching to create the final swooping sounds heard. For the composer, with experience of the processes of creation and recording, the schematic links between the original audio source and the final sound are clear and coherent with regard to the discourse and intent for the larger work: this material is "clearly" part of the lift and imparts a sense of rapidly passing objects, speed and energy to the discourse of the opening section of the work. However, without the compositional schemata of association and experience of the composer the connection between the original source and final sound becomes far less clear. Compounded by the inexperienced nature of the research participants, who were likely unaware of the possibilities of sonic manipulation or the transformation of recorded sound, this sonic element was frequently interpreted as "birds" (see responses to P2DQ-2, Vol. 2, p.82).

The distinct difference between the composer's interpretation, and that of the participants, demonstrates clearly the divide between physical signal and perceived object. But the fact that so many P2 participants made the interpretation of "birds" (eight participants) also suggests the action of common experiential knowledge. All eight of these participants recognised characteristics of the physical signal as being in common with those of the schemata they have

built up relating to birds. As described above, this association of "birds" often subsequently fed into larger complexes of association resulting in the interpretation of references to nature, animals, the environment etc.

Responses to these "bird" materials within the P2 work clearly demonstrate two very different interpretations for a common aspect of the physical signal of the work and the very clear distinction between physical signal and perceived object.<sup>18</sup>

Though the responses to P2DQ-1 demonstrated general trends, each individual response was unique. The physical signal of the work was uniformly presented to the individuals<sup>19</sup> and thus the uniqueness and diversity of the individual interpretations are constructed as a result of schematic associations within the individual lived experience of audience members. Commonalities between the responses are not any result of any aspect of the physical signal, but do to common human experience with the physical world and the abstraction of causal associations. Therefore, all interpretation might be described as being informed by the lived experience of the participants.

### 7.5.2 - Compositional Process Obscuring Concept

The interpretation of spectrally stretched materials in the opening section as "birds" led to the activation of schemata of association relating to "nature". Due to the intentions of the composer and the subsequent articulation of the physical signal, no other similar references exist within the discourse of the work. This places the subject in a situation whereby the "nature" schemata are not reinforced within their interpretation and indeed stand alone, isolated from the rest of the work. Such contradiction potentially leads to confusion, incomprehension and a lack of engagement with the work.

As previously stated, from the compositional perspective the "bird" sounds result from spectral stretching of creaking and rattling within the paternoster carriage. To the composer the schematic relationships of source and process of transformation are clear. Indeed the materials were utilised compositionally for their spectromorphological properties, implying as they do speed, urgency and an increase of energy leading towards the climax point of the first section of the work (Disk 2, P2 Example: "Birds").

The assumptions from an experienced and compositional perspective, presumed that the materials and forms of the work would be interpreted in a reduced fashion, within electroacoustic and spectromorphological schemata. However, as proven within responses to P1 work A (Chapter Six, p.120), where the discourse of a composition depends upon such knowledge in its subject but the audience member does not possess such information, the audience member will be unable to interpret and understand the discourse of the work. Such an occurrence may be inconsequential, works may be flexible and open to multiple interpretations

<sup>18</sup> The impact of this variation in interpretation resulted in further consequences with regard to engagement and appreciation of the P2 work. These are discussed further, below on p.242.

<sup>&</sup>lt;sup>19</sup> With the exception of extrinsic spatial variation, see Chapter Three, p.61.

— for example: P1 work C presented a diversity of possible interpretative solutions to participants — but often, and as in the case of the P2 test work, without a reduced listening approach, the spectrally stretched materials are far more difficult to integrate within a cohesive interpretation.<sup>20</sup>

The interpretation of "birds" from the works materials cannot be defined as "wrong" by the composer, as each individual is entitled to, and indeed guaranteed to, construct a unique interpretation. However, one common justification cited as a reason for a lack of engagement within the P1 sessions was a lack of comprehension. Where interpretation of elements in the work lead to a conflict with the main complexes of association inspired by the work's discourse, a lack of comprehension, and thus engagement, becomes a potential factor of significance for the composer.<sup>21</sup>

### 7.5.3 - What's Wrong with the Birds? Why is it Confusing?

'[A]ction is defined by a change in feature of a stimulus array.' But if the change in stimulus array is too great, if there are a lack of common features in transformation from part A to part B, then no cohesive attribution can be specified (Newtson 1976: 236). Thus as David Hume asserted 'What never was seen, or heard of, may yet be conceived; nor is any thing beyond the power of thought, except what implies an absolute contradiction' (Hume 1977: 11). The conception of meaning is dependant upon the perceived relationships between objects, if no such relationship can be negotiated then the objects cannot be linked within a cohesive schemata of association and no unified interpretation reached. As Heider and Simmel noted, 'successive perspectives views of a landscape from a moving train can only be "resolved", or made to yield a meaningful unit, by reference to distant objects laid out in space' (Heider & Simmel 1944: 258).

The association of "birds" and "nature" were not concordant with the discourse of the rest of the P2 work, and thus could not be negotiated into a cohesive interpretation of the work. Inexperienced participants were presented with materials that engaged disparate schemata of association, and that could not easily be consolidated into a single interpretation. As Boltz outlined within her theory of "expectancy violation", individuals apply greater powers and energy of mental processing towards unexpected information so as to be able to rationalise the anomaly. Therefore where anomalies or contradictions exist within the discourse there is significant potential for aesthetic engagement with the flux of the work to be derailed into analytical consideration (see also Chapter Six p.197). The result of which was a multiplicity of

<sup>&</sup>lt;sup>20</sup> Audience references to furniture are another unexpected outcome, formed as a result of the assumptions stemming from an experienced and compositional perspective, considering the materials both for their reduced physical properties and with knowledge and memory of the recording and subsequent editing and transformation processes. Inexperienced audience participants recognise these forms as handles and therefore engage schemata of association relating to handles within their lived experience. Only those audience members familiar with a paternoster (and perhaps even the specific individual paternoster) would be able to draw associations with the source.

<sup>&</sup>lt;sup>21</sup> See Chapter Six, and the discussions of 'Materials and Obstruction' and 'Visible/audible Technique and Obstruction' in the summary and evaluation of the Phase One data. p.197 & 200.

interpretation, conflict between these multiple interpretations, confusion and finally, lack of engagement with the work.

From the compositional perspective, the links between original material and final aesthetic result unified the stimuli into a cohesive interpretation. The composer's schemata of association contained links between the original source of the "paternoster" and the final processed sound. Deafened/blinded by the experiential associations of the compositional process, the composer was unable to recognise the possibilities of alternative interpretation for the "bird" sound and the potential conflict that such an interpretation and its associated schematic information might have upon the constructed interpretation of the work. The composer made an assumption that the audience would be able to recognise the development of materials from the original source within the final result, or that if they did not recognise the link then they would appreciate the materials for the spectral and morphological properties, in a reduced or expanded fashion.<sup>22</sup>

The compositional process of developing and transforming the source materials into interesting and useful elements for composition neglected the original aesthetic concept of the work and neglected to appreciate the distinction between physical signal and perceived object and the subsequent plurality of interpretative possibilities.

The compositional intent, within this case, was focussed upon a result within the physical signal. Such a focus is entirely erroneous because the audience responds not to the physical signal but perceived objects. Wherever compositional intent, or action, fails to take into consideration the final perceived object, process has the potential to obscure aesthetic. Such obstruction occurred within P1 work A and elements of the middle section of P1 work B, as well as within the P2 work. The process of re-composition, moving into P3, was used in order to attempt to readdress these issues, to remove conflict between dislocated schematic associations and to ensure clarity within the works discourse.

# 7.5.4 - Structure and Engagement

Forty-five percent of the participants recognised that the work was divided into three sections constituting a journey or an ark of time, with another fifteen percent recognising the works linear discourse. As suggested by responses to P1, the recognisable trajectory or structure of a work is a potentially significant factor in accessibility. Where audiences are able to perceive progression and development, they are able to situate themselves within the temporal flow of the discourse and to negotiate a sense of context. While confusing to audiences with regard to certain materials, the composition projected within P2, was reported to be cohesively interpretable in structure.

While the overall trajectory of the work was generally reported as interpretable, some participants found sections of the work un-engaging. The middle section was evaluated as equally most and least engaging, while the final section was not cited as a most engaging factor

<sup>&</sup>lt;sup>22</sup> See: *écoute réduite* in Chion (2009: 30), and *expanded listening* in Harrison (1996: 16).

by any of the participants. If these sections were to be more clearly integrated within the larger trajectory of the work then it was hypothesised that that engagement and appreciation for these sections might be increased.

The sense of trajectory and journey, informed by the works overall form, were then combined with responses to the works materials. Thus, rising and falling tones were interpreted to represent physical motion, and in context with mechanical sonic materials suggested the idea of aeroplanes as well as other mechanical forms of transport (trains, boats, submarine, engines etc. mentioned by five participants). Within the responses to the P2 work it was possible to observe the division drawn by Michotte, between simple descriptions of materials and the attribution of causality.

Responses recording interpretation of the works structure indicate that the composition did possess certain cohesion, and an identifiable three-part structure. In this way the form of the work has presented a framework upon which participants could project their interpretations and maintain a sense of development and progress over time. The archetypal form of the P2 work, taken from the paternoster itself, proved significant both in informing the construction of individual interpretations and in maintaining audience engagement. Archetypal patterns of behaviour can be abstracted and used as building blocks upon which to build interpretations. Structure is the perfect example to demonstrate the role of these abstracted archetypal properties, because the recorded results for P2 are clearly divided into two significant trends.

### 7.5.5 - Cultural Associations

Cultural associations, either led or directed by the properties of the physical signal, also formed a significant component within responses to the P2 work. Multiple references to other artistic works containing sound and image — *2001: A Space Odyssey* (1969), *LOST* (2004), and *The Birds* (1960)— present an opportunity for refection upon the nature of schematic associations and connections drawn by participants. At an initial level, certain individual elements within the P2 test work were likely recognised as similar to, or associated with, elements in these other artistic works. However, if the research of Boltz is recalled it becomes clear that a deeper complex of associations might operate. Boltz's research highlighted how music (and the sonic element) defines interpreted content rather than just provide a sense of atmosphere or mood. Therefore Ligeti's music becomes an intrinsic part of the film *2001: A Space Odyssey* as interpreted by audiences, as does Oska Sala's electronic score for *the Birds* and the sound design within *LOST*. Each of these three works utilise sound as a significant component element, and therefore may lead to the construction of schemata which are based, not just upon associations with similar sonic events, but rather with the overarching aesthetic of composed sonic textures and abstract or abstracted visual material.

The mystical nature of the island within the programme *LOST* and the aggressive intimidating nature of the birds within Hitchcock's film are almost entirely constructed by the sound. Equally the overture to *2001:* A *Space Odyssey* sets the audience within a void, enveloped by darkness

and the flow of microtonal textures, situated in insignificance as an individual human against the vastness of space and the wonder of life.<sup>23</sup> Without their sonic component these works would be radically altered and degraded. Schematic associations drawn by audiences need not relate to similarity between individual events, but perhaps more abstracted or overarching relationships such as the combination of film with microtonal, electronic, and electroacoustic musics.<sup>24</sup>

### 7.5.6 - Contextual Information

Sixty percent of P2 participants initially indicated a desire for contextual information, but upon provision of this information cited a preference for their own interpretation. Both the brief and detailed information sets were evaluated in a similar fashion. The brief information was evaluated to be vague and nonspecific, while three participants indicated that simply the title would have been suitable.

The detailed information was received more favourably (65% indicated a positive influence), although 55% of participants indicated a dissatisfaction with volume and content. Individuals indicated it as overly technical in nature, and the fact that three-quarters of participants desired no further information is likely to be more a result of fatigue, than a reflection of the fact that audiences did not desire a specific type of information that was still not provided.

When asked, a few participants indicated a desire for information about the composer and their emotional inspirations for the work, however due to an error in printing the question P2DQ2-4, a question specifically devised and included in order to solicit information about the participant preferences for contextual information, was not included on all of the questionnaires. The responses that were recorded to P2DQ2-4 were mostly negative, suggesting that no contextual information was required for interpretation of the P2 work (see above, p.241).

<sup>&</sup>lt;sup>23</sup> The overture to 2001: A Space Odyssey is solely Ligeti's Atmosphères projected against a black background. This work returns frequently within the film at pivotal sections in the narrative as do other works by Ligeti (the choral Requiem (the Kyrie) and Lux Aeterna).

<sup>&</sup>lt;sup>24</sup> The association between these famous artworks and the P2 test work is more a result of the fame and success of the former than any elements of the latter. However, as greater numbers of mainstream works demonstrate and apply electroacoustic compositional techniques and sound design at their forefront, it is highly likely that their audiences will develop interpretative schemata appropriate for the interpretation and comprehension of electroacoustic audio-visual music.

# 7.5.7 - Phase Two: Key Findings

- The distinction between physical signal and perceived object was plainly evidenced within responses to the materials of the P2 work. Common interpretations of the work demonstrated the action of common experiential knowledge in creating correlation and trends in responses.
- Findings demonstrated that is erroneous for compositional intentions to focus upon any explicit interpretation of the physical signal, because the audience responds not to the physical signal but perceived objects. Wherever compositional intent, or action, fails to take into consideration the final perceived object, process has the potential to obscure aesthetic.
- The associations of "birds" and "nature" were not concordant with the discourse of the rest of the P2 work, and thus could not be negotiated into a cohesive interpretation of the work. Inexperienced participants were presented with materials that engaged disparate schemata of association, and that could not be consolidated into a single interpretation. The result of which was a multiplicity of interpretation, conflict between these multiple interpretations, confusion and finally, lack of engagement with the work.
- The structure of the work was demonstrated to be an effective tool in engagement providing a clear trajectory for the work within the opening and closing sections, although loosing audience focus engagement within the middle section of the work.
- Cultural associations were demonstrated as being significant with regard to the fashion in which participants approach and sought to interpret works of audio-visual music. Such associations were demonstrated to be a result of more than just common properties of materials, but due to common approaches in articulating and utilising materials in a discursive form.
- Participants in P2 did not favour the provision of contextual information, instead preferring their own unmediated interpretations of the work.

# Chapter Eight

### **Phase Three**

This chapter presents the process of development for the Phase Three methodology followed by analysis and discussion of the results. Phase Three was the second data collection stage in the empirical action research methodology, allowing the collection of data and enabling the comparison of audience responses between Phase Three and Phase Two. Based upon the Phase Two results (Chapter Seven), the test work was recomposed and developed, before being presented once more to new inexperienced participant groups. Full, transcribed responses from Phase Three are available for direct comparison with the analysed and categorised data, these can be found in Volume Two (Vol.2, p.103-118).

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# 8.1 - Phase Three (P3): Aims and Methodology

# 8.1.1 – Phase Three Methodology

The third phase of the empirical research project was intended to assess if, and how, changes made to the test work, might impact upon audience interpretation of the work. Within the development of Phase Three, the original intentions and aims set out within Phase Two were consulted and considered against the audience responses from the P2 research sessions.

P2 responses informed subsequent alterations to the work moving into P3, so as to retain the clarity of the initial work and to investigate the validity of external response information in informing the compositional process.<sup>1</sup> Before development of the work could commence the aims of P2 had to be considered against its findings. These Phase Two aims are set out below, followed by individual expositions.

# 8.1.2 - Evaluating P2 Aims and Intentions

1. Limiting the negative, distracting, impacts of source bonding and associated connotations encouraged by schemata with regard to mimetic materials,

Interpretations of the P2 work demonstrated that where mimetic materials and the works form were consonant, less obstruction occurred. Audiences may interpret objects in a mimetic fashion, but so long as such interpretations are coherent with the works overall form, the work can still be interpreted cohesively.

One of the main factors of obstruction to interpretation of the P2 work, was demonstrated to be the process of material abstraction, whereby the materials of the work were transformed to such an extent that they became removed from both their original source bonding and the context of the work itself, instead inferring a distinct and unique source. Such a finding highlights the division between physical signal and perceived object, and positions it as a consideration of greater significance within the process of composition, than consideration of abstraction or mimesis within the materials of the work. A composer might employ either mimetic or abstract sounds (mimetic or abstracted based upon the composers own interpretation), but must appreciate that such sounds will be interpreted by the subject, based primarily upon the subject's own lived experience, triggered by certain properties of the discourse. Where the composer imagines that audiences interpret the physical signal of sound (or that any explicit meaning is encoded within signals), a dislocation will occur between anticipated and actual interpretations.

In this situation, it becomes redundant for the composer to consider materials as abstract or mimetic with regard to their impression of the world. Instead, they should consider whether the materials are abstract within the context of the discourse of the work.

<sup>&</sup>lt;sup>1</sup> See also, Weale 2005: 239.

2. Create a work that does not require a specific model audience with any experience of listening training or an understanding of the concept of reduced listening,

Responses to the P2 work demonstrated that audiences were able to make interpretations of the work, but that, in some instances, mimetic materials acted to obstruct these interpretations. As discussed above, the mimetic materials within the work encouraged conflicting interpretations through the activation of disparate schemata of interpretation. This conflict can be linked directly to the actions of the composer and their development of the work. The experience of the composer, and their knowledge of the developmental process under which the materials of the work had progressed, obscured the potential conflict between the final materials and the works discourse. This was most specifically embodied within the instance of the spectrally stretched rattling of the lift, interpreted by the participants as "birds". In this situation the compositional intentions involved in the development of the materials, obscured the aesthetic goal. The composer made the assumption that that audience members would approach the materials in a reduced way, and did not consider the possibilities of conflict where materials were instead interpreted as mimetic.

Therefore, the P2 work did not entirely fulfil the goals of the second aim outlined, and thus did not escape the requirement for its audience to approach the work in a reduced way.

3. To create a work that does not encourage an expectation for explicit narrative or meaning by situating itself to be interpreted as a Hollywood film or television programme might.

The trajectory and structure of the work afforded audiences the chance to make interpretations, but did not encourage specifically narrative interpretations. Audiences described states of emotion and experience far more readily than describing narrative plots. Therefore, to some extent, the Phase Two work was successful in situating itself as an entity unique from narrative film.

4. To create a work with emotional investment from the composer that might engage audiences in an emotional fashion, instigating what Reynolds termed "depth" and characterised by empathic submission (Reynolds 2002: 10).

Audiences responded to the work with a mixture of emotional responses, the most frequent of which was fear. These emotional impressions informed contextual interpretations of the work, and despite appearing to be negative in nature (fear, uncertainty claustrophobia etc.) were not demonstrable factors in obstructing audience engagement. Indeed, the emotional responses expressed by individuals were largely factors of engagement.

Once again the discord and conflict between associated schemata of nature and machinery were very likely limiting factors, preventing the audience engaging in a "deep" fashion with the work. Such a conflict potentially encourages a more analytical approach to the work, as audiences are engaged with making sense of the disparate elements presented to them, thus disrupting, or preventing, aesthetic engagement with the work's discourse.

### 8.1.3 – Phase Three Aims

The aims of Phase Three were to realise fully those aims set out in Phase Two, removing any elements of obstruction and seeking to increase audience engagement with the work. As previously outlined, consideration of the nature of materials as "abstract" or "mimetic" with regard to their original source led to a conflict in interpretation whereby materials abstracted from their original source took on a new mimetic association. It was hypothesised that by eliminating these conflicting mimetic associations from the discourse, that audiences might be able to engage with the work without the necessity for training or knowledge of the concepts of reduced or expanded listening.

The structure of the P2 work did not specifically imply a narrative discourse but appeared to provide a relatively clear trajectory for participants, allowing them to clearly situate themselves within the temporal discourse. This was most marked within the opening section of the work. While some participants identified the final section of the work as less connected with the earlier sections. It was hypothesised that if the final section of the work could be more closely integrated with the whole, and that the middle section of the work be made to maintain a greater sense of trajectory, then audience engagement might be increased further.

Finally, emotional engagement with the P2 work was obstructed by the conflicting schemata engaged in its audience by its contradictory materials. It was hypothesised that with the removal of such materials — conditional upon the fact that their removal increases the cohesion of the discourse — participants might be more readily able to engage with the work in a deep and emotional fashion, and as described by Reynolds.

The aims for Phase Three were thus:

- 1. Limit the conflicting, distracting, source bonding and associated connotations encouraged by schemata with regard to mimetic materials by considering the perceived objects of the work and so that the works discourse does not inspire contradictory associations,
- 2. Create a work that does not require a specific model audience with any experience of listening training or an understanding of the concept of reduced listening,
- To create a work that does not encourage an expectation for explicit narrative or meaning, and to more clearly emphasise the forwards trajectory of the work by integrating the final section.
- 4. To create a work with emotional investment from the composer that might engage audiences in an emotional fashion, instigating what Reynolds termed "depth" and characterised by empathic submission (Reynolds 2002: 10).

#### 8.2 - Re-composition of the Test Work (Creation of the P3 test work)

The goals for re-composition of the test work into P3 were defined by the aims set out above (p.252). These aims sought to create a cohesive work that presented a framework upon which participants could project their own interpretations. Audiences were intended to be able to engage emotionally and aesthetically with the work, with minimal obstruction or conflict arising from source bonding and the materials of the work.

In order to explore the relationship and impacts that individual elements might have upon interpretation, the P3 work was only developed with regard to certain aspects, and in most cases the alterations made were subtle and did not significantly affect the overall character of the work. It was rationalised that to radically alter the P2 work would result in the creation of an entirely a new composition, and would not allow for such detailed investigation of audience interpretation as would two versions of the same work. Phase One presented three different and distinct audio-visual compositions for audience interpretation, and therefore provided information on audience interpretation of distinct and individual works. Phases Two and Three allowed for the investigation of the role that subtle alterations in physical signal might have upon constructed interpretation and the role that audience interpretation might be able to play in providing an external perspective to inform the composition of works of electroacoustic audio-visual music

Responses to the P2 work indicated that due to the mimetic nature of the materials and their limited abstraction, the majority of descriptions of the work were contextual. Such contextual responses drew a plethora of associations ranging from wildlife in a safari park, to paranoia, to building a cupboard. Such responses might imply an aesthetic interpretation of the work, however, the diversity of engaged association occasionally resulted in contradictory interpretations which participants were not able to cohesively rationalise. This contradiction and lack of cohesion was hypothesised to obstruct engagement, and in many cases appeared to be due to the materials of the work, and differences between compositional and audience interpretations. The clearest example of this obstruction was hypothesised to be a result of the materials identified and describes "birds" (Disk 2, P2 Example: "Birds").

All of the materials within the final work were derived from the paternoster lift. These materials were then processed and reassembled within the work. The sonic material in question underwent a spectral stretching process and so what began as creaking and clicking soon became a squeaking and squawking sound that was alien to the source (Disk 2, P2 Example: "Birds"). Simon Atkinson handily explains the result of such a situation:

An absence of means or effective musical context for a listener to grasp a complex sign rather than a simple one will result in an according response. i.e. denotation, "that's a bird" (Atkinson 2008: 91).

The fact that so many of the participants responded in such a way to the work (only a fraction of these coincidentally identifying materials as "birds"), suggests an abstraction of materials in which the original source materials of the lift were processed out of recognition, thus becoming unrelated to the rest of the materials and forms in the work. Therefore, within the re-composition process and the creation of the P3 test work, these spectrally stretched materials ("birds") were removed.<sup>2</sup>

<sup>&</sup>lt;sup>2</sup> In combination with the rising tone in the opening section, these spectrally stretched materials, also seemed to imply a sense of aggression and encroachment, therefore as well as engaging schemata relating to "nature" might also have instigated the negative interpretations for the P2 work and served as a potential basis for the suggestions of madness

With the removal of these spectrally stretched textures, the opening section of the work became sparse and lacked the energy and building tension that it had previously possessed. In order to attempt to re-instigate the impression and character of the opening section of the work, inspiration was taken from the final section of the work (this also served to fulfil another of the compositional aims for P3, that of integrating the final section more cohesively with the rest of the work). Thus, multiple rising and interweaving glissandi, with varying rates of change, were employed within the opening section of the work, reinforcing the impression of rising and driving the work forwards to the climax at the end of the first section.

When asked to record the engaging aspects of the work in Phase Two, around half of the participants indicated that the sonic element was engaging, however the submissiveness of the sonic element within the middle section was evaluated as a negative factor. This central section of the work was identified as effective visually, but lacking in sonic content. In an effort to overcome this, the sonic material was increased in amplitude, reworked and made to be more articulated and present, while the visual element in this middle section was altered little. Some participants indicated a lack of engagement within this middle section, evaluating it as "boring" or uninteresting. It was decided that by only altering the sonic element it would be possible to discern to what extent the sonic content contributed to participant interpretations for this section. Indeed, inexperienced participants may not be aware of responding to the sonic element of a work but will often utilise this element of the physical signal as a significant inspiration within the construction of their interpretations. It was anticipated that, with increased articulation in the sonic materials, the middle section would receive a higher level of appreciation from the participants with regard to the entire section. This increased articulation was achieved through the application of equalisation and balancing (amplitude) in order to emphasise aspects of the sonic component and to reduce the effects of masking.

The final section of the work was evaluated by some P2 participants as being distinct from and unrelated to the rest of the work, and in some cases too extended (see Vol.2, p.89). This third section almost exclusively contained abstract materials, in contrast with the first and middle sections, which is likely to account for part of this sense of detachment. But the final section of the work was also composed after the majority of the opening and middle sections of the work had been completed. Had the work been composed equally across all three sections then the final element of the work might have been more integrated within the P2 work. However, the coincidental necessity to alter the initial section of the work provided the opportunity to bring aspects of the final section into to that of the opening so as to increase the sense of cohesion and to position the opening and closing sections of the work as "book ends". As well as the introduction of multiple glissando tones to accompany the single rising tone in the opening section of the work, the pulsating rhythmic thud of the lift machinery was emphasised and highlighted, especially towards the end, of the final section. Thus, elements of the final section

and claustrophobia. Efforts were also made within the processes of re-composition to reduce the negative impressions potentially instigated by the opening section of the work, which inspired so many dark interpretations.

were transplanted to the opening section of the work, and elements from the opening section were transposed to the closing section.

Further to this transplantation of sonic materials, it was inferred that the transition into the final section of the work might need some alteration. This transition was articulated by a pitched tone, increasing in volume and decreasing in reverberation, thus providing an impression of an approaching gesture, which was punctuated by a noisy burst to demarcate the start of the final section. Within the P2 work this tone became disrupted (masked) by the noisy burst at the point of transition, and therefore lost part of the sense of flow and continuation. Within the P3 process of re-composition this tone was increased in amplitude, so as to prevent this masking, and to articulate more smoothly the flow into the final section of the work (Disk 2, 'Comparison of the transitions into the final section of the work – P2 & P3').

As mentioned above, within the final section of the work some P2 participants indicated that descent was predictable and too extended (Vol.2, p.89). It was hypothesised that by altering the panning automation for these descending tones, more variation might be introduced into this section but without affecting significantly the structure or harmonic nature of the work. Therefore responses to the final section of the P3 work might indicate the extent to which panning automation can add to and increase variation within the experience of the work.

Throughout the whole of the P3 work, noise reduction, equalisation and balancing was applied in order to increase the clarity of the sonic materials, while colour balancing was applied to some of the visual materials in order to do the same for the visuals.

All of the alterations undertaken in development of the Phase Three work were subtle, but as previously stated, to proceed with extreme far reaching alterations would result in the composition of an entirely new work using from the same source materials, as opposed to a reworking of the previous P2 work. The responses to P3 will demonstrate the effectiveness and impact of such subtle alterations and to what degree alterations need to be made in order to impact upon audience interpretation.

#### 8.3 - Empirical Research Session: Phase Three (P3)

#### 8.3.1 – The Research Session: Phase Three

P3 research sessions were run in an identical fashion to those of P2, in order to retain consistency and reliably comparable data.<sup>3</sup> Once more an entirely new set of participants was engaged for the sessions, had participants from P1 or P2 been engaged within the research session then they would have been influenced by previous or repeat presentations of works within the research session environment. In order to retain consistency and reliability of the data, any participants from P1 and P2 could not take part in subsequent sessions.

<sup>&</sup>lt;sup>3</sup> See Chapter Seven, p.209.

### 8.3.2 – Phase Three – Directed Questionnaire

The P3 research session was not significantly altered from that of P2, other than through some minor alterations to the directed questionnaire. A number of responses to the Phase Two Directed Questionnaire (P2DQ) demonstrated a trend towards the sonic. This may have been a result of the nature of the work itself, but such a trend in responses might also have been directed by use of the word "composition" within the questions. Due to common schemata of association surrounding music, use of the word composition might imply the purely sonic, as opposed to the total audio-visual work. In order to minimise this potential influence, and to ensure that participants were responding to both the audio and visual elements of the piece, the word "composition" within questions two (P3DQ-2), eight (P3DQ-8), nine (P3DQ-9) and ten (P3DQ-10) and replaced with the word "work".

Other than these minor alterations, the P3DQ was not significantly different from the P2DQ. Therefore the detailed rationalisation of questions has not been repeated here.<sup>4</sup>

### 8.3.3 – Phase Three – Directed Questionnaire Two

Within Phase Two, participants had been presented with two sets of contextual information. Responses indicated that the P2 brief information had been far too vague and non-specific, while the detailed information was far too extensive. Sixty percent of participants had requested more contextual information and yet seventy-five percent responded negatively to the provision of the brief information, whilst seventy percent of participants indicated negatively with regard to provision of the more detailed expanded information.

Comments suggested overwhelmingly that the participants wished to retain their own individual uninfluenced interpretations to the work. Participant responses to P2 DQ3-3 suggested that the ideal content of information might lie at some mid point between the brief and detailed information sets. As a result a new set of contextual information was drawn up for presentation after the recomposed work.<sup>5</sup>

Because only one set of contextual information was provided within P3, participants were only required to complete one copy of the P3DQ2. This questionnaire was identical to that of P2 and thus will not be re introduced here. Special care and attention was given to the printing and provision of the P3DQ2, due to the printing error within Phase Two that lead to the omission of question four (P2DQ2-4) from some of the questionnaires.

<sup>&</sup>lt;sup>4</sup> For a detailed rationalisation of the questions on the P2DQ see Volume Two, p.136.

<sup>&</sup>lt;sup>5</sup> A copy of this information can be found within Volume Two (Vol.2, p.122).

# 8.4 - Phase Three (P3) Results: Analysis and Discussion

# 8.4.1. Perceived Material Properties of the Work

**P3DQ-2** - Were there any sounds or images that you recognised in the work? How did these relate to your interpretation (q1)?

All responses to this question made reference to mimetic items that individuals perceived in the work (see table below). The most significant proportion of these made implicit reference to some form of movement or transport with eleven participants explicitly describing the presence of a train (presumably as a result of the gesture at 5min 28s) (see table, and Disk 2, P3 Example: "Train").

Train	11
Movement	7
Aeroplane	6
Lift	3
Drawers	6
Mortuary/coffin	2
Production line/industry	3
War	4
Corner of a room	2

The diversity of references to movement within the data (13/18, 72%), through reference to a plethora of transport forms, suggests that the impression of movement formed a significant factor in audience interpretations for this piece. The proportion of such responses was greater than that within responses to P2DQ-2. Further, a lift was explicitly cited by three participants however, when other responses are considered and rationalised (with the references to aeroplanes, stairs, space, etc.) it is possible to project the presence of vertical motion (either up or down) within the responses of seven participants (7/18, 39%). Again this proportion is greater than that recorded in P2DQ-2 (although by a less significant margin).

The unprocessed nature of the paternoster handles in the middle section, combined with the participants lack of familiarity with a paternoster in itself and great familiarity with handles in other contexts, resulted in many participants interpreting the objects in this middle section as drawers, or more morbidly as coffins. This association of death, and later linking into the associations of war and conflict, may have been encouraged by the cyclic beating of the lift which contains, not just a single, but a pair of repeating close beats. Such a sonic pattern is similar to that of the human heart, and as Delalande describes brings with it many connotations: The "heart" figuration lies between physiological realism and dramatic convention. [...] One never hears anyone else's heart (except when one has recourse to a stethoscope) but one hears one's own in exceptional circumstances, which accounts for this "internal" association (original emphasis Delalande 1998: 54). Such associations of the beating heart are strongly linked with ideas of life and also of tension, a quickening of the heartbeat.

A further unexpected association was that of war and battle, recorded by four participants. This is likely to have been encouraged through the individual participants experiential association with films and media relating to war, heightened by the tense nature of the piece building up to

points of climax. Sound design is often employed in cinema and war films to develop tension and to create a heightened sense of environment and situation (see for example Gates & Rudy 2005, Rudy 2007). It is likely that individuals are most familiar with "war" through the application of sound design techniques within film, as opposed to having been engaged within a real military conflict.<sup>6</sup> Therefore it is likely that the combination of the increasing tension and climaxes, caused by slowly increasing tempo and glissandi within the piece, and the previous experience of the participants with sound design in war films, has resulted in the association of war and conflict within the piece.

When responses to DQ-2 are compared between P2 and P3, it becomes apparent that the alteration and removal of the mimetic bird like sounds have removed any interpretation of the natural world within the P3 responses. The removal of these materials created a shift in the distribution of responses, with a more significant proportion of individuals interpreting motion and citing a more personal emotional contextualisation. Participants responding to P2DQ-2 listed more of an emphasis upon the works materials citing wood, machinery, birds etc. (see Chapter Seven, p.242) while a greater proportion of responses to P3DQ-2 are apparently engaged with, and offer, wider contextualisation and rationalisation of the materials, for example: war, movement, coffin, heartbeat. This suggests that alterations made during the recomposition process have acted to change the discourse of the work and thus affect trends in audience interpretation of this work. Mimetic responses are still prevalent within responses to P3 indicating once again that audiences will utilise existing schemata for interpretation (for inexperienced participants this does not include those of reduced listening or more abstract appreciation of the works materials and forms) but responses demonstrate that by eliminating materials with strong source bonding potential (spectral stretched "birds" from the P2 test work) it is possible to some reduce the prevalence of interpretations which conflict with compositional intent.

Two references were also made to *2001: A Space Odyssey* again suggesting that this film provides a schematic reference for interpretations as it did with responses to the P2 work, however no participants cited the television programme *LOST* within P3 indicating, either, P3 participants were less familiar with this programme, or that, due to the removal of the "bird" material associations with nature were also reduced which in turn weakened association with the programme *LOST*.<sup>7</sup>

<sup>&</sup>lt;sup>6</sup> All participants within Phase Three were born after 1952 and so are unlikely to have had civilian war experience even though some references are made to sirens and bombs dropping.

<sup>&</sup>lt;sup>7</sup> LOST is set on a desert island and in which the characters are enveloped by supernatural flora and fauna and a mysterious jungle.

**P3DQ – 3** - Can you comment on the relationship between the sounds and images in this piece? Do these relate to your interpretation (g1)?

Participants generally recorded that the sounds and images within the piece were appropriate to one another and that, while not entirely synchronous, were generally complementary (11/18, 61%).

A significant proportion of participants (4/18, 22%) presented responses regarding their interpretations of various sound and image complexes within the piece — as opposed to evaluating the sound and image interactions within the piece — while one participant indicated that there was no relationship between sound and image.

The weighting of such responses suggests that participants were engaged in a non-analytical interpretation of the piece and that, afterwards, were encouraged by the questionnaire to rationalise and provide an opinion of sound and image interaction. Interestingly in contrast to P2 responses the audio was frequently cited as supporting the visuals within P3 responses (as opposed to the sonic materials leading and directing the discourse). However, apart from this shift in weighting to the visual, responses to P2DQ-3 and P3DQ-3 are remarkably similar (see Chapter Seven, p.222).

**P3DQ-5** - How would you describe the structure or form of the piece? (How the piece was structured/ its architecture). Please elaborate.

Participants indicated that the work was linear in nature (5/18, 28%) with a sense of recapitulation at the end.

1-4 - It felt like a linear narrative. In that it started somewhere and then it changed and then it felt like it came back to the same place that it started but with a feeling that everything had changed.

1-9 - It began with a slowly building piece, which reached a climax as the screen became white which seemed to end a specific part of the piece and begin another. The next part also began gently and built. There seemed to be a point near the end at which the piece seemed to step back on itself. The ending lasted a good 20-30 seconds with no sound or visuals.

1-12 - It was rounded, with a gradual climax, a plateau of engaging colours, moving shapes and diversions, followed by the gradual decline to eternity.

2-1 - It was structured. There were not fluxuations i.e. at the beginning it was intense, then it was more neutral and towards the end it was again intense.

3-2 - I feel this was a piece of three sections, the break up indicated by the white light/sound reaching a climax or stop. I feel the first two sections were more separate, with the third combining elements of the two.

This response is most likely a result of the similarity of the materials and forms within the first and final sections, enhanced and reinforced by the process of re-composition. Responses to P2DQ-5 make no reference to a recapitulation, instead referring to a linear narrative.

Six other responses to P3DQ-5 make reference to a linear narrative without recapitulation suggesting a journey or directional trajectory (6/18, 33%), while five participants (5/18, 27%) were unable to respond to the question of structure in P3DQ-5 citing confusion and lack of vocabulary or analytical perspective. This proportion is smaller than that for P2DQ-5, though perhaps not significantly enough to draw any firm conclusions. Instead it is suggested that a

proportion of inexperienced participants are always likely to be unable to interpret the works structure.

Another significant variation between P2 and P3 responses to DQ-5 was the drop in the proportion of responses recording three sections in the work (4, 22%) and the sharp increase in the number of responses citing two sections (4, 22%). When compared with the responses to P2 (45% recorded three sections to the work in P2DQ-5, 15% recorded a linear trajectory) it appears to suggest that the re-composition of the work was successful in more effectively achieving integration of the final section in the work. However, this integration results in P3 participants regarding the opening section as distinct from later parts of the work, thus dividing the work into two sections or to regard the work as a single trajectory.

### 8.4.2. Perceived Meaning and Emotional Response





Figure 49: C, I-M, E spread for responses to P3DQ-1

Total	Contextual: 12	Inti	ra-musical: 1	Emotional:	1	
	Contextual + Intra-music	cal: 1 Contextual +		Emotional: 2	Emotio	onal + Intra-musical: 1
	Contextual + Intra-musical + Emotional: 0					

The majority of interpretations of this work were once again contextual descriptions of possible scenarios (12/18, 66%). The four emotionally weighted responses all cited a sense of fear and anxiety inspired by the work. Two of the intra-musical comments rationalised the emotional/contextual response as a result of the sonic materials in the piece indicating that the work itself was about the sounds, while the other described how their eyes were drawn to the visual forms before describing structural climaxes.

Main contextual interpretations involve journey/movement (6/15, 40% of contextual responses), war/death (4/15, 27% of contextual responses), a sense of being trapped (3/15, 20% of contextual responses). However while the journey/movement theme might seem benign compared to these other two categories, the journeys described do often involve madness, war or despair.

Two interesting interpretations of the work are the following. These made connections with the overall structure and form of the work, as opposed to materials or individual events. This conceptual association with the meaning of the work, preceding the provision of contextual information, is concordant to a significant extent with the intentions of the composer.

1-1	This piece is probably about the sense of perpetuate motion in our lives
1-12	The whole life experience. Awakening of the mind, then the
	conveyor of work and eventual decline into the abyss.

As with responses in P2, comments and answers recorded to P3DQ-1 were also clearly divisible in terms of duration and content, with seven responses being extensive and indicating engaged descriptions of interpretations (7/18, 39%):

1-4 - Obsession leading to madness. At the start I was imagining some sort of voyage into the unknown with a rising feeling of tension. In the later segments I imagined that the voyage had been abandoned for some reason and that there was a lone traveller who becomes obsessed with things of no consequence that gradually led to the deterioration of the vessel with small plants gradually taking over and consuming everything whilst the traveller continues to go insane.

1-5 - In my interpretation, the video seems to divide nicely into to sections. The first before the white screen. In the section I definitely got the impression of moving from a confined area, on a journey resulting in some sort of disaster. The rhythm of the images and the sounds evoking train journeys more than anything else. The second section appeared to be the result of the first section. Possibly trying to create the sense of a coma from a first person perspective, with moments of consciousness signalled by images similar to hospital beds, or at least something very clinical, mixed in with layers and draws sliding in front of you representing some sort of isolation from these "conscious" places.

1-6 - think this piece is about the sights and feelings of someone who has had a near death experience. At the start it appeared that someone was dying, the images made me think of breathing which became faster and more urgent. At the point where the screen went white it made me think that they had died, the last half of the piece could have been their experiences after they had been revived but not fully conscious .I think a lot of the reason that I thought this was that at the start the images and music made me think of breathing.

1-12 - The whole life experience. Awakening of the mind, then the conveyor of work and eventual decline into the abyss.

2-1 - I believe that the main theme of the piece is war. At the beginning it sounded like a battlefield and towards the end like a military airplane.

2-2 - At first I thought it was about a war or rebellion in a jail, but after seeing the draws/closed handles and the wood I came to think it might be something related to offices. The sound through was kind of melodramatic which emphasised my initial thought.

3-2 - I believe that the piece could be about being trapped, scared and waiting in a place that shouldn't be somewhere like that. For example being kept in your own home, somewhere that is recognisable but also alien to you. I also believe outside this space, other things are happening that you are aware of and fearful, for example a war or conflict.

A further seven responses were less extensive and generally more descriptive summaries of the work. Such responses demonstrate less clarity of interpretation and lower levels of engagement with the work (7/18,39%):

1-1 - This piece is probably about the sense of perpetuate motion in our lives

1-2 - It could be about virtually anything. The eyes are initially drawn to the centre of screen where the lines meet. It starts to build slowly to a climax but then the whole expected finale seems to change direction – not sure where to!

1-3 - About life and different types of movements.

1-7 - Repetitive motion of something casting shadows on the corner of a room then wood grain on moving doors like a lift drawing you up faster and then slower down again. Not sure what it was.

3-1 - Lifts and aeroplanes; movement, runways. Being art an airport but with some sinister thing waiting to happen but it doesn't and in fact it was your own anxiety.

4-1 - I saw this piece to be a mixture of scenes in which possibly a chase is taking place, starting in a shack-type setting and moving through some form of transportation scene, eventually to a place of some form or resolve in a new location, possibly a hospital.

4-2 - It seemed quite science fiction in the theme especially with the gradual build up of the music dramatically, at the same time it was also quite restrained which made me see this sci-fi theme.

The remaining responses were brief, suggesting a lack of engagement. In their brevity these responses were less able to account for individuals responses to the piece and suggest disinterest (4/18, 22%):

1-8 - Sounds and feelings they evoke1-9 - Fear1-10 - Power of Machines1-11 - Travel and transport

Compared with responses to P2DQ-1 the proportion of detailed and clearly engaged responses is larger, constituting thirty-nine percent, where in responses to P2DQ-1 the proportion was twenty-five percent. This indicates that a larger majority were able to confidently engage with the P3 work than that of the P2 work.

**P3 DQ-4** - Did you have any emotional responses to the piece? Did these relate to your interpretation in any way?

The majority of emotional responses to the piece were of unease and anxiety (61%, 11/18) inspired by the sense of tension that participants interpreted in the work. Although when compared with responses to P3DQ-10 this was not found to be a negative factor in engagement. Some statements to this question also explicitly contextualised the responses as engaging, for example:

3-2 I felt slightly afraid of what was to come, but also slight excitement of what could happen after the build up.

These responses are largely concordant with the responses to P2DQ-4.

# 8.4.3. Engaging Aspects and Desire to See More/Keep Listening

P3 DQ-6 - What aspects did you find most engaging?

A significant number of participants identified the first (27%, 5/18) and middle (33%, 6/18) sections of the work as the most engaging elements. While only two participants indicated that the final section was the most engaging element in the work (11%, 2/18). Of course, it should be noted that, within P3 responses, fewer individuals separated the middle and final sections of the work (see responses to P3DQ-5) and indeed there was a drop in the proportion of participants who recorded the work as made up of three sections.

Sound was referenced by five participants (27%, 5/18) as the most engaging element throughout the work, with one participant indicating that the sound was engaging only in the first section.

Seven participants indicated that the visual element of the work was the most engaging aspect (38%, 7/18). With two participants respectively indicating that the visuals were engaging but only within the first and second sections.

Three participants indicated that the sound and image interactions within the piece were the most engaging aspects (16%, 3/18). One participant indicated that the sound and image interaction in the first section of the piece was the most compelling.

One participant indicated that the lack of contextual association was positive factor in their appreciation.

P3 DQ-7 - Which aspects did you find least engaging?

Ten of the participants (56%, 10/18) indicated that the middle section of the work was less memorable and engaging than the first and final section, this was ascribed as a result of the repetition and looping of the visual elements. However this was not always cited as being a negative factor:

1-5	The end section with the sliding wooden draws. Initially I
	thought this was interesting, but as it continued it didn't
	progress as much as the other sections and as a result
	became more detached from the piece. This obviously could
	be intentional, which would fit which my interpretation for Q1,
	where during this section you would be physically and
	mentally less engaged from what was set up earlier in the
	piece.

Responses suggest that the increased mimetic nature of the visual materials within the middle section of the work actually decreased the audience engagement with the work. This was due to the participants seeking to contextualise these mimetic materials within external schematic frameworks (those not related to the rest of the work, or the interpretation of the musical form of the piece).

In opposition to this, three participants (16%, 3/18) indicated that the abstract nature of the first section of the work was the least engaging element, and one participant cited the abstract visual sections (presumably both the first and final sections of the work) as least engaging.

Responses to this question did not present strong trends to explicitly highlight either the sonic or visual elements as being least engaging. However, there were implicit references to both visual and aural elements of the work, and perhaps a greater number of references to the visual element.

Two of the participants indicated that they only provided responses to this question as a result of the test process and that in general there were no elements that were un-engaging about the work.

P3 DQ-8 - During the work did you want to keep listening?

The significant majority of participants (83%, 15/18) explicitly indicated that they would like to keep listening to the work citing a desire for resolution, engagement with the materials and the clear trajectory of the work. Only one participant responded in an entirely negative fashion, citing the uncomfortable nature of the work. Each of the remaining three participants cited one of the three sections in the work as less engaging than others: one indicated that their desire to keep listening was sparse at the beginning of the work but grew as the piece progressed, the second indicated less engagement in the middle section of the work, and the final of the three indicated that they were engaged until the final section of the work.

**P3 DQ-10** - Do you think that you would like to watch/listen to a similar type of work again? If yes, why? If no, why not?

Twelve of the participants (66%, 12/18) indicated that they would like to experience a similar type of work in the future.

The most commonly cited reasons being: the sense of mystery, and a desire for interpretation of this mystery (33%, 4/12), and the emotive and atmospheric nature of the work (25%, 3/12). The same participant who responded negatively to P3DQ-8 also responded negatively to this question again citing the uncomfortable nature of the work.

Four participants (33%, 4/12) responded in a mixed fashion (neither positive nor negative), variously citing: a desire for more diversity in the audio, more exposure to works, in specific contexts (a spa was suggested) as well as the necessary inclusion of the visual element (suggesting that this participant would not appreciate an acousmatic situation).

# 8.4.4. Desire for Contextual Information and Reflection upon this Desire.

**P3 DQ-9** - Do you think that having more information about the work might help you to understand it more? If yes, why? If no, why not?

Seven participants indicated a desire to have contextual information before projection, in order to help them to rationalise the work (39%, 7/18). Eight participants indicated that they would like to compare their own interpretations with that of the composer after having been presented with the work (44%, 8/18), one participant presented a mixed (neither positive nor negative) response (6%, 1/18) and only one participant cited that they did not wish to receive further information about the work (6%, 1/18).

Responses to this question, and to P3DQ-8, appear to suggest that, because audiences were engaged with the work they were able to form their own interpretations, but that these participants would still like to be presented with the interpretation set out by the composer, perhaps in order to qualify or confirm their personal interpretations.

**P3 DQ2-2** - Would you have preferred to have been given access to this information before being presented with the piece?

Four participants responded positively to the prior provision of information (22%, 4/18). While the majority of participants (50%, 9/18) indicated a desire to retain their own uninfluenced interpretations of the work (seven of these nine participants responded in an explicitly negative fashion, to indicate that the provision of any contextual information is not at all necessary).

Three further participants responded negatively (17%). Two of these provided no context or justification for their answers and the third indicated a personal reason, that the information prior to the projection of the work would have affected them on a very personal level due to this certain individual's phobia of lifts.

#### 8.4.5. Influence and Evaluation of the Volume and Content of Brief Information

**P3 DQ2-1** - Has access to this information from the composer influenced your appreciation for their composition?

Six participants recorded a greater understanding of the work after the presentation of contextual information (33%, 6/18). These participants suggest that being presented with the central factor of inspiration — the nature of the movement of the lift and what it might represent — was useful in situating the work in a context that they could understand.

Three participants (17%, 3/18) stated an increased technical appreciation for the development of the work following the provision of contextual information. These responses described appreciation and accorded respect for the processes of development for the piece, from materials captured from a single source location. These statements were not as overwhelmingly positive as those citing "greater understanding".

Four participants (22%, 4/18) indicated that the contextual information provided some greater clarity about the work and a suitable foundation upon which interpretations might be made or qualified. While only three participants responded in a negative fashion (3/18, 17%), one because of a personal phobia of lifts, another stating that they lacked an understanding of the compositional concept and the third mockingly commenting upon the description within the contextual information.

The two final participants (11%, 2/18) described how the contextual information from the composer allowed them to qualify their own interpretation. All other participants indicated that the contextual information had maybe modulated their information, but did not state that the information had wished to compare their own interpretation with that of the composer. This indicates that the provided information did not impose itself upon the participants, but instead offered them the opportunity to compare instead of direct their own interpretation of the work.

**P3 DQ2-3** - How do you feel about the volume and content of the information that was provided?

The majority of participants responded positively to the volume and content of information (44%, 8/18) indicating that it was concise, easy to comprehend and provided a foundation upon which individual interpretations could be developed. Four further participants were less overwhelmingly positive about the information, citing its brevity and suggesting that it was "adequate" (22%, 4/18).

Only two participants (11%, 2/18) suggested that the information was unsuitable. These statements indicate that these individuals wished to have more information regarding the composer's own interpretation and their relationship to the materials and form. This more traditional expectation of explicit communication in the work is less prevalent here than it was within P2 responses, perhaps suggesting that the rephrasing of the information has provided contextualisation without implying explicit meaning.

Unfortunately, twenty-two percent of responses (4/18) to this question had to be classified as bad data. In all situations the individuals referred to the amplitude (volume) and materials or structures (content) of the work, as opposed to reflecting upon the contextual information itself.

# P3 DQ2-4 - Do you feel that you need any more information? What type?

The majority of participants (56%, 10/18) cited that they required no extra information about the work, indicating that the information provided gave them enough context in order to be able to add to their interpretation without it being directed.

Three participants desired more information about the composer's relations to the paternoster (17%, 3/18) and what inspired them to compose the work in the way that they did. While one participant cited a desire form information about the date of composition and the composers name (6%, 1/18).

With regard to the materials and form of the work, one participant (6%, 1/18) expressed an interest in more information about the works structure, and two (12%, 2/18) suggested that they desired more information about the materials of the work and how these (those in the work) materials related to the concept and original source location from which the materials were taken.

# 8.4.6 – Summary of Phase Three Responses

# P3 Directed Questionnaire Responses

All P3 participants made reference to mimetic materials (P3DQ-2: 100%, more than in P2DQ-2: 90%). No reference to the natural world was recorded within P3 audience interpretations.

**2.** 66% of participants recorded contextual interpretations of the work (Journey/movement, war/death, being trapped) P3DQ-1. While responses to P3DQ-2 demonstrated a significant proportion of participants made implicit reference to motion/movement/transport (72%).

**3.** Through the length and depth of their responses, thirty-nine percent of participants were highly engaged with the work, a further 39% indicated some engagement, while only twenty-two percent responded in a brief fashion, suggesting little engagement (in responses to P2DQ-1 these proportions were, respectively: 25%, 55% and 20%). 83% desired to keep listening to the work (P3DQ-8, up from 70% in responded to P2DQ-8) and 66% indicated a desire to experience a similar type of work in the future (P3DQ-10, up from 55% in P2DQ-10).

**4.** The middle section of the work was cited by fifty-six percent of participants as the least engaging element (P3DQ-7), this was listed as being due to the looping, repetition and mimetic nature of the materials. Thirty-three percent of participants cited the middle section as most engaging element (P3DQ-6), closely followed by the opening section on twenty-seven percent and eleven percent for the final section. Fewer participants included an assessment of the sonic, visual or sound and image interactions in the work, perhaps due to the fact that the majority of participants did not respond to the work in an analytical fashion (see also: point **6**.).

**5.** Sixty-one percent of participants responded emotionally to the work citing anxiety and unease. However, as demonstrated in the responses of P3DQ-10, this was not a negative factor in engagement.

**6.** Sound and image interactions were recorded as not directly synchronous but complementary by sixty-one percent of participants (P3DQ-3). The majority of responses to this question, however, were actually interpretations of the work and not analytical descriptions of sound and image relationships. Combined with responses to P3DQ-6 where only fifty-four percent make reference to sound, image or sound/image interaction, it is possible to assert that the work itself, perhaps, does not draw attention to its constituent parts, instead affording individuals the opportunity to make contextual interpretations without obstruction or having to resort to analytical approaches.

**7.** A smaller proportion of participants segmented the P3 work into three sections, than did so in P2. Participants within P3 indicated that the work constituted a linear trajectory, but did not segment it so readily, though twenty-eight percent did make reference to recapitulation at the end of the piece.

1. Every single participant recorded mimetic nature of materials within the work (P3DQ-2), with no references made to nature or the natural environment. This proportion of participants recording mimetic materials is higher than that of the responses to the P2 work (P2DQ-2), perhaps indicating that the alterations made within the re-composition process have removed any major conflicts between materials that previously led to obstruction or confusion, and that participants now are able to interpret the while work as coherent, and consistent with a mimetic property. The removal of the spectrally stretched "bird" sounds, have removed the associated schemata of interpretation relating to nature and the natural world, and thus removed some of the conflicts inherent within P2 audience interpretations of the work.

**2.** Seventy-two percent of P3DQ-2 responses made implicit reference to motion, movement or transport, while the majority of P3DQ-1 responses were also contextual, making reference to the ideas of journey/movement (40%), war/death (27%), confinement (20%). Responses to P3DQ-3 were also largely contextual, indicating that the phrasing of the question itself might not encourage analytical responses as were received in response to DQ-3 within both the P1 and P2 sessions.

The prevalence of contextual interpretations of the work, and the lack of analytical responses to the piece, suggest that the work materials, and their transformations, did not act to obstruct interpretations of the work by the majority of participants. Even despite the high level of responses identifying mimetic materials within P3DQ-2, interpretations of the work were largely contextual, with the mimetic associations providing impetus for interpretations. These interpretations largely focussed upon the forms and motions of material events, the materials of the work and the building tension embodied within the works discourse.

Interpretations of journey, movement and motion were the most common, and can be related to the motion and movement of the materials within the work, sixty-one percent of participants described a "train" within their responses to P3DQ-2, most likely a result of the gestures at 5:30 and 5:34 (trains were also referenced by participants responding to the P2 work, P2DQ-2). However, while motion and movement formed a common trend within interpretations of the P3 work, a greater proportion of P3 participants responded to the work with abstract contexts of movement (33%), than did so for P2 (20%).<sup>8</sup>

**3.** A significant proportion of participants indicated engagement with the work through the extent of their responses to P3DQ-1. Thirty-nine percent responded in an extensive fashion indicating high engagement, while a further thirty-nine percent responded with less extensive descriptions indicating some engagement, and only twenty-two percent responded in a brief fashion suggesting little engagement. This spread of engagement demonstrates a shift towards higher engagement for the P3 work when compared with the responses to the P2 work.

Content and length of responses to DQ-1 as an indicator of engagement.				
Work.	Extensive – High engagement.	Descriptive – some engagement.	Brief – little engagement.	
P2	25%	55%	20%	
P3	39%	39%	22%	

A greater proportion of P3 responses were extensive and highly engaged than the proportion of those for P2. The proportion of participants demonstrating little engagement remained consistent between both versions of the work, suggesting that upon average around 20-25% of an audience group might find the work of little engagement. The large shift came between those participants demonstrating some engagement and those demonstrating high engagement. This suggests that the re-composition process enabled the P3 participants to engage with the work to a greater, and fuller, extent than was possible for participants with regard to the P2 work.

This increase is also reflected in the responses to P3DQ-8 and P3DQ-10, the questions which directly attempted to solicit engagement information from participants.

Responses to DQ-8 and DQ-10 within both P2 and P3 as indicators of engagement.				
Work	DQ-8: Desire to keep listening.	DQ-10: Desire to see/hear similar works in future.		
P2	70%	55%		
P3	83%	66%		

More than four fifths of participants (83%) desired to keep listening to the P3 work (P3DQ-8), up from just under three quarters (70%) in responses to P2DQ-8. While 66% of participants indicated a desire to experience a similar type of work in the future (P3DQ-10), up from fifty-five percent in responses to P2DQ-10. These trends within responses suggest that the impact of the

<sup>&</sup>lt;sup>8</sup> For example: an abstract context for movement described the P3 work as 'ppt.1-3: about life and different types of movements', as opposed to a contextual description of the work such as: 'ppt.2-4: Lifts and aeroplanes; movement, runways. Being art an airport but with some sinister thing waiting to happen but it doesn't and in fact it was your own anxiety.'

# Chapter Eight

re-composition process has been to effectively increase audience engagement and potential for future engagement with works.

Engaging Elements	Sound	Visuals	Sound and Image Interaction
P3 DQ-6 – Most Engaging	27%	38%	16%
P2DQ-6 – Most Engaging	45%	25%	10%
P3DQ-7 – Least Engaging	5%	22%	0%
P2DQ-7 – Least Engaging	5%	25%	0%

**4.** Responses within P3 demonstrated some contradictions in interpretations, and were not too dissimilar from P2 responses. Fewer P3 participants highlighted the sonic element of the work as most engaging, compared with the proportion in P2, while a greater proportion cited both the visual element of the work and the sound and image interactions. Elements identified as least engaging in P3 were almost entirely identical to those identified within the P2 session, with the works visuals evaluated to be least engaging by twenty-two percent of the P3 participants. Such responses again demonstrate a contradiction, with participants identifying the visual as both most and least engaging.

However, many participants did not make explicit reference to either the sonic or visual element of the work and thus the distribution of preferences for the individual sections of the work perhaps provide more information about engagement with the work in overall terms than projection of engagement with the elements of the work.

Comments regarding the sections of the work demonstrate a contradiction with regard to the middle section of the work, where it was evaluated to be both most and least engaging by a majority or participants. The abstraction of these data belies the individuality of the original comments, which identify individual preference for facets of the work. A lower proportion of participants identified individual sections as engaging; this is reflected in the drop of participants who divided the work into three sections (see point **7**. below).

Engaging Sections	Opening	Middle	Final
P3DQ-6 – Most Engaging	27%	33%	11%
P2DQ-6 – Most Engaging	40%	20%	5%
P3DQ-7– Least Engaging	16%	56%	11%
P2DQ-7 – Least Engaging	5%	20%	15%

**5.** Just as within responses to P2, a large proportion of participants described their emotional response to the P3 work as one of anxiety, unease and tension (P3DQ-4: 61%). However, the fact that this emotional response was not identified as an un-engaging factor within the responses to P3DQ-7 and responses to P3DQ-8, indicate that eighty-three percent of participants were keen to continue listening/watching the work. A work that engages an unsettling emotional response and is also incomprehensible (perhaps the P2 work is an example of this) is liable to be less engaging for individuals than a work that is equally as unsettling, but that is comprehensible. With less obstruction and contradiction within the works

materials, as perceived by inexperienced audiences, the tension within the work can be more readily afforded a position within the construction of a cohesive interpretation.

**6**. P3 responses to sound and image interactions (P3DQ-3) cited the sound and image as: not directly synchronous but complementary (61% of participants). The majority of responses to this question were actually contextual interpretations of the work and not analytical descriptions of sound and image relationships. When considered alongside the responses to P3DQ-6 — in which only 54% made reference to sound, image or sound/image interaction — it is possible to suggest that the work itself does not necessarily draw attention to its constituent elements. Instead it affords individuals the opportunity to make contextual interpretations without obstruction or the distraction of resorting to analytical approaches. Responses with regard to the sound and image interactions describe the appropriate relationship between sound and image, but were unfamiliar with the analytical terminology or the analytical approach to describe the interactions. Such responses point to an engaged, aesthetic appreciation for the P3 work and non-analytical approach to interpretation.

7. When asked to comment upon the structure of the work within P3DQ-5, a smaller proportion of participants segmented the P3 work into three sections than had done so in P2. Participants within P3 generally indicated that the work constituted a linear trajectory, but did not segment it so readily. This indicates that the integration of the final section within the re-composition process — through the addition and return of more of the mechanical lift sounds, originally introduced within the opening section — has blurred the demarcation of the work into three distinct sections. Indeed twenty-eight percent did make reference to a recapitulation at the end of the piece, supporting this hypothesis.

The fact that participants did not split the work into three sections might also have led to the skewing of results within P3DQ-6 and P3DQ-7. Within P2 responses, the work was divided into three distinct sections. In order to compare the data between the two sets the same demarcation was made within content analysis of the P3 data, but was not necessarily as immediately prevalent within the P3 audience responses. Individuals may have commented on certain sections in the work without considering them as the "opening" or "middle" section, rather considering them as part of the temporal flow and overall trajectory of the work (this is reflected in the responses to P3DQ-5 (Vol.2, p.106) which are far less explicit than those responses to P2DQ-5, (Vol.2, p.84)).

# Evaluation of Contextual information for the P3 work Desire

Responses to P3DQ-9 demonstrated, that thirty-nine percent of audiences desired prior contextual information about the work, forty-four percent desired contextual information after presentation of the work — so that they might compare their own interpretations with those of the composer — and twelve percent presented other responses (one negative, one mixed). These results suggest that because audiences were able to form individual interpretations of the

work, they did not require assistance from the composer, but that they might appreciate confirmation of their interpretations in order to reduce levels of "risk" through verifying the "authenticity" of their own interpretation (terms taken from Radbourne et al. introduced on p.24).

However, after provision of the contextual information (responses to P3DQ2-2) only twenty-two percent still reflected positively upon the idea of prior information, with fifty percent responding in a strongly negative fashion, ardently citing preference for their own uninfluenced interpretations (three other participants also responded negatively but provided not contextualization).

### Content

Provision of the central factor of inspiration — movement of the lift and a sense of journey and transition — was cited as useful and interesting by participants, thirty-three percent cited greater understanding of the work as a result of this information, while twenty-two percent indicated that the information provided some greater clarity (P3DQ2-1). Seventeen percent of participant's cited increased technical understanding as a result of the information and an appreciation for the fact that the materials of the work were abstracted from a single source. Only eleven percent of participants responded entirely negatively to the contextual information in P3DQ2-1 and only eleven percent deferred their own interpretation to that of the composer. This suggests that for the majority of participants, the provision of contextual information aided their interpretation and increased their appreciation for the work, without the content of the information itself clashing with individual interpretations. The information was able to contribute to understanding without degrading personal interpretations.

44% of participants indicated that the content of the information was positive (concise, easy to comprehend, suitable foundation from individual interpretation), twenty-two percent suggested that the information was adequate (brief but suitable), while only eleven percent suggested that he information was unsuitable and desired more with regard to the composers own interpretation and/or personal connection with the materials and source (P3DQ2-3). Twenty-two percent of responses to this question (P3DQ2-3) constituted bad data because they made reference to the amplitude and materials of the work itself, and not judgment of the contextual information.

With regard to the types of information that participants indicated that they might appreciate in addition (P3DQ-4) the majority (56%) responded to indicate that no further information was desired, while the next biggest proportion (17%) cited a desire for personal information about the composer and more specifically the composer's personal connection with the source. This lack of desire for further information, tallied with responses to P3DQ-9 in which there was a significant drop in desire for any contextual information (compared with responses to P2DQ-9, Vol.2 p .91, and the responses to the works in P1, P1DQ-10 Vol.2, p.22, 46 & 66)) suggesting that audiences were satisfied with their own interpretations of the work, and therefore had no desire for any further information about the work.

# 8.5 - Phase Three Results: Summary and Evaluation

The aims of Phase Three sought to investigate the impact of re-composition (the altering or development of minor aspects of a work) might have upon interpretation.<sup>4</sup> The P2 test work was developed into the P3 test work with three main goals: decreasing the contradictory nature of the works discourse (thus reducing the prevalence of contradictory schemata engaged within inexperienced audience interpretations), to integrate all aspects (sections) of the work into a cohesive trajectory, and to increase audience engagement with the middle and final sections of the work.

Responses to the P3 work have demonstrated the significant impacts that relatively subtle alterations within the physical signal can have upon interpretation, and how focusing compositional attention upon the perceived object (and a heightened awareness of how others might perceive the same physical signal) can aid the interpretability and cohesion of electroacoustic audio-visual works.

### 8.5.1 - Towards Cohesive Interpretations

The increase in engagement (P3DQ-8, P3DQ-10), coupled with the shift to contextual interpretations within responses to P3DQ-1, reinforces the impression that the removal of conflicting or obstructing elements within the P2 work afforded a more cohesive and engaging audience experience with regard to the P3 composition.

P3 responses demonstrated no apparent contradictions in interpretation, suggesting that the changes made to the physical signal of the work were effective in reducing the contradictory nature of the works discourse as perceived. Every single participant in Phase Three made a contextual interpretation of the work's materials, none of which related to "nature" or "birds".<sup>5</sup> While constructed interpretations frequently made reference to movement and motion (72% of participants, see above, p.260). Further, such causal interpretations were not specific to any type of object or material, but could be applied to the interpretation of any number of possible scenarios or referring to motion and movement in general and abstract terms. Such data again supports the work of Gibson who outlined the process of abstraction for physical characteristics from experience and Michotte who discussed the attribution of causality to objects responding/acting in a particular fashion.<sup>6</sup>

All participants within P3 were able to make an interpretation of the work, with a larger majority demonstrating high, or some, levels of engagement than for the P2 work. Responses to the P2 and P3 works were consistent in some regard thus helping to corroborate each other's findings and highlighting the significance of variation within responses. Therefore the P3 work can be said to have realised the first aim of the P3 study, to limit the extent of conflicting schemata stimulated by the physical signal.

<sup>&</sup>lt;sup>4</sup> Outlined in full above, p.252.

<sup>&</sup>lt;sup>5</sup> See responses to P3DQ-2, Vol. 2, p.104.

<sup>&</sup>lt;sup>6</sup> See Chapter Seven, p.242

### 8.5.2 – Engagement with the Phase Three Work

Levels of engagement with the P3 work were higher than those of the P2 work. Engagement was both assessed through questioning (the participants were asked to consciously evaluate their engagement with the work in P3DQ-6, 8 & 10) and through assessing the duration and depth of participants responses to P3DQ-1 (see above, p.263).

Despite the fact that the P3 work utilised mimetic materials within its discourse, participants were able to make interpretations and engage with the work. Responses to P1 work A initially suggested that mimetic materials might obscure the possibilities of aesthetic interpretation, however responses to the P3 work suggest that where mimetic materials are situated within an appropriate discourse — one that does not demand a highly trained and specialised model audience — then mimetic materials can be interpreted aesthetically.

One hundred percent of participants identified mimetic materials within the work. Combined with the prevalence of contextual interpretations for P3 this might initially have suggested that P3 participants engaged in a more analytical approach to interpretation. However, when response sets were observed it became apparent that these contextual associations were utilised to construct aesthetic interpretations. This assertion is further compounded by the fact that when participants were requested to technically evaluate the interactions between sound and image within the piece, they instead provided contextual interpretations of sound and image complexes (see above, p.261).

The majority of responses to the P3 work demonstrated engagement and successful, individual, interpretation of the work, with aesthetic engagement most clearly visible through the drop in technical comments highlighting the materials and the sound and image interactions within the P3 work as a least engaging aspect. This fall in incidence might indicate that individuals were engrossed within the discourse of the work and therefore less able to identify individual aspects of the work that they evaluated as un-engaging.

There was an overall increase in engagement for the P3 work when compared against P2, but P3 participants still demonstrated the middle section of the work to be the least engaging section of the work.<sup>7</sup> Though the middle section of the work was cited most frequently as the least engaging element of the work, it was not cited by many of these participants as an entirely un-engaging section of the work. Rather, they frequently describe the middle section as less engaging than that of the opening and closing sections of the work. Such responses are likely to be due to the properties of the discourse within this section of the work. Because the middle section is far more explorative of timbre and visual textures than it is gestural (containing instead a greater number of subtle "granular" sonic textures) it is perhaps demanding of higher levels of experience and critical listening training within its model audience, compared with the

<sup>&</sup>lt;sup>7</sup> It is also important to indicate that the proportion of participants indicating the middle section as the most engaging element of the work rose in comparison with the P2 work. And that comments citing it as least engaging dropped by 36% between the P2 and P3 response sets. See above, p.265.
more gestural opening and closing sections.<sup>8</sup>

Engaging Sections	Opening	Middle	Final	
P3DQ-6 – Most Engaging	27%	33%	11%	
P2DQ-6 – Most Engaging	40%	20%	5%	
P3DQ-7– Least Engaging	16%	56%	11%	
P2DQ-7 – Least Engaging	5%	20%	15%	

With regard to a "desire to keep listening" (P2/3DQ-8) and "to see/hear similar works in the future" (P2/3DQ-10), comparison of the P2 and P3 responses suggest that the insight afforded by the responses to P2 and the subsequent process of re-composition, resulted in higher levels of appreciation for the P3 work and a greater desire to experience other works of electroacoustic audio-visual music.

Responses to DQ-8 and DQ-10 within both P2 and P3 as indicators of engagement.					
Work	DQ-8: Desire to keep listening. DQ-10: Desire to see/hear similar works in				
P2	70%	55%			
P3	83%	66%			

Eight of the participants explicitly stated a sense of engagement with the work through indicating a desire to see/hear a seminal work<sup>9</sup> while only three participants had explicitly cited such engagement with the P2 work.<sup>10</sup>

Such findings further highlight the importance of eliminating contradiction within the works discourse and the potential benefits in engaging feedback from external and non-specialist sources within the composition of works.

# 8.5.3 - Integration of the Final Section and the Trajectory of the Work

Responses to P1 indicated that works with a clear trajectory were more engaging for participants. The P2 work was therefore devised to possess a trajectory that was highly recognisable and interpretable. Responses to P2 demonstrated that the works trajectory was interpretable, but some participants indicated that the final section of the work might be more effectively integrated into the whole. Re-composition in P3 therefore attempted to unite the final section of the work more cohesively with the rest of the composition, through the use of common practices and recurring materials within both the opening and closing sections.

This action upon the physical signal led to a drop (compared with P2) in the proportion of P3 participants interpreting the work as divided into three distinct sections. Responses to P3DQ-5 more frequently referred to the work as possessing a single linear trajectory, as opposed to

<sup>&</sup>lt;sup>8</sup> The opening and closing sections also contain far more "Pre-electroacoustic" properties (as defined by Fischman 1994) than the middle section of the work (Pitch, Rhythm, Motivic Identity), see p.55. As highlighted by P3 participant 1-5 (see Vol. 2, p.110) the character of this middle section was intentionally left to be sparser, reflective and to explore the nature of the materials of the work, in contrast to sense of activity and motion within the opening and closing sections of the work.

<sup>&</sup>lt;sup>9</sup> See responses to P3DQ-10, Vol.2, p.112.

<sup>&</sup>lt;sup>10</sup> See responses to P2DQ-10, Vol.2 p.90.

three individual sections of the work (the prevalence of participants citing two sections also increased, see above, p.261). The techniques of integration employed to integrate the final section with the rest of the work were also referenced within the P3 responses, with participants making reference to recapitulation at the end of the work.

Participant desire to keep listening to the work was higher for P3 than it was for P2, and the proportion of participants citing the final section of the work as engaging also increased. Therefore the changes to the work can be described as having more effectively integrated the final section and providing the work with a more cohesive overall structure (form) facilitating increased levels of engagement.

## 8.5.4 - Emotional Responses to the Phase Three Work

Emotional engagement with the P3 work shifted in comparison with responses to the P2 work, with participants citing a less explicit sense of fear, and a greater sense of anxiety and tension.<sup>11</sup> Such a shift perhaps indicates that an aspect of the work altered within the recomposition process acted to make the work less intimidating, but that the work still retained a sense of tension. The specific element of the work likely to have induced this change was the swooping and potentially aggressive "bird" gestures removed from the opening section of the work (see above, p.255 - footnote). Within the re-composition stage this element of the work was hypothesised to be one possible source for the negative emotional connotations that the work solicited. Although removed primarily due to the contradictory mimetic associations that this material engendered with regard to the works discourse, results of P3 seem to confirm the hypothesis that these sounds were one source of the sense of fear and heightened tension.

As in responses to work B in Phase One, negative emotional connotations of fear anxiety and or tension are not necessarily negative factors to individual engagement with the work. On the contrary, the fact that these strong emotional connections were mentioned is evidence of an emotional connection with the work.

#### 8.5.5 – A Reflection Upon Responses to Contextual Information

Responses to the contextual information provided in all phases of the research project, was surprisingly negative (see Chapter Six, p.203; Chapter Seven, p.249). Phase Three is no exception. However, fewer Phase Three participants indicated a desire for contextual information prior to its provision (P3DQ-9, see above, p.267) than for participants in any other phase.<sup>12</sup> When asked to evaluate the type of information preferred, the majority cited none (P3DQ2-4, p.269). Such responses suggest that where audiences are able to make interpretations of works, not extra contextual information is required (this also supports the argument that participants were able to make their own clear interpretations of the P3 work).

<sup>&</sup>lt;sup>11</sup> Fear was frequently cited in responses to P2DQ-4 (Vol.2, p.87) but in responses to P3DQ-4 (Vol.2, 109) this trend was modulated.

<sup>&</sup>lt;sup>12</sup> See responses to P2DQ-9 Chapter Seven, p.232 or P1DQ-10 Chapter Six, p.136, 161 & 186.

The provision of contextual information within the Intention/reception project was demonstrated to increase the interpretability and audience engagement with works (Landy 2006, Weale 2005; see also Chapter Two, p.12). However, the results of the current project initially suggest that contextual information is not a factor of access for works of electroacoustic audio-visual music.

This could be due to methodological differences between the projects<sup>13</sup> or due to differences between the styles of artworks themselves (acousmatic and audio-visual). It is possible that the combination of multiple media elements (in the case of electroacoustic audio-visual music: audio and visual media elements) situates the work within more common interpretative frameworks (those of film, theatre etc.) with which participants are likely to be more familiar. Indeed the expectations and previous experience with interpreting audio-visual media might allow for one media element to contextualise the other (and vice-versa) within the "real time" interpretation of the work, whilst dramaturgic information acts to contextualise the work "out of time", not during the flux of the discourse. Acousmatic works contain only sonic materials, and thus while the various sonic materials in these works will act to contextualise one another, the frame of reference for a purely sonic work (especially one of mimetic or abstracted materials) is far less common than for the combination of such audio materials with and visual stimuli. Therefore, because audiences are likely to be more familiar with works containing both abstracted visuals and sounds from television, film and computer games, they will already possess appropriate interpretative frameworks and thus not require the extra contextualisation provided by dramaturgic information.

Finally, a more subtle difference between the two methodologies that is likely to have impacted upon the responses of participants is that within the Intention/Reception project, the contextual information was provided to participants prior to projection of the work. While in the current study contextual information was provided to participants after projection of the work. Thus within the Intention/Reception project, the contextual information was available to be used constructively by participants, as an active tool in the process of interpretation providing context and a frame of reference against which the work might be interpreted. In contrast, within the current project the information was only provided to participants after they had made an interpretation of the work. Thus, rather than being available as a frame of reference contributing to the construction of interpretations, it served as a fixed point of comparison with the participant's own interpretation of the work. This distinction between aiding the synthesis of interpretation, and standing in contrast as a point of comparison, is exemplified by the participant responses to contextual information throughout the project.

When conceived of in this way it is perhaps not surprising to discover that audiences preferred their own experience of the work than that described in the contextual information by the composer. As Hume asserted 'the most lively thought is still inferior to the dullest sensation' (Hume 1977: 10). Therefore, the reflection upon the work (thought) encouraged by the contextual information after its projection, can be regarded as a less authentic experience for

<sup>&</sup>lt;sup>13</sup> See critique of the I/R methodology in Chapter Two, p.14.

# Chapter Eight

the individuals than their own experience and interpretation of the work (sensation). Audiences value their own experience because it is far more significant to them than the opinions or interpretations of others.

Positive responses t	o the auestion	of the provision	of contextual information
rusilive responses t	o me question	i oi ule provision	

	Work A	Work B	Work C	P2 Work	P3 Work
Desire for contextual information (Prior to its provision)	79%	83%	63%	65%	82% (39% - Prior 44% - Post)
Reflection upon desire for Contextual information (After its provision)	58%	50%	33%	25%	22%

Responses to the desire for contextual information for all works demonstrate a drop after provision of the information. And this drop is most noticeable for works in which participants were able to make aesthetic interpretations. Work C, which of the Phase One works presented an open discourse upon which audiences might project their interpretations, received a drop of forty percent, while the Phase Three work received a drop of over sixty percent.<sup>14</sup> This response set suggests that, while initially desiring contextual information in order to evaluate the authenticity of their own interpretations, participants subsequently evaluated their own interpretations more confidently, and judged them to be preferable to the provided contextual information.

Despite the participants preference, their evaluation of the P3 contextual information reveals that participants were able to derive some benefit from it, and that they were approving of it, most strongly wherever it did not obstruct or seek to replace their own individual interpretations.

<sup>&</sup>lt;sup>14</sup> Some of the variation in proportion might be attributed to the style or content of the information. But the fact that there

is a consistent drop across all works suggests that this variation would simply be a modulating factor.

# 8.5.6 - Phase Three: Key Findings

- The process of re-composition was successful in limiting the contradictory aspects of the discourse, and through the removal of the offending sonic materials the work became more consistent and cohesively interpretable. This was demonstrated by the increase in generalised interpretations of motion, movement and journey, and reflected in the increased levels of engagement with the work.
- Fewer participants identified the work as possessing a three part structure, indicating that the re-composition process had helped to integrate the final section of the work. Desire to keep listening to the work also increased, suggesting that the reinforcement of a cohesive trajectory was also a positive factor in engagement with the work.
- Emotional responses to the work reflected the tension present within the works discourse but were not as extreme as the responses of fear to the P2 work. This is likely due to the removal of the spectral stretched swooping "birds".
- Fewer participants desired contextual information for the P3 work than for any others. The lack of desire for contextual information is a signifier of engagement with the work, and also indicates participant's preference for their own interpretations of the work, over those of the composer.

# Chapter Nine Conclusion and Future Research

# Overview

This chapter draws together the empirical research findings with theoretical materials discussed in the earlier literature review chapters, highlighting key findings from the project and postulating potential future applications for the research. Empirical questioning provided an opportunity to compare theoretical conceptions of interpretation with primary data. Each of the phases of the research shed light on different aspects of the process of interpretation. The findings of the empirical study served to support the phenomenological perspectives upon interpretation set out within Chapter Three, with lived experience of the individual identified as being the basis for all constructed interpretation.

# Outline

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- 9.2 Mimetic Materials in Composition- p.284
- 9.3 Interpretation Informing Composition p. 285
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## Conclusion

# 9.1 - Re-evaluation of the Language Cube

The "Language Cube" provided a system for classifying and isolating the individual works for testing within the first phase of the empirical study. However, at the close of this study, and in light of the empirical findings, it is necessary to return to this classification system, due to certain fundamental contradictions that have become apparent during the course of the research.

The Language Cube system was developed from both the I/R project's system of classification and the Language Grid of Simon Emmerson (Emmerson 1986: 24). Within its development, the terminologies utilised in the I/R project ("real-world" and "non-real world") were rejected and replaced with the mimetic / abstract continuum utilised by Emmerson. Such a switch afforded the individuality of perception to be accommodated because these terms operate relative to the schemata of the perceiving individual. In expanding the grid to accommodate both sound and image, an extra dimension was added, but in doing so this conceptually enforced a structuralist division of the work. Such a three-dimensional model - with its single axis for discourse and two for material (one each for sound and image) - cannot be fully resolved with the object/structure paradigm outlined by Schaeffer. By assigning material and discourse to discrete axes, the three-dimensional model assumes an explicit division between materials and discourse (between object and structure). In contrast, Schaeffer's description is fluid, with objects being both divisible into smaller objects and part of larger structures. To account for this contradiction, the axes corresponding to the works materials could be eliminated, leaving one single axis describing the works discourse. Alternatively, there could be no limit to the numbers of axes and dimensions, thus creating a multi dimensional complex of scales ranging from mimetic to abstract, which might represent the diversity and plurality of objects/ structures within the piece.

Further, on a philosophical level, the very classification of works into explicit categories stands in absolute contradiction with the poststructuralist, phenomenological, approach to interpretation in which works are uniquely perceived by each individual (thus rendering any form of explicit, structuralist, classification redundant). Development of the Language Cube was undertaken following the lead of the I/R and was devised to fulfill certain aims within the research, to distinguish between objects and situate "work type" as a variable factor within the empirical methodology. However, by the time the data was analysed, taxonomical distinctions between characteristics of the work became nullified. This is due to the fact that the phenomenological perspective<sup>1</sup> describes a unique interpretative approach for all individual participants, as opposed to revealing clearly defined types of responses, specific to certain types of works.

While the language cube may not operate without contradiction at the close of this thesis, it served to successfully provide a diverse range of suitable works for the initial phase of the research and therefore fulfilled the role for which it was conceived. However, within future

<sup>&</sup>lt;sup>1</sup> The phenomenological approach was supported by the empirical data.

iterations of the research any selection of works might reveal compelling research findings.<sup>2</sup> Development of any future classification system, isolating works for empirical research, must be directed by some sort of research goal, to fulfil an essential need in classifying a work for a specific purpose. Any attempts to create a generic system to classify works will be redundant within the context of a phenomenological outlook.<sup>3</sup>

## 9.2 - Mimetic Materials in Composition

Discussion of sonic materials as abstract and/or mimetic is frequent within the aesthetics of electroacoustic music, but the current research has demonstrated that, with the division between physical signal and perceived object, any absolute categorical distinction between abstract and mimetic materials erroneous. It is redundant for the composer to consider materials as abstract or mimetic with regard to their own impression of the world, because when these same materials are interpreted their audience may not share this impression.<sup>4</sup> Instead, composers should consider whether their materials are abstract within the context of the discourse of the work, and whether or not they might encourage conflicting schemas of association. As Schutz wrote, 'a phenomenological approach to music may safely disregard the physical qualities of the sound as well as rationalisation of these sounds' (Schutz 1976: 6).

Responses to Work A in Phase One initially suggested that mimetic materials were potentially obstructing to aesthetic interpretations (though 76% of untrained participants identified the material as being the most engaging element of the work). However, the findings of Phase Two and Three indicated that it was not the mimetic materials themselves that were potentially obstructing, but their context within the discourse of the work. With the abstraction of experience from daily life utilised to interpret phenomena and attribute causality, it becomes essential that objects are situated within a cohesive discourse if they are to avoid external association and unwanted source bonding.<sup>5</sup> All knowledge is abstracted from lived experience within the world and thus abstractions of mimetic and causal linkages between objects perceived in the physical world might be utilised to link objects and to create cohesive discourses within a work. Where objects and events occur within a cohesive discourse their very presence will be rationalised by their "intra-musical" situation: their relationship to other objects within structures. Newtson's discussion of variation within stimulus arrays and Boltz's expectancy violation describe how objects which stand apart from the remainder of the discourse demand an increased level of

<sup>&</sup>lt;sup>2</sup> Perhaps a random selection approach would be more appropriate in future, see also Future Research, p.292.

<sup>&</sup>lt;sup>3</sup> Because all interpretations are considered to be based upon the unique lived experience of the perceiver. However, it is important to note that for protecting the reliability of empirical research data, limitation of variable factors within the research situation is essential. Failure to focus the research in this fashion will result in redundancy of the data, as it would be impossible to rationalise the data (to link probable causes and effects).

<sup>&</sup>lt;sup>4</sup> Categorisation of mimetic or abstract materials is fluid, not fixed. Recall the example of "the birds" interpreted in responses to the P2 work, p.245.

<sup>&</sup>lt;sup>5</sup> Newtson's notion of the stimulus array provides a conceptual framework for rationalising the consistency of the works discourse, with disparate elements defined by their distance from the main perceived discourse.

attention and potentially instigate the action of schema for interpretation which are not concordant with the majority of interpretative schemata already in operation.<sup>6</sup>

The flexible nature of mimesis (in terms of whether objects are defined as mimetic or not) and the fact that schema are developed from experience of the world, demonstrate the challenges faced by composers of electroacoustic audio-visual music who use less abstracted materials.<sup>7</sup> Individuals develop manifold schemata to interpret abstract musical sounds (e.g. pitches) and these are often distinct from the schema developed to rationalise mimetic objects. Mimetic objects can carry with them considerable complexes of association that might conflict with more traditional "aesthetic" schema for music. Innovative approaches are therefore required to situate mimetic materials within aesthetic contexts, and these can take many forms.<sup>8</sup> Schaeffer's argument for the relationship between materials and form is one such assertion, and many other compositional methodologies have been developed throughout the discourse of electroacoustic music studies.<sup>9</sup>

#### 9.3 - Interpretation Informing Composition

The process of composition was utilised as a vital research tool in this research, with knowledge gained about the processes of interpretation helping to facilitate the development of a compositional work.

Critics challenge the benefit of approaching audiences and using their feedback to aid in the development of works, in some cases claiming that the need for such investigation is a symptom only of compositional inexperience, and of ignorance for the true techné of electroacoustic composition. But it seems that such critique stems from a fundamental difference in compositional philosophy. Why compose? For the self: in development, exploration, or therapy. Or for connection between the self and fellow humans, to make something for others, to communicate (even in abstract terms).<sup>10</sup> Those who compose to the former philosophy might object to the audience being afforded such influence in the process of interpretation due to fears about individuals making "incorrect" judgements about the work. While composers of the latter philosophy embrace the audience and actively invites them to take part in the process of interpretation, recognising that it is they who invest the work with meaning.

<sup>&</sup>lt;sup>6</sup> See the discussion of the incompatible "nature" schemata inspired within the interpretation of the P2 work, Chapter Seven p. 245, as well as discussion of obstruction by materials and technique within Chapter 6, p.197.

<sup>&</sup>lt;sup>7</sup> Evidenced by responses to the P2 work.

<sup>&</sup>lt;sup>8</sup> For the P3 test work, eighty-five percent (85%) of participants desired to keep listening to the work, while one-hundred percent (100%) of the participants identified that the work was made from mimetic materials.

<sup>&</sup>lt;sup>9</sup> Trevor Wishart's gesture and counterpoint paradigm (Wishart 1996: 109) and Denis Smalley's spectromorphology (Smalley 1997) are two other such examples of methodologies for rationalising and subsequently constructing discourses of electroacoustic music.

<sup>&</sup>lt;sup>10</sup> These two philosophical approaches loosely reflect modernist and post-modernist approaches to composition, with the great modernist composer presenting their compositional skills and methodologies for an audience to wonder at, in contrast with a post-modernist composer who presents a work for an audience to engage and connect with (Scott 1998: 137). One might compose for the self and then present this to others in concerts, but to do so demonstrates not an intention to connect with others but an intention to show off the skills and techniques of the composer.

#### Chapter Nine

The action research process of the current project was informed by the latter of the two compositional philosophies, investigating the role of composition as tool of communication, providing a point of shared experience. And in this sense, presenting works for interpretation and using the data to inform compositional practice provided invaluable insight into creating a work that other individuals might invest with meaning. This was achieved through having the unique opportunity to reflect upon the processes of composition from the perspective of both creator and audience.<sup>11</sup> Audience interpretations were utilised to inform a clarification of the original concepts and intentions for the developed work so as to increase cohesion and consistency within the perceived work. The original intentions were not sacrificed to the whims of the audiences, but were better realised within the material of the work as a result of interpretation feedback.

Results from the current study identified that audiences struggled to engage with works where formalised relationships and technical processes were foregrounded.<sup>12</sup> These events of technical intervention acted to disrupt the flow of the discourse by drawing attention to themselves as unique objects, standing apart from other elements of the work. In being incoherent elements of the discourse, they further attracted attention as the interpreter desperately sought to rationalise them within the schemata of interpretation for the work (as theorised by Boltz and Newtson, respectively, in their discussion of "expectancy violation" and shifts within a "stimulus array" (see above, p.246)). This process, to use Heidegger's terminology, leads to the transformation of a "thing" to an "thing-concept", whereby an idea or question about the perceived object becomes more significant than the perceived object as part of the discourse (Heidegger 1975: 30). In such a situation, the perceived flow of the discourse and the aesthetic experience of the work are disrupted by analytical reflection.

The dislocation and conflicts within interpretations of the Phase Two work were identified, upon reflection, to be rooted in the compositional process itself. A technical and formalistic approach to the development of materials in this section has overtaken a consideration for work as perceived. Materials were processed starting from a common source and this source link was conceived to be enough for the particular texture to be rationalised coherently within the works discourse. However, such a formalistic relationship between the materials is irrelevant when the work is perceived. The processing liberated the sound objects from their source-bonded state, transforming them to such an extent that they no longer held any perceptual link with their source. And so, the formalised compositional perspective was inaudible to the perceiver. Recomposition of the work within Phase Three eliminated this formalised compositional element,

<sup>&</sup>lt;sup>11</sup> As mentioned earlier within this thesis, the work "Perpetual Motion" was intended to possess a life outside of this project and has indeed been presented at many concert and film festival events since 2010.

<sup>&</sup>lt;sup>12</sup> Interpretations of Phase One Work A work made significant reference to technique and processes, indicating that evident technical intervention by the composer might obstruct engagement with the work. (Forty-two percent of untrained participants made reference to technical processes). Responses to Work B further supported this proposition by demonstrating a dip in engagement at one particular point where the composer's technical intervention was evident.

replacing it with materials that were developed with absolute consideration of the work as perceived.<sup>13</sup>

Creation with intent to construct a stimulus that will be perceived in a specific way relies upon common mimetic and cultural schemata being shared between creator and interpreter. Assumed common experience can be used to approximate the ways in which audiences might interpret works, but such common experience cannot be guaranteed. It is challenging for the composer to identify what experiences truly are common and to distinguish these from individual experience. However, if the intention is to create a work that is open for interpretation, and that actively encourages individuals to engage and make interpretations of it, then the composer can rely less upon assumed common experience and instead focus upon providing a context within which individuals can engage with the work's materials.

Where individuals had no recognisable framework upon which they could build their interpretations they attempted to apply schemata developed for the interpretation of other art forms (for example, attempting to understand works of electroacoustic audio-visual music by using expectations and interpretative frameworks best suited to narrative film). Analysis of interpretations suggested that individuals most struggled to interpret works when they attempted to utilise schemata developed for the interpretation of other work types. Reactions to contextual information further supported this conclusion, with information informing individuals about how to make an interpretation of an electroacoustic audio-visual music work most appreciated by non-trained audiences.

Clarity in the works trajectory and structure were also identified to be important aspects in the interpretation of compositions, providing a clear pathway for the audience to understand the relationships between sounds and the works progression. Indeed one key expectation of audiences, identified in responses to Phase One, was for a clear trajectory. This was utilised in the development of the Phase Two work, to some effect, and then re-enforced within the recomposition process and demonstrated to be highly effective within interpretations of the Phase Three work. Trajectory, a cornerstone of spectromorphology, provides interpreters with an archetypal mimetic framework with which they can relate.

In revealing the influence of objects as perceived and their intra-musical contexts upon interpretation, the results to this study highlight the importance of compositional approaches that construct thematic contexts for materials and compositional ideas. This practice is common in many of the canonical works of the electroacoustic genre; for example, in Smalley's *Wind Chimes* the composer introduces the source material of the composition in unprocessed and mimetic form before providing very clear examples of development and sound transformation. Within the first thirty-five seconds of the piece the composer has established a context for

<sup>&</sup>lt;sup>13</sup> This is not to exclude formalism within the compositional process as a tool for the development of materials, but it must be highlighted that formal material links are unlikely to transfer their associations into the work as perceived (without deliberate and focussed attempt to make this so).

interpretation, by introducing the source materials and the notion of sound transformation. From this introduction the audience have a context from which they can suitably understand the piece and its subsequent developments. Future research must be undertaken in this area so as to identify other effective compositional strategies through consideration of works as perceived by others.

Student composers should be encouraged to engage with their audiences in order to investigate how their works are perceived outside of the context of the composition process. The process of development for the majority of electroacoustic and audio-visual compositions takes place through a dialogue between individual and computer. And such an introspective working environment isolates the composer from other humans, providing an environment in which formalistic approaches to composition might be encouraged. Students of composition may learn much from their audiences about the efficacy of realising their compositional intentions, and how best to construct coherent and cogent discourses of electroacoustic audio-visual music.

## 9.4 - Extra-Musical factors in Interpretation

As outlined by Lelio Camilleri and Denis Smalley, the action of understanding music is a cultural practice (Camilleri & Smalley 1998:4). Electroacoustic music has its own specific culture and thus can occasionally tend towards the insular when concerned with listening practices and engagement, blind to its own assumptions and presumptions and ignorant of the impact that lived experience exerts upon interpretation. However, it is imperative that the wider perspectives be considered in order that a full and genuine understanding of the issues and processes surrounding interpretation might be addressed.

Considerations of interpretation for music very frequently attend only to the specifics of "musical" interpretation, focussing upon the intra-musical syntax of works and how audiences negotiate interpretations from this alone. However, in focussing such attention solely upon the autonomous and intra-musical discourse of the work, the reality of the situation of interpretation is obscured. Influences external to the work, most significantly those of the audience members lived experience, not only influence but also serve to direct the very processes of interpretation. Electroacoustic works highlight this issue due to their use of both mimetic and abstract materials. The use of sounds and sonic objects as compositional material also helps to highlight the limitations of the note based paradigm and the linguistic structuralist approaches that are frequently applied to rationalisation of musical interpretation. The flexible nature of the object/ structure affords a far more fluid model, and is one that supports phenomenological, neuroscientific and schema theories. For example, just as timbral fusion leads an individual to hear a plucked or bowed note as opposed to its individual partials, so does the synchronous congruence of visual and sonic events lead to the perception of a unified audio-visual event.<sup>14</sup>

<sup>&</sup>lt;sup>14</sup> In both cases, one may attend to individual harmonics, or either of the sonic and visual elements when adopting an analytical approach, but the elements are still situated within a context, as part of a larger complex object. See Chapter Three, p.35 and Chapter Four, p.72.

Indeed, within a project investigating interpretation of audio-visual works of electroacoustic music it may be considered amiss not to have dedicated significant page space to the question of sound and image relationships or the perception of audio-visual stimuli. However, the phenomenological perspective, supported by neurological research, has afforded a far more universal approach to the understanding of interpretation, recognising that all stimuli are perceived through similar cognitive frameworks, whether they be synchronous sound and image events, or contiguous sonic events. All stimuli are pieced within a frame of reference that takes into consideration both the relationships or relative distinctions between stimuli, and the lived experience of the individual perceiving subject. Thus, when investigating the perception of works, to consider only the former (relationship between materials), is to examine but part of the complex picture and to deny the significance of the perceiver within the process of interpretation.<sup>15</sup> In keeping with this, the findings from the current project are relevant to a wider range of musical and media practice including electroacoustic music, film, media art, fine art and curatorial studies.

Consideration of factors that might affect interpretation outside those of "musical" listening can also illuminate assumptions made within research projects that might have served to direct or influence their findings. Just as within composition, where assumption of the equivalence of the physical signal and perceived object and/or assumptions of common experience or interpretative schema can lead to works with a highly specific discourse, so can ignorance or blindness to common lived experience lead to the false impression of correlations which are not as universal as imagined.<sup>16</sup>

With the elimination of the subject-position as an absolute variable factor in interpretation, it is essential to revisit the factors affecting interpretation outlined in chapter three.<sup>17</sup> Taking into consideration the findings and continued reflection from the empirical study it is possible to modulate the original factors to outline three variable factors which might potentially impact upon interpretation:

- 1. Experiential knowledge and an individual's schemata of association.
- 2. Audience proximity, orientation and spatial location.
- 3. Perceived structures and discourse of the work.

These three points seek to encapsulate the variable factors impacting upon interpretation of electroacoustic audio-visual music works. And provide different contexts for the rationalisation of objects within works of electroacoustic-audio visual music. With the transformation of the

<sup>&</sup>lt;sup>15</sup> Schaeffer's discussion of Object/Structure was further used to support and explain this commonality between the conception of audio and visual objects (see Chapter Three p.35 and the model for cognition of audio-visual stimuli in Chapter Four p.77).

<sup>&</sup>lt;sup>16</sup> For example: to test the responses of experienced participants to works and imagine that the results are generalisable and might be wholly applicable to inexperienced audiences.

<sup>&</sup>lt;sup>17</sup> Originally discussed on p.53.

factor representing "subject-position" into "perceived structures and discourse of the work", the historical connotations of the term "subject-position" can be avoided and potential implication of a fixed meaning inherent within the signal has been eliminated.<sup>18</sup> Further, the musical training and experience of individuals can be seen to reside as a sub-category of a wider experiential knowledge, thus both are encapsulated under the first factor of "experiential knowledge and an individual's schemata of association".

## 9.5 - Contextual Information

One obvious area of extra-musical influence comes with the programme notes and contextual information provided alongside works. The provision of contextual information is widely accepted within the "culture of art", with programme notes almost always accompanying works both inside and outside of the concert hall. Contextual information can be thought of as operating in a similar fashion to that of experience, whereby information from the composer provides the subject with an expanded background for interpretation, a context within which they can place the work and construct their interpretation.

However, at a philosophical level, the provision of contextual information conflicts with distinction between physical signal and perceived object and the division between the poietic and esthesic. If it is accepted that each audience member constructs interpretation individually — the esthesic divorced entirely from the poietic<sup>19</sup> — then the intentions of the artist can be seen as entirely superfluous to the process of interpretation. However, the social definition of art as an artifact containing intention,<sup>20</sup> and western society's pervasive obsession with language,<sup>21</sup> results in a common social conception that artworks have fixed meanings that demand to be understood.<sup>22</sup> Indeed, the provision of programme notes and other contextual information helps to reinforce this conception, the logic is thus: *if the composer has provided written information about the meaning of the work on paper, then the work MUST have a fixed meaning. I must read the notes to find this meaning and then search for it in the work.* 

As discovered throughout the empirical research project, audience members often indicated a significant desire for contextual information, but once the information had been provided these same participants indicated disappointment with the nature of the information that was provided to them.<sup>23</sup> One frequent criticism was the fact that the interpretations of the participants did not match those of the composer and in some cases this discrepancy even damaged irrevocably

<sup>&</sup>lt;sup>18</sup> These factors are not ranked in terms of potential impact. But simply provide a clear and concise outline of the key variable factors that might impact upon audience interpretation for works of electroacoustic audio-visual music.

<sup>&</sup>lt;sup>19</sup> As suggested by Nattiez and upheld by the empirical findings of this research.

<sup>&</sup>lt;sup>20</sup> See Chapter Three – Audience expectation of compositional intent, p.60.

<sup>&</sup>lt;sup>21</sup> As Adorno states '[t]he mimetic impulses [of art] ... are non-linguistic ... They become linguistic only by virtue of being objectified as art' (Adorno 1972: 263). See also Chapter Three, p.32.

<sup>&</sup>lt;sup>22</sup> 'Truly one of the mysteries of art and a testimony to art's logical strength and power is the fact that every radical solution in art, the so called absurdist one included, ends up having a similarity to meaning. This is of course not proof of the fact that all elaborated works share a metaphysical substantiality of meaning. Instead, it is proof of the illusory quality of art. Art is illusion that it cannot escape the hypnotic suggestion of meaning amidst a general loss of meaning' (Adorno 1972: 221-222).

<sup>&</sup>lt;sup>23</sup> See Chapter Eight for summary discussion, p.278, Or for discussion of individual result sets see, Chapter Six, p.203; Chapter Seven, p.249; Chapter Eight, p.278.

the subject's appreciation of the work.<sup>24</sup> Responses to contextual information as identified in this project, reveal the conflict between the open possibilities of the subject's esthesic response and the cultural definition of art as artifact with intention.<sup>25</sup>

As Langer states 'A programme is simply a crutch. It is a resort to the crude but familiar method of holding feelings in the imagination by envisaging their attendant circumstances' (Langer 1957: 242). The danger occurs when it is endowed with an authority of absolute "truth". As Langer goes on to state 'it becomes pernicious when teachers or critics or even composers initiate it, for then they make a virtue out of walking with a crutch. It is really a denial of the true nature of music' (Langer 1957: 243). Figures of authority, composers or experts in the field, lend a sense of authenticity to works through their contextual contributions which, according to Radbourne et al., can act to reduce the sense of "risk" felt by audiences (Radbourne et al. 2009). However, in some cases this might be taken further to infer an implicit impression of "truth" and may act to actively deprive individuals of confidence in their own interpretations.

Across all phases of the current research project, participants indicated a desire for their own interpretations of the work and distaste for the provided contextual information. As discussed within Chapter Eight,<sup>26</sup> these results must be considered within the specific context of the research sessions within this project. Provision of information in the current project occurred after the participants had made their interpretations of the work. In this situation, the information was not a tool that audiences could use to help frame their own interpretation, but simply a point of reference with which they could compare their own interpretation. Therefore, the trend in responses to reject the contextual information may be representative of the participants' confidence in their own interpretations, as opposed to a rejection of the potential usefulness of contextual information. Indeed, perhaps if the situation is considered as pedagogical then this finding might be regarded as highly positive. The directed nature of the research session enabled participants to reflect and construct clear interpretations, subsequent provision of contextual information from the composer then acted to empower individuals to champion their own interpretation as opposed to conforming their interpretation to that of others.<sup>27</sup>

Therefore contrary to initial analyses, the rejection of contextual information within the current project potentially does not necessarily indicate that the provision of contextual information is undesirable, but instead serves to refocus attention upon the intended action of contextual dramaturgic information and to highlight the key reason for its provision. Namely, that of empowering audiences to engage with works of electroacoustic audio-visual music in a fulfilling

<sup>&</sup>lt;sup>24</sup> See responses to the contextual information provided to accompany work C within Phase One, Chapter Six, p.186-189.

<sup>&</sup>lt;sup>25</sup> Such a conflict does not exist when observing textile print on wallpaper, curtains of with regard to the decoration on vases. This is due to the practical nature of the objects in question, which in having a purpose (respectively: to decorate walls, to block out the light or holding liquids/flowers) diminishes the requirement for intention and meaning. <sup>26</sup> p.278.

<sup>&</sup>lt;sup>27</sup> Radbourne et al. indicated that 'the experience is significant if one can *expose* oneself to its educative message and take something away from it, something that develops what one's understanding of what is being listened to or watched' (Radbourne et al. 2009: 23, original emphasis).

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fashion and to afford these audiences the opportunity to construct their own, unique, individual, interpretations.<sup>28</sup>

Indeed, as reflected in results of the current study and that of the intention reception project, audiences were engaged by works when projected them, therefore perhaps another significant challenge or obstacle to access is in encouraging audiences to engage with electroacoustic music in the first place. By alleviating a sense of "risk", or increasing a sense of "authenticity", the situation of works within contexts of socio-cultural or historical significance, might engage audiences to suspend or avoid certain cultural expectations or qualifiers of authenticity. As reinforced by this research project it is the notion of context that is most important.<sup>29</sup> Detailed consideration of the contexts of electroacoustic audio-visual music might afford the opportunity for works to reach larger audiences, and in combination with the pedagogic potentials engaged within projects such as EARS2 – the Pedagogical Electroacoustic Resource Site (see also, Landy 2009) — help to increase the accessibility of electroacoustic music to wider audiences.

<sup>&</sup>lt;sup>28</sup> It is important that the focus of contextual information remains one of empowerment and does not become limiting to audiences and the development of their own unique interpretations.

<sup>&</sup>lt;sup>29</sup> Context upon a number of structural levels: context of objects within structures, context of structures within discourses, context of discourses within schemata, context of works within lived experience and context of works within and the situation in which they are presented.

# 9.6 - A Post-Structuralist Conception of Interpretation

Since Nattiez outlined his tripartition diagram it has become commonly accepted that the audiences themselves play an active part in the interpretation of works (Nattiez 1990). However, other elements of Nattiez's theory have been more contentious, such as the question of "neutral level", the idea that the material signal of the work maintains some inherent structural meanings that can be analysed. This assertion has been challenged as being in contradiction with other elements of Nattiez's own theory and an indicator of the structuralist underpinning of his theory (Keiler 1981; Dunsby 1983).<sup>30</sup> This research project, in seeking to identify the processes of interpretation, sought to clarify the nature of the neutral level, and the relationship between, what Nattiez calls, the "esthesic processes" and the "trace".

Results supported a post-structuralist conception of interpretation, demonstrating that individuals approached works from unique perspectives and that in doing so they constructed unique interpretations from a common physical signal. Some commonalities between responses were recorded, suggesting that perhaps some element of the work's signal did act to influence all participants in the same way. But the notion of a subject-position, some absolute factor of the physical signal that limited the interpretative potential of the work (similar to the action of the "neutral level" as proposed by Nattiez), was demonstrated to be erroneous and indeed contradictory to the phenomenological approach. Instead, Micotte's theories on the attribution of causality suggested a basis for fundamental common experiences and universal correlations through which audiences abstract information from their lived experience of physical world and apply these experiences to in the interpretation of new stimuli (Michotte 1962). Results demonstrated that the context of perceived objects within the structures and discourse of a work will influence their interpretation, but that all objects are rationalised within the context of the perceiver's lived experience. Thus, there is an absolute distinction between the physical signal and the perceived object.

Within Phase One, participants demonstrated the action of lived experience and schematic association within the interpretation of works, with individual experiences directing and informing the constructed interpretations. Those with a training in electroacoustic music often engaged with works analytically, demonstrating their lived experience in academic study to inform a rather different interpretative approach than that used by non-trained participants. However, commonalities between responses suggested that some form of correlation between signal and perceived object was in operation, and that its true character required further investigation. Phases Two and Three further confirmed the fundamental role that lived experience plays within interpretation, with divergent interpretations demonstrating the multiplicity of interpretation for an identical physical signal. If there were no division between physical signal and perceived object then all interpretations should have been identical.

<sup>&</sup>lt;sup>30</sup> See also the opening of Chapter Three for a critique on Nattiez's use of the term trace and the lack of clarity surrounding his departure from the "standard model of communication".

There were some common interpretations of the work in Phase Two, but rather than relate to the character or meanings of the materials in the work they cited the action and trajectory of objects within the piece, termed an "attribution of causality" by Michotte (1962). This process of attribution is not due to some characteristic of the physical signal that imparts an absolute meaning, but stems from experience of the natural laws of physics and nature, schemata of mimetic experience.

Therefore the physical signal of the work is merely a stimulus from which interpretations are constructed. Similarities or commonalities in interpretation are a result of common lived experience between individuals, either mimetic (attributions of causality as outlined by Michotte, schemata that relate to the physical properties of the world that we inhabit) or cultural (stemming from the social and cultural environments in which individuals exist). Both may be sources of commonality between individual interpretations, resulting from common lived experiences shared by individuals. And therefore it is these two categories of lived experience that are the basis of common correlations between physical signals and perceived objects and not any intrinsic meaning within the physical signal itself.

Structuralist conceptions of interpretation attribute common interpretation between individuals to the encoding of absolute meaning within the physical signal, but this position is unable to truly rationalise or justify independent and divergent interpretations. Meanwhile, a post-structuralist perspective might initially seem to be entirely surrendered to absolute subjectivity and unable to account for commonalities within interpretation where they do exist. However, through recognising the fundamental role of lived experience in constructing an individual's consciousness, these common correlations are revealed to be, not the result of some primitive intuition but a more evocative connection, the result of a shared experience of life, of being human.

#### As David Hume wrote:

What never was seen, or heard of, may yet be conceived; nor is any thing beyond the power of thought, except what implies an absolute contradiction.

But though our thought seems to possess this unbounded liberty, we shall find, upon a nearer examination, that it is really confined within very narrow limits, and that all this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting, or diminishing the materials afforded us by the senses and experience (Hume 1977: 11).

#### 9.7 - Closing Remarks

The current project engaged with the topic of research in a number of ways, leading to a number of significant outcomes with regard to the many facets of audience interpretation and its understanding. The nature of the audio-visual — and a fascination with the interactions that can be established between sound and image — has frequently led practitioners to search for knowledge between disciplines and beyond the purely musical perspectives. It is important that practitioners continue to do so and to utilise this external knowledge in understanding the perception and processes of interpretation at work within individuals perceiving electroacoustic audio-visual music works.

Indeed while the focus of this study has been works of electroacoustic audio-visual music the findings and philosophical outcomes from this study are highly relevant to other electroacoustic music practices and might contribute to both their compositional and musicological practice. The findings of this project have already informed and contributed to the researcher's own pedagogical and compositional practice and are likely to continue to do so.

Engaging with a diversity of subject areas has afforded an invaluable sense of perspective and afforded the critique of assumptions made by various disciplines or methodological processes. Theoretical areas of significant interest for future expansion, derived directly from the current project, are those regarding the question of the conscious and unconscious operation of consciousness (exploring the operation of causal attribution and schematic associations relating to cultural experience on a subconscious level),<sup>31</sup> and further investigation of temporality and the flux of inner time (an expansion of theories relating to the relationship between perceived objects in time and how these influence the musical experience)<sup>32</sup> as they relate to musical perception/interpretation. It is likely that literature in both neuroscience and phenomenology will continue to provide fruitful avenues of investigation in these prospective areas of research. Indeed, as an object of study, electroacoustic music provides a unique opportunity for disciplines such as cognition, psychology and phenomenology to evaluate and rigorously examine their own theoretical models due to the fact that it utilises both abstract and mimetic materials in a discursive form.

A musicological research project might seek to investigate the impact of phenomenological theory upon the writings and theories of Pierre Schaeffer. John Dack and Christine North have generously provided copies of their forthcoming publication, a translation of Schaeffer's journals *In search of a concrete music* that will likely prove invaluable for this research. The proposed research might lend insight into the contradictory perspectives prevalent within some of Schaeffer's theories and seek to dispel any errors of misconstrued notions emerging form unforeseen assumptions carried forwards. With the recent international conference

<sup>&</sup>lt;sup>31</sup> Fiske's theory of *post hoc* conscious awareness was introduced at the close of Chapter Three, p.65.

<sup>&</sup>lt;sup>32</sup> See Chapter Four, p.72.

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*PierreSchaeffer: mediArt*, Rijeka 2011, at the centenary of his birth, it is clear that a concerted revival of interest in the work and theories of Schaeffer is in progress.<sup>33</sup>

Future empirical research might also be undertaken to investigate any of the many variable factors outlined within this research project, but which were kept constant in the current research sessions so as to focus upon the effects that materials, form (structure), experience and contextual information had upon interpretation. A significant area of potential investigation is that of live performance and the variation in interpretation that is introduced by performative intention. Closer to the current research, it might be appropriate to investigate audience reactions for single or multi-screen works of audio-visual music, in much the same way that research has already been undertaken regarding multichannel audio.<sup>34</sup> The issue of context and venue might also be an interesting area for future research, investigating if the appropriate curation of works for specific venues might improve their interpretability through relevant contexts building upon socio-cultural memory.<sup>35</sup> Such research would have significant relevance with regard to installation and public art.

Indeed, the questions and perspectives raised by responses to contextual information within this project suggest that significant future research might be undertaken to investigate the appropriate nature or requirement of contextual information. One such project might present audiences with a database or wiki repository of information about the composer(s) — including information on their other works, musical interests, research and related contextual information — and invite the audience to browse and navigate through this information at their leisure. Such a system might be implemented with Quick Response (QR) codes presented in place of programme notes, linking to an online repository.<sup>36</sup> Participants would then be able to navigate and discover the appropriate information that they desired, while the researcher observed web statistics with regard to the number of "hits" for relevant items of information.

For scientific reliability it would also be useful to continue the research sessions of the current project so as to further investigate and seek to corroborate the findings. Equally, a greater diversity of works might be used as test examples, so as to provide an increasingly diverse set of interpretations for a wider stylistic range of electroacoustic audio-visual compositions.

<sup>&</sup>lt;sup>33</sup> The proceedings of this conference also present some interesting papers on the subject of Schaeffer's application of phenomenology and how it relates to the various strands of thought within the discipline (Ziherl 2011).

<sup>&</sup>lt;sup>34</sup> Investigating preference for stereo and multichannel audio systems (Dvorko & Ershov 2002).

<sup>&</sup>lt;sup>35</sup> For example, an electroacoustic work utilising the sounds of industrial machinery might be more accessible to audiences within the setting of a decommissioned industrial complex, than within the concert hallIt is this concept which functions as a key directing force within the concerts facilitated by Hear Th↓s Space [www.hearthisspace.com].

<sup>&</sup>lt;sup>36</sup> Any smart-phone or device with a camera and access to the Internet can read and access the information stored within QR codes. Obviously however, there are certain challenges with regard to mobile phone signals and concert equipment that might make such a system less desirable in practical terms for general use, but the information solicited from employing such a system would be very desirable and revealing with regard to audiences desires for, and the most appropriate forms of, contextual information.

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