

Conceptualising Musical Graphic Performance: An Investigative Journey
of Self-Reflective Artistic Practice and Autoethnography

Thesis

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Abstract

This thesis seeks to answer the question: how do performers engage with musical graphics? Musical graphics problematise the authorship hierarchies between performer and composer by challenging the documentative and communicative functions of musical notation. It is the central contention of this thesis that performing musical graphics involves a process of modal transfer, where the performer decodifies the visual elements of the score into referents, which are then consolidated into a conceptual analogue through processes of decodification, world building and musical ekphrasis. Then, once the conceptual analogue has been formed, the performer engages with a reflexive loop between it and the musical materials, through a process of hermeneutic playfulness. In addition, this thesis answers a range of secondary research questions: how do performers experience the creative processes of preparing and performing musical graphics? Are there identifiable differences in the experience of performing musical graphics between beginners and experienced performers? What is it that a performer learns as they become more experienced? How do performers recognise whether they are engaging with musical graphics effectively? What is the role of improvisation in the performance of musical graphics?

The thesis is in three parts. Part I contextualises musical graphics and discusses the musical and extra-musical tools used to analyse how performers engage with musical graphics. Part II comprises two case studies. The first case study consists of a performances of two musical graphics by the English visual artist Janet Boulton, involving me on the bassoon and the composer and sound artist Samuel Rodgers on live electronics and bowed cymbals. The second case study consists of four workshops, led by the Danish composer and performer Carl Bergstrøm-Nielsen, involving composition and jazz students from the Royal Birmingham Conservatoire. Part II ends with analyses of the performances, which resulted from the two case studies. The creation of a musical graphic performance conceptualisation pipeline is the focus of Part III, which lays out the creative processes involved in preparing and performing musical graphics and the relationships between them. Each creative process is addressed in turn, to provide the insights required to answer all of the research questions within the conclusion of this thesis.

Dedicated to Theresa Sauer.

Without whose support this thesis would not have been possible.

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Conceptualising Musical Graphic Performance: An Investigative Journey of Self-Reflective Artistic Practice and Auto-ethnography

Introduction

0.1 Primary and Secondary Research Questions

This thesis is an exploration of musical graphics and how performers engage with them. In particular, it is exploring musical graphics from the performer's perspective, with a primary research question, which is:

How do performers engage with musical graphics?

Systems of musical notation function principally as tools of communication, which enable the dissemination and documentation of musical information and script performances to varying degrees of exactitude. Although the type of scores addressed in this thesis are referred to as 'musical graphics', for reasons discussed below (p.6), many written forms of musical notation can also be described as graphic, in the sense that they contain drawn elements on paper. However, musical graphics have abandoned the notational conventions which have been established over the last millennium, because they consist of pictorial materials which operate as visual stimuli for performers to respond to by creating musical materials. They thereby place the onus for creative responsibility on the performer and challenge the standard creative processes involved in interpreting and performing musical scores. Yet, it is a central contention of this thesis that research into musical graphics has focused on their visual appearance

and compositional issues and has neglected the study of how performers engage with them; and it is this area which is explored in this thesis.

Nested within the primary research question, posed above, are four secondary research questions, which will be addressed in the process of meeting the objectives of this study:

1. How do performers experience the creative processes involved in preparing and performing musical graphics?
2. Are there identifiable differences in the experience of performing musical graphics between beginners and experienced performers? If so, what is it that a performer learns as they become more experienced?
3. How do performers recognise whether they are engaging with musical graphics effectively?
4. What is the role of improvisation in the performance of musical graphics?

The first of these secondary research questions addresses the phenomenological aspects of engaging with musical graphics which, although not the primary focus of this study, is critical for contextualising and explaining the actions and behaviours of other performers in each of the performance analyses, conducted in Part II of this thesis. The second and third of these questions will be reflected on throughout the thesis, because it is not possible to gain an effective understanding of how performers engage with musical graphics without also understanding how their skill and experience level affect how they engage with them. No preparation session or performance happens in a vacuum and awareness of the effect of performers' backgrounds should not be ignored. Finally, it is necessary to clarify the role of improvisation in the performance of musical

graphics, as incorrectly identifying and labelling the creative processes could present challenges to the outcomes of this thesis.

This is primarily a text based thesis, although there are recordings of workshops and performances of musical graphics supplied with it, which will be referred to throughout. The thesis is divided into seven chapters and is split into three parts. Part One sets the context and framework for the investigation and is made up of two chapters. Chapter One contextualises musical graphics by exploring their history and reviewing the performance literature to expose the current gaps in understanding of how performers engage with musical graphics. Chapter Two discusses the extra-musical tools which are used to tackle the research questions upon which this research is based.

Part II of this thesis focuses on analysing the recordings of the workshops which make up the two case studies, arranged specifically for this investigation. Chapter Three addresses the first case study, which examines the preparation of responses to two musical graphics created by the English visual artist, Janet Boulton (b. 1936), titled *Red Missal* (2013), *Early Music 1* (2005) and *Jam Jars in a Window* (2011). The entire process of engaging with her musical graphics, from setting up the session in Boulton's Studio to selecting the final recordings for online publication, is analysed and reflected upon. Chapter Four addresses the second case study and analyses four different workshops that were led by the Danish performer and composer, Carl Bergstrøm-Nielsen (b. 1951), at the 2014 Frontiers Festival in Birmingham. Alongside personal reflections of the workshops, analysis of interview material from Bergstrøm-Nielsen and wider perspectives from a round table discussion are discussed. Chapter Five

analyses recordings of the resulting performances of the workshops from the two case studies, which all took place at the Library of Birmingham. Ethical consent forms signed by Samuel Rodgers and Carl Bergstrøm-Nielsen can be found in Appendix 9 (p. 272).

Part Three conceptualises the communication flow between performers and musical graphics and concludes on the investigation as a whole. Chapter Six presents a musical graphics conceptualisation pipeline to explain the communication flow between performers, musical graphics and composers and help clarify the relationships between them. The pipeline is a central output of this thesis and lays out the creative processes performers use to engage with musical graphics chronologically, as performers experience them in the moment of performance. The pipeline is constructed from the creative processes outlined in the early sections of Chapter Six. Chapter Seven provides answers to the primary and secondary research questions and raises further research questions and avenues for study.

The audio recordings and written transcripts of the workshops and performances, which make up the two case studies, are found on the supplied Memory Stick and are, in varying ways, integral to this thesis. Tracks 1 to 4 on the Memory Stick are recordings of the workshops that make up the first case study. Tracks 5 to 9 are recordings of the workshops which comprise the second case study. Tracks 10 to 14 are recordings of the performances that resulted from all of the workshops, which are analysed in Chapter Five. Track 15 is a recording of a round table discussion session, which I chaired at the Frontiers Festival in Birmingham in 2014. Track 16 is a recording of an interview I

conducted with Carl Bergstrøm-Nielsen, the leader of the workshops in the second case study. The point at which each track should be listened to is indicated in each chapter. Material from the chaired discussion and the interview are not analysed directly in this thesis, but are referred to throughout to complement the performers' perspectives in the two case studies. There are also written transcripts of the discussion session and the interview, which can be found in the appendices. Analysis of the supplied recordings and transcripts offers opportunities both to clarify how the ways in which performers engage with musical graphics manifest in the resultant musical materials and track their evolution throughout the creative process.

0.2 Defining Terminology

As mentioned above, the type of score under investigation challenges the established conventions of creating and performing musical notation. The terminologies used in this thesis, specifically those which refer to the scores themselves and the practices of creating them and engaging with them, therefore require clarification. The type of score under analysis are referred to in this thesis as 'musical graphics', a term coined by the Polish composer Roman Haubenstock-Ramati (1919-1994), for the first ever exhibition of graphic scores in Donaueschingen, Germany, in 1959. Although he coined the term, Haubenstock-Ramati does not attempt to formally define it himself. However, he does describe musical graphics as 'a provocation to improvisation that has again brought to life in our time something musically true and unique'.¹ He is specific in identifying that musical graphics provoke the performer to improvise rather than compose and the

¹ Roman Haubenstock-Ramati and Katherine Freeman, 'Notation, Material and Form', *Perspectives of New Music*, 4.1 (1965), p. 44.

importance of this distinction is a prevailing theme throughout this thesis.

There have been several attempts made by musicologists to define musical graphics, which help to lay the ground work for this thesis by identifying some of the fundamentals of how musical graphics operate and how performers engage with them. In his 1968 article, 'The new musical notation: A graphic art?' the American musicologist John Evarts (1909-1984) states that performing musical graphics involves producing sound pictures, which are analogous to the graphic score being interpreted.² He also writes that musical graphics only contain 'purely approximative musical evolutions and developments', which are designed to make the performer 'discover and make felt the facets and relations of sound, of perpetually new sound events'.³ Evarts' definition identifies that the musical materials produced in response to a musical graphic indirectly represent the visual content of the score, in an analogous transfer of modality from the visual domain to the auditory. He is also, unlike Haubenstock-Ramati, not specific in stating that musical graphics require an improvised response and allows for the inclusion of scores which contain approximative guides, but does not clarify how prescriptive they can be. Moreover, he identifies that musical graphics are not fixed musical works, but instead require the performer to discover a potentially infinite number of sound events and facets of sound each time they engage with the score.

In a similar vein to Evarts, the German musicologist Erhard Karkoschka (1923-2009)

² John Evarts, 'The New Musical Notation: A Graphic Art?' *Leonardo*, 1.4 (1968), p. 405.

³ Evarts, 'The New Musical Notation', p. 412.

identifies that musical graphics act as a stimulus, but goes further by stating that they do not constrain the performer's imagination.⁴ He writes that they are diametrically opposed to precise instructions and can be used as reading material by the uninitiated, as their 'interpretative details have an enriching effect'.⁵ Nikša Gligo (b. 1946) points out that Karkoschka's remark about musical graphics functioning as reading materials does not mean that he is suggesting that they function as 'scores for listening', which are graphic aids to help the listener to follow a piece of music.⁶ In fact, they function in opposite ways to each other because musical graphics stimulate the performer to produce a musical response, whereas scores for listening guide the listener through an existing musical work. Karkoschka provides the following taxonomy of the scores which lie between precise instructions and musical graphics:

- a) Exact framework with subordinate graphic effects.
- b) Dominating graphic effects with a few precise indications.
- c) Graphics
 - 1. With } Pitch and duration lattice
 - 2. Without }
 - 3. Free choice between 1 and 2.⁷

He suggests that all performers should make their own similar surveys so they can

⁴ Erhard Karkoschka, *Notation in New Music: A Critical Guide to Interpretation and Realisation* (London: Preager, 1972), p. 77.

⁵ Karkoschka, *Notation in New Music*, p. 77.

⁶ Nikša Gligo, 'Graphic notation and musical graphics: The nonnotational sign systems in new music and its multimedial, intermedial, extended-medial, and mixed medial character', in *Semiotics of the Media: State of the Art, Projects, and Perspectives* ed. Winfred Nöth (Berlin: Mouton de Gruyner, 1997), p. 743.

⁷ Karkoschka, *Notation in New Music*, p. 78.

‘correctly assess the page in front of them from the entire range of possibilities’.⁸ Musical graphics reside within categories b and c2 and c3, although the effect of precise indications and pitch and duration lattices on the classifications of individual scores depend on the degree to which they script the performance. For example, Anestis Logothetis’ (1921-1994) *Ichnologia* (1964) contains complex visual materials which function as pictorial stimuli but, as Michael McInerney points out, the score is not the basis of an improvised response, as ‘though spontaneity is welcomed, it is always within a prescribed frame’.⁹ Consequently, Logothetis regards the piece as a graphic notation system.

Karkoschka also breaks down the musical function of the graphical content of scores into five categories:

1. Graphic elements: Largely determined signs and processes with a low margin for individual decisions on the part of the performer.
2. More or less undefined drawing: but the eye is guided, either by means of lines or line like structures, or by means of graphic or verbal aids.
3. Undefined signs, neither beginning, nor end; no direction of reading is indicated or recognizable either, but the picture should be transformed into music immediately or associatively.
4. The graphic cannot be played, but influences in some, perhaps not even describable form, the player during the performance.

⁸ Karkoschka, *Notation in New Music*, p. 77.

⁹ Michael McInerney, *Performance and the Page: An Artist’s investigation of the dialogue between the musical event and the written score* (unpublished doctoral thesis, University of Plymouth, 2007), p. 143 <http://pearl.plymouth.ac.uk/pearl_jspui/bitstream/10026.1/826/6/497745_VOL1.pdf> [accessed 3 March 2010].

5. The graphic is not at all meant to be transformed into music, but owes its qualities to a musical or quasi-musical aesthetics.¹⁰

The distinctions he makes between the second, third, fourth and fifth categories are not clearly defined, especially if the creator of the musical graphic does not stipulate that lines on the page should guide the performer's eye or that the score should not be performed at all. For example, Janet Boulton, the creator of *Eye Music* series addressed in the first case study, is a visual artist and clearly expresses that she did not consider how the form and content of her pieces would affect the performer. However, she has stated that she is happy for performers to respond to her pieces, although she does not provide explicit verbal instructions to state that her pieces may be responded to.¹¹

Gligo states that 'it is of course understandable that not just any graphic can be a musical graphic', and explains that the reason is that musical graphics operate via the use of drawings, whereas notation operates via the use of sign systems.¹² However, in practice, distinguishing the ambiguity of drawings is not always straightforward. For example, the use of shapes which resemble plain chant notation in Boulton's musical graphics blur the boundary between pictorial stimulus and notation system (See Fig.3.5). Further examination of Karkoschka's categorisation of musical graphics requires discussion of the semiotics of musical symbols and the metaphysics of both the musical work and visual art, which are outside the remit of this thesis.

¹⁰ Erhard Karkoschka, 'Leon Schidlowsky's Dadayamasong', in *Graphic Music* ed. David Schidlowsky (Munich: Tutzing, 1980), p. 137.

¹¹ Boulton's explanation of her position on performers interpreting her work can be found in Appendix 7, p. 256.

¹² Gligo, 'Graphic Notation and Musical Graphics', p. 743.

The English musicologist Brian Inglis (b. 1990) has developed his own taxonomy which expands on Karkoschka's by adding further categories which distinguish between single and multiple page scores and the use of verbal instructions.¹³ His taxonomy also uses abbreviations for each of the categories, which can be combined so that scores can be quickly and easily classified. I, II and III refer to the extent of musical symbols within the score; 1 refers to single page scores and 2 refers to multiple page scores; 'a' and 'b' within scores that lack musical signs refer to usage of pitch and duration axes, whereas the same abbreviations within scores that incorporate musical signs refer to the symbolic meaning of those signs.¹⁴ Inglis states that scores which do not contain pitch or duration axes or graphics with symbolic meaning are the 'purest' form of graphic score. Boulton's *Eye Music Series* and Sauer's *Circle Series*, addressed in the two case studies in Part II of this thesis, both fall into this purest form of graphic score, which are categorized as I.1.a.i. Christensen's *Graphic Pieces*, also in the second case study, falls into I.1.a.ii, because he includes verbal instructions with the scores. *Threads* is categorized as II.1.a.ii because it contains some musical signs, but they are not all symbolically meaningful, and it contains some verbal information.

The reason why no category III scores were chosen for the case studies in this thesis was because their focus was to analyse how performers engage with scores which contain little or no musical signs or prescriptive graphic elements. Using hybrid notation systems would therefore have further complicated the research gathering

¹³ Brian Inglis, 'Towards an analytical framework for graphic scores, and a proposed typology', Presentation given at 'Putting the Graphic in Music – Notation, Analysis & Performance', 2015, Senate House Library, University of London. Available at: <http://eprints.mdx.ac.uk/25905/> [accessed 7 April 2016].

¹⁴ Inglis, 'Towards an analytical framework for graphic scores', p. 7.

process, because the analyses of the case studies would have needed to distinguish between how performers engage with both musical and non-musical signs, which might not even be possible in some cases. Using a more semiotic approach, the Austrian composer Walter Gieseler (1919-1999) defines musical graphics as paintings or drawings which convey meaning ‘not because of its use of signs and symbols, but because of its special aesthetic quality’, in contrast to notations which are, ‘generally, systems of signs/symbols’ related to semiotics.¹⁵ The limitation of his definition is that he does not explain what is special about their aesthetic quality or how performers produce musical material from them. He also only refers to musical graphics as paintings or drawings and does not explain why other visual artistic mediums which convey the ‘special aesthetic quality’ he describes, such as sculpture or photography, are not included.

I Graphics lacking musical signs	II Graphics incorporating some musical signs	III (Determinate) graphic elements hybridised with conventional signs/meaning
1 single page		
2 multiple pages		
a) No axes (‘pitch and duration lattice’) implied	a) Not (necessarily) usual symbolic meanings	
b) Axes implied	b) Usual symbolic meanings	
i) No verbal information (instrumentation/instructions/explanations)		
ii) With verbal information (instrumentation/instructions/explanations)		

Fig 0.2, ‘Graphic Score Typology’, Brian Inglis.¹⁶

¹⁵ Walter Gieseler, *Zur Semiotik Graphischer Notation* (Germany: Schott Music, 1978), p. 30.

¹⁶ Inglis, ‘Towards an analytical framework for graphic scores’, p. 7.

A recent attempt to define musical graphics comes from the German musicologist Julia Schröder (b. 1974), who defines them as having ‘their own aesthetic value as visual art and do not have to be defined through their translatability into music’.¹⁷ She writes that ‘musical graphics are composed not with the intent of producing concrete music; they may, however, be translated into music’.¹⁸ The advantages of using Schröder’s definition as the basis of this thesis is that she makes it clear that musical graphics do not have to be created with an explicit musical function and so allows for graphics that are created by visual artists, who might not have a musical background, which is necessary for Boulton’s pieces addressed in the first case study. She also refers to the process of engaging with musical graphics as ‘translating them into music’, which, like Evarts’ definition, identifies that there is a representational relationship between the visual materials in a musical graphic and the musical materials the performer creates in response to them.

Musical graphics have been given a range of different labels by musicologists and practitioners, including ‘self-invented scores’,¹⁹ ‘pictograms’,²⁰ and ‘glyphs’.²¹ None of these terms have reached the same level of adoption as ‘musical graphics’ and are typically used in an informal capacity by practitioners, to affectionately describe their own works. Therefore, the popularity of the term ‘musical graphics’ by performers and musicologists is the reason why it has been chosen for this thesis. However, musical

¹⁷ Julia Schröder, ‘Graphic Notation and Musical Graphics. Between Music Notation and Visual Art’, In Daniels and Naumann eds., *See This Sound, Audiovisuology Compendium* (Cologne: Walter König, 2010), p. 150.

¹⁸ Schröder, ‘Graphic Notation and Musical Graphics’, p. 150.

¹⁹ Theresa Sauer, *The Extant “Composer”* (Originally submitted to the Art Writers Grant, New York, in 2013), kindly supplied by the author.

²⁰ Sylvia Smith, ‘Visual Music’. *Perspectives of New Music*. 20.1, pp. 75-93.

²¹ Robert Arnold, *There’s No Sound In My Head* (Lateral Films, 789, 2010) [on DVD].

graphics are also referred to throughout this thesis as ‘scores’, with the awareness of the etymological issues of the meaning of the term, referring to the vertical arrangement of notes on stave lines.²² The reasons for using the term is that its meaning, as the written representation of a musical work, is universally understood and so is helpful to distinguishing the visual material in musical graphics from visual stimuli in the performance environment. It is also helpful to use the term ‘score’ to separate musical graphics from performer’s conceptualisations of them, particularly if the conceptual materials are not realised musically. However, there is not the scope within this thesis to resolve the nomenclatural issues which have been identified. Further study, based on the creative processes identified in this thesis, is therefore required in order for alternative terminologies to be established.

The post-World War II notational developments categorised by Karkoschka²³ and Inglis,²⁴ discussed above, form parts of the broader fields of performance and compositional practices known as ‘musical indeterminacy’, which comprises aleatorism, open form and mobile musical structures. Whilst musical graphics involve a high degree of indeterminacy, it is important that they are not conflated with indeterminate music (also known as chance music) of the form associated with John Cage (1912-1992). Cage defines indeterminate music as, ‘the ability of a piece to be performed in substantially different ways – that is, the work exists in such a form that the performer is given a variety of unique ways to perform it’.²⁵ The type of score to

²² Kathleen Coessens, *Sound & Score: Essays on Sound, Score and Notation* (Belgium: Leuven University Press, 2013), p. 61.

²³ Karkoschka, *Notation in New Music*, p. 78.

²⁴ Inglis, ‘Towards an analytical framework for graphic scores’, p. 7.

²⁵ James Pritchett, *The Music of John Cage* (Cambridge: University of Cambridge Press), p. 108.

which Cage refers therefore differs from musical graphics, because, as Guy de Bièvre (b. 1961) points out, the terms “aleatoric” or “indeterminate” apply only to works the content of which are subjected to chance, which is something very different from leaving decisions to the discretion of the performer’.²⁶ Discussion of this kind of indeterminate music is therefore avoided in this thesis because the conceptualisation of how performers engage with musical graphics, presented in Chapter Six, places the creative responsibility for the musical materials on the performer. Therefore, it was important not to compromise it by inferring that musical graphics give the performer a set of defined musical pathways.

The terms ‘open form’ and ‘mobile’ are attributed to the American composer Earle Brown (1926-2002), who began using them in the early 1950s to describe a development in his compositional approach which produced a wide range of works that give performers considerable interpretative freedom. Whilst the term ‘open form’ is often used loosely,²⁷ Brown is very specific about his usage of the term. He states that the first truly open form work he created is *25 Pages*, which was composed in June 1953, six months after he had created *December 1952*, the first ever musical graphic.²⁸ Instead, he refers to *December 1952* as the first ‘graphic scores’ and ‘improvisational scores’.²⁹ His explanation for making the distinction is that open form works cannot contain formal structures because the use of prescribed, aleatoric or improvisatory

²⁶ Guy de Bièvre, ‘Open, Mobile and Indeterminate Forms’. [PhD Thesis, 2011] <<https://bura.brunel.ac.uk/bitstream/2438/6361/17/FulltextThesis.pdf>> [accessed 17 September 2012], p. 8.

²⁷ de Bièvre, ‘Open, Mobile and Indeterminate Forms’, p. 8.

²⁸ de Bièvre, ‘Open, Mobile and Indeterminate Forms’, p. 11.

²⁹ Earle Brown, ‘On December 1952’, *American Music*, 26.1 (2008), p. 7.

passages within a ‘larger predetermined formal structure’ is the antithesis of open form composition.³⁰

The open work is also a concept associated with the Italian philosopher Umberto Eco (1932-2016), who defines it as ‘an artwork in dynamic movement or process without a fixed ending or fixed meaning’.³¹ In his writings on the open work concept, Eco does not cite any specific examples of musical graphics, but he refers to the compositional developments which led to ‘considerable autonomy left to the individual performer in the way he chooses to play the work’, which result in acts of ‘improvised creation’.³²

This thesis is a study of ‘performance’ and ‘performers’, and although the challenges that musical graphics present to the meaning of both of these terms has already been identified, alternatives are not put forward. Putting forward new terminology would be a distraction from tackling the research questions, which themselves lay the foundations for new terms to be proffered. New terminology could also raise new practical and philosophical issues for the conceptualisation pipeline in Chapter Six and thus cause more problems than it would solve. Regardless, it is still important to be aware that the current terminology does not adequately express the complex relationship of performance and improvisation that engaging with musical graphics requires.

To mitigate conceptual issues with the terminology used to refer to the creation and realisation of musical graphics, practitioners and musicologists often replace the term

³⁰ de Bièvre, ‘Open, Mobile and Indeterminate Forms’, p. 11.

³¹ Umberto Eco, *The Open Work* (Cambridge, Massachusetts: Harvard University Press, 1989), p. 1.

³² Eco, *The Open Work*, p. 1.

‘perform’ with ‘render’,³³ ‘translate’³⁴ or ‘respond’,³⁵ the term ‘compose’ with ‘create’,³⁶ ‘make’³⁷ or ‘develop’;³⁸ and the term ‘score’ with ‘graphic’³⁹ or ‘image’.⁴⁰ These terms are used at various points through the thesis, as although they are ultimately interchangeable, they each have subtly different meanings, which suit specific contexts. For example, ‘render’ has the connotation of the direct transfer of visual materials into musical materials, whereas ‘translate’ has linguistic connotations and ‘response’ implies reference to the performer’s holistic engagement with the score.

0.3 Separating Musical Graphics from other forms of Graphic Score

The term ‘graphic score’ is typically used as a catch all term to cover all non-standard approaches to musical notation.⁴¹ As almost all musical notation can be considered ‘graphic’, in the sense that it is visual and written on paper, the term ‘graphic score’ emerged to refer to scores which are neither purely text based nor use staff notation. As mentioned above, musical graphics are a subcategory of extremely abstract graphic scores which, using Schröder’s definition selected above, ‘do not have to defined by

³³ Mark Applebaum, *The Mad Scientist of Music* (2012), online video recording, Ted.Com, 3 August 2012 <http://www.ted.com/talks/mark_applebaum_the_mad_scientist_of_music> [accessed 17 February 2014].

³⁴ Roman Haubenstock-Ramati, ‘Notation, Material and Form’, *Perspectives of New Music*, 4.1, p. 39.

³⁵ Tom Phillips, *Playing pictures: the wonder of graphic scores* (2013) Guardian Website, 7 October 2013 <<https://www.theguardian.com/music/2013/oct/07/graphic-music-scores-playing-pictures-tom-phillips>> [accessed 23 March 2015].

³⁶ Theresa Sauer, *Notations 21* (London: Mark Batty, 2009), p. 2.

³⁷ Christopher Cox and Daniel Warner (eds.), *Audio Culture: Readings in Modern Music* (New York: Continuum, 2006), p. 187.

³⁸ Rebecca Kim (ed.) *Beyond Notation: The Music of Earle Brow* (Ann Arbor: University of Michigan Press, 2017), p. 30.

³⁹ Miguelàngel Clerc, *Sound & Score: Essays on Sound, Score and Notation*, ed. Virginia Anderson (Belgium: Leuven University Press, 2013), p. 117-136.

⁴⁰ Carol Vernallis, Amy Herzog and John Richardson, *The Oxford Handbook of Sound and Image in Digital Media* (New York: Oxford University Press, 2013), pp. 270-277.

⁴¹ Miguelangel Clerc, 'The In(visible) Sound', in *Sound & Score: Essays on Sound, Score and Notation*, eds. Paulo de Assis, William Brooks and Kathleen Coessens (Belgium: Leuven University Press, 2013), p. 110.

their translatability into music'.⁴² Musical graphics make up one of the two main subcategories within graphic scores, the other being graphic notation. It is then the degree of the notative prescription which dictates which subcategory a score fits into. Scores that mix graphic notation, staff notation and abstract graphics fall in between the two subcategories.

The boundaries between what constitutes a graphic score and what does not is not applied consistently and it is a point of disagreement amongst academics whether any indeterminate graphic scores can be referred to as notation. For example, Nelson Goodman demonstrates that indeterminate text and graphic scores are not notations by taking a 'line and dot' notated section of Cage's *Concert for Piano and Orchestra* (1958), where performers measure the proximity between the lines and dots to indicate a range of musical elements. He argues that it is not notation because, 'without some minimal stipulation of minimal significant units of angle and distance, the syntactic variation is wanting'.⁴³ Virginia Anderson (b. 1936) points out that this leaves musical graphics 'in a kind of limbo', because most do not contain 'fixed syntactic differentiation'.⁴⁴ However, Anderson disagrees with Goodman and argues that the fact that they are 'created by people and passed on paper for other people to play' means that 'they work too much like scores to be purely improvisational' and 'their idea transmission is too much like notation to be purely conceptual'.⁴⁵

⁴² Schröder, 'Graphic Notation and Musical Graphics', p. 151.

⁴³ Anderson, in *Sound & Score*, p. 136.

⁴⁴ Anderson, in *Sound & Score*, p. 136.

⁴⁵ Anderson, in *Sound & Score*, p. 136.

The musical graphic performance conceptualisation pipeline presented in Chapter Six is an attempt to remove musical graphics from the limbo position which Anderson describes. Composers also challenge the distinctions between musical graphics and graphic notation by experimenting with mixtures of notation systems and abstract graphics. For example, Henrik Ehrland Rasmussen's *Threads*, which is a musical graphic addressed in the second case study, contains sections of staff notation and graphic notation, as well as a section of abstract bubbles and a section of interweaving lines with no instructions other than the duration (in seconds) of each section.

The often dense and abstract nature of the content in musical graphics has led critics to suggest that they are overly indulgent, utopian and fanciful.⁴⁶ However, these criticisms are arrived at from the perspective of musical graphics failing to document and communicate musical material in the same manner as standard music notation, which is not a suitable measure by which to assess them. Rather, it is the contention of this thesis that performing musical graphics involves a process musical ekphrasis, defined by Siglund Bruhn (b. 1951) as 'a representation in one medium of a real or fictitious text composed in another medium'.⁴⁷ It is this act of representing texts through a transfer of modality, from a visual medium to an auditory medium, that separates musical graphics from other types of graphic score. The visual content is therefore functioning as a stimulus for the performer's creative vision rather than as documentation of the composer's creative vision. In order to form the ekphrastic response, this thesis makes the case that performers first analyse the content of musical

⁴⁶ This refers specifically to Karkoschka's (1972) and Evarts's (1968) criticisms of musical graphics.

⁴⁷ Siglund Bruhn, *Musical Ekphrasis: Composer's Responding to Poetry and Painting* (New York: Pendragon Press, 2005), p. 42.

graphics and its arrangement and then conceptualise imaginary worlds from which the musical materials are derived. Performers then play with the relationship between the conceptual and musical materials they have created to develop the conceptual material further.

Research into the performance of musical graphics is still very much in its infancy. Therefore, while this thesis sets out to cover considerable ground, this is just a beginning. There are areas outside the scope of this thesis that remain necessarily unexplored, performers' experiences which were not able to be gathered, and other perspectives and performances that have not been able to be assessed. However, the hope is that the insights drawn from my experiences, and the practitioners that I have performed with and interviewed, will enable more performers to make sense of how musical graphics operate and provide them with a framework within which they can effectively deal with the challenges that they present.

Part I: Background and Context

Chapter 1 – Contextualising Musical Graphics

1.1 Introduction

Contextualising the emergence of musical graphics, and performers' approaches to engaging with them, is the first layer of ground work that needs to be laid in order to begin answering the primary research question of this thesis: How do performers engage with musical graphics? This chapter offers an understanding of how and why musical graphics emerged in the early 1950s and briefly explores a range of the most influential scores and performers. This exploration is necessarily limited, as it is not possible, within the remit of this thesis, to provide a definitive history of all musical graphic developments and performances of them.

This chapter begins by discussing the emergence and early development of musical graphics, starting with Earle Brown's 'December 1952', his motivations for writing it. Notable performances by the influential pianist David Tudor (1926-1996), who is performer most associated with the piece. Following that is a discussion of early European developments, focusing on the work of Roman Haubenstock-Ramati (1919-1994), Sylvano Bussotti (b. 1931) and Cornelius Cardew (1936-1981).

The second section of this chapter then charts the late twentieth to early twenty first century developments, focusing on the musical graphics of composers Ishmael Wada Leo Smith (b. 1941), Mark Applebaum (b. 1967), Christian Marclay (b. 1955) and Elliott Sharp (b. 1951). Historical discussion then concludes with a brief look at Claudia Molitor's (b. 1974) sculptural scores, Jez Riley French's (b. 1965) photographic scores and Pedro Rebelo's (b. 1972) virtual scores and assesses how performers navigate the

challenges of engaging with these newer forms of musical graphics.

The third section of this chapter explores the current body of research into the performance of musical graphics and investigates why analysis of how performers engage with musical graphics is scant, particularly accounts of the process from first rehearsal through to performance. While composers' expressed motivations for creating their works will be discussed throughout this chapter, as well as their intentions for how they would prefer performers approached their works, it is often not possible to know for sure exactly what was discussed in each rehearsal or isolate what each performer's individual experience was of engaging with a score. In light of the inaccessibility of the thought processes of many performers, a small selection of available direct accounts from performers, as well as wider related literature, will be explored to indicate gaps in the understanding of performers' experiences and practices. Perspectives from the fields of performance and improvisation studies, are then offered up as a starting point for addressing these gaps, which will be supplemented by rehearsal, workshop and performance analyses in later chapters.

1.2 The Emergence and Early Development of Musical Graphics

In 1948, Earle Brown attended exhibitions of the sculptural mobiles of Alexander Calder (1898-1976) and the intuitive paintings of Jackson Pollock (1912-1956). He writes that he was inspired by their work to start thinking of new notational possibilities that would allow for a 'highly spontaneous performing attitude – improvisational

attitude, that is - from a score which would have many possibilities of interpretation'.⁴⁸ In the final few months of 1950, Brown began to sketch numerous new notational concepts in a notebook. The culmination of this period of exploration was the writing of *Folio and Four Systems*,⁴⁹ a collection of works that Brown describes as 'the first scores which could be called graphic scores in our particular period of contemporary music and the first improvisational scores'.⁵⁰

December 1952 (see Fig 1.1) was the centrepiece of this collection and is made up of thirty-one black lines of horizontal and vertical orientation, and varying degrees of thickness, on a white background, to be performed by 'one or more instruments and/or sound-producing media'.⁵¹ Also in the collection are 'October 1952', which is traditionally notated but has all of the rests removed, and 'November 1952', where the spacing between the stave systems is removed.

Brown states that *December 1952* is the first example of a mobile and improvisatory graphic score.⁵² It is one of his best known works and has been performed everywhere from Darmstadt to Carnegie Hall.⁵³ Jane Alden describes it as 'a work that changed the course of the history of notation: a score without precedent'.⁵⁴ However, Brown himself

⁴⁸ Brown, 'On December 1952', p. 1.

⁴⁹ Earle Brown, 'December 1952', in *Folio and Four Systems* (New York: Associated Music Publishers, 1954).

⁵⁰ Brown, 'On December 1952', p. 7.

⁵¹ Earle Brown, 'December 1952', score notes.

⁵² Brown, 'On December 1952', p. 7.

⁵³ The Carnegie Hall performances involved Margaret Leng Tan as piano soloist in April 2002 and then a month later she performed the score in the same venue with Joan La Barbara, voice; Margaret Leng Tan, piano and the Flux Quartet.

⁵⁴ Jane Alden, 'From Neume to Folio: Mediaeval Influences on Earle Brown's Graphic Notation', *Contemporary Music Review* (2007), p. 7.

expresses chagrin that the score's popularity has meant that 'everyone wants to reproduce "December 1952" and the graphic things'.⁵⁵ He is therefore keen to point out that his experimentation with open form musical structures in the 1950s was only one period in his compositional life, which is why he stated during an interview that he 'has never understood why people put me into a box and throw me away'.⁵⁶



Fig 1.1, Earle Brown, *December 1952*.⁵⁷

In the accompanying instructions for *December 1952*, Brown instructs that the score 'may be performed in any direction from any point in the defined space for any length of time and maybe performed from any of the four rotational positions in any sequence'.⁵⁸ He also writes that 'the thickness of the event indicates the relative intensity of the sound and, if possible, clusters'.⁵⁹

⁵⁵ Elizabeth Hoover, 'Beyond Notation: The Music of Earle Brown', p. 330.

⁵⁶ Hoover, *Beyond Notation*, p. 330.

⁵⁷ Earle Brown, 'December 1952', score.

⁵⁸ Earle Brown, 'December 1952', score notes.

⁵⁹ Earle Brown, 'December 1952', score notes.

To explain how performers should engage with the score, Brown provides the following notebook entry in the instructions which accompany the score, dated October and November 1952 and written under the title ‘Synergy’, which also applies to *Folio and Four Systems* as a whole:

...to have elements exist in space... space as an infinitude of directions from an infinitude of points in space...to work (compositionally and in performance) to right, left, back, forward, up, down, and all points in between... the score [being] a picture of this space at one instant, which must always be considered as unreal and/or transitory... a performer must set all this in motion (time), which is to say, realize that it is in motion and step into it.⁶⁰

This description shows how evocatively Brown intends performers to conceptualise the movement of the rectangular shapes around them. To help performers gain the intimacy of relationship with the score required for such a high degree of conceptual engagement, he states that ‘it is primarily intended that performances be made directly from this graphic “implication”’, with each performer engaging with their own copy, and ‘no further preliminary defining of the events, other than an agreement as to the total performance time’, can take place.⁶¹ However, he adds the caveat that further defining of events is allowable, along as the ‘imposed determinate system is implicit in the score’ and within the notes which accompany the score.⁶²

⁶⁰ Brown, ‘On December 1952’, p. 4.

⁶¹ Earle Brown, ‘December 1952’, score notes.

⁶² Earle Brown, ‘December 1952’, score notes.

Brown writes that he is unable to explain exactly what motivated him to write *December 1952*, but states that his experiences as a trumpeter and jazz musician could explain what sets his work aside from his contemporaries John Cage, Morton Feldman (1926-1987) and Christian Wolff (b. 1934), who came to form what is known as the ‘New York School’ of composers:

People would like to know about this piece, and so would I! Why would one, namely me, try to do such a thing as this piece? I don’t think anyone can trace the origins of a new idea, or the psychology of why one person does it rather than another—except within the experience of myself in relationship to composers that I met in New York, such as Cage and Feldman and Wolff, the four of us sort of being the first aleatoric composers. But one characteristic of me—which is very distinct from any of their histories or tendencies as far as I know—is that I began being a musician as a trumpet player, and playing a lot of jazz.⁶³

He makes it clear that his compositional style was not influenced stylistically by jazz, but rather he was inspired by his experiences of performing jazz to consider ‘flexibility and improvisatory aspects of music’.⁶⁴ Moreover, Richard Taruskin (b. 1945) points out that ‘December 1952 was written under the direct impact of Cage’s 4’33, which had its premiere (by David Tudor) in August of that year’.⁶⁵ Taruskin also

⁶³ Brown, ‘On December 1952’, p. 2.

⁶⁴ Brown, ‘On December 1952’, p. 6.

⁶⁵ Richard Taruskin, *Music in the Late Twentieth Century: The Oxford History of Western Music* (New York: Oxford University Press), p. 232.

writes that the two works share a ‘vague and conceptual character’ and by ‘turning the piece into a kind of inkblot test’, Brown was ‘letting back in all the memories, tastes and dislikes, that Cage had zealously sought to exclude’ from his compositional practice.⁶⁶ Furthermore, Brown states that he did not ‘believe that Cage or Feldman or Wolff ever played jazz’,⁶⁷ which, he suggests, is what led Cage to react to *December 1952*, in manner Brown describes as ‘highly dubious, to say the least’.⁶⁸ Another of Brown’s explanations for the difference of opinion between him and Cage, was that Cage was focused, at this time, on achieving ‘a high degree of control’, which ‘eliminates almost totally the possibility of the performer being flexible, or of multiple interpretations of the performance itself’.⁶⁹ Conversely, Brown saw his compositional work as ‘putting something together that would provoke performers to work together and to react to their own poetics, their instant communication with themselves and with the people around them’.⁷⁰

Brown also writes that Cage once remarked to him that the issue he would face with *December 1952* was that ‘you’re just going to find that everybody will play their own clichés’.⁷¹ Brown’s reaction is that he never faced a situation where a performer presented a collection of clichés in a realisation of the score, which led him to conclude that a ‘performer can be provoked into going beyond his clichés into working quite apart from just the quotation of things’.⁷² He writes that the aim of Cage’s chance music

⁶⁶ Taruskin, *Music in the Late Twentieth Century*, p. 233.

⁶⁷ Brown, ‘On December 1952’, p. 6.

⁶⁸ Brown, ‘On December 1952’, p. 6.

⁶⁹ Brown, ‘On December 1952’, p. 7.

⁷⁰ Brown, ‘On December 1952’, p. 7.

⁷¹ Brown, ‘On December 1952’, p. 7.

⁷² Brown, ‘On December 1952’, p. 7.

compositions is to ‘eliminate the possibility of clichés, either from himself or from the performer’, whereas Brown was focused on enabling instantaneous communication and collective improvisation.⁷³ He also goes on to state that:

...by scoring these graphic suggestions, I considered that I was activating and keeping busy one area of the performer’s mind while provoking another area of his mind, an activity in which it was possible to create “new” kinds of forming and “new” kinds of note-to-note realization.⁷⁴

Brown’s explanation for why his jazz background was such an important factor in the creation of *December 1952* is that it led him to become ‘a very performance orientated composer’.⁷⁵ His interest in performance took him down a path of searching for a new performance reality, which he describes as, ‘existing as a kind of field of the activity of music-making which can exist between sympathetic and reasonable kinds of people’.⁷⁶ The exploratory journey that Brown went through in the creation of *Folio and Four Systems* is reflected in him titling the collection: ‘experiments in notation and performance process’.⁷⁷

In an essay entitled, ‘From neume to folio: Medieval influences on Earle Brown’s graphic notation’, Jane Alden argues that *December 1952* was heavily influenced by

⁷³ Brown, ‘On December 1952’, p. 7.

⁷⁴ Brown, ‘On December 1952’, p. 7.

⁷⁵ Brown, ‘On December 1952’, p. 2.

⁷⁶ Brown, ‘On December 1952’, p. 6.

⁷⁷ Earle Brown, ‘Transformations and Developments of a Radical Aesthetic’, *Current Musicology*, 67-68 (2002), p. 41.

Brown's interest in early music.⁷⁸ She points out that, in a 1964 lecture at Darmstadt, Brown calls for musicologists to explore the ambiguous relationship between flexible notation and compositional authority in music written prior to 1600.⁷⁹ The motivation for his call, she writes, is that he felt that further research in this area could help explain his scores, and analysis of works by his contemporaries could help to settle ongoing debates about the role of notation and composition.⁸⁰ Unfortunately, as she argues, 'Brown's wish to situate his notational innovations within a historical context has been overshadowed by a scholarly eagerness to describe him as a revolutionary'.⁸¹ She goes on to say that, from a musical and conceptual perspective, it is the rhythmic flexibility and high degree of performer involvement, in early polyphonic music, which influenced Brown.⁸² It was on account of these aspects that he had 'a curious feeling of returning to a musical condition which prevailed in times past'.⁸³

The premiere of *December 1952* was performed by the pianist David Tudor at the Carl Fischer Concert Hall in New York in 1957. Brown points out that the reason why there was a long gap between the date of composition and the premiere was because Tudor 'was not inclined at all to improvisation'.⁸⁴ It is therefore noteworthy that Tudor is the performer most associated with the score, as he approaches it, in Brown's words, 'not in an improvisational way, but as a kind of graphic thing from which he then made a fixed version'.⁸⁵ Brown's view on Tudor's interpretative approach was that he did not

⁷⁸ Jane Alden, 'From Neume to Folio', p. 315.

⁷⁹ Alden, 'From Neume to Folio', p. 317.

⁸⁰ Alden, 'From Neume to Folio', p. 317.

⁸¹ Alden, 'From Neume to Folio', p. 317.

⁸² Alden, 'From Neume to Folio', p. 318.

⁸³ Alden, 'From Neume to Folio', p. 319.

⁸⁴ Brown, 'On December 1952', p. 8.

⁸⁵ Brown, 'On December 1952', p. 9.

object to it, but he was also not how he had intended the score to be engaged with, as it is not improvisational.⁸⁶ However, he approved of Tudor's suggestion that the thicknesses of the black lines could indicate clusters.⁸⁷ Although he also points out that there is then the limitation that most instruments are monophonic, so the solution he proposes is for performers to map the thicknesses of the lines to volume.⁸⁸ Martin Iddon (b. 1975) suggests that a plausible reading of Brown's opinion on the interpretation of *December 1952* is that 'in the past, performers had failed to do what Brown wanted – which was to perform spontaneously, to improvise'.⁸⁹ It is therefore surprising that Karkoschka recounts a performance in Darmstadt in 1964, conducted by Brown, where he states that:

...without question that it was the movements of his hands and arms, and not the score, that stimulated the musicians, especially as wave-like sequences and big crescendi can only be seen in the score by an imagination also capable of seeing Strauss's Eulenspiegel theme in it.⁹⁰

There were 23 instrumentalists involved in the performance and Brown writes that 'as the twenty-fourth person, the conductor of this piece, I, in a sense, work with the orchestra as my instrument'.⁹¹ The viewpoint he describes of his role in the performance contradicts the openness and collective improvisatory nature he goes at great length to

⁸⁶ Brown, 'On December 1952', p. 8.

⁸⁷ Brown, 'On December 1952', p. 8.

⁸⁸ Brown, 'On December 1952', p. 8.

⁸⁹ Martin Iddon, *New Music at Darmstadt: Nono, Stockhausen, Cage, and Boulez*. (Cambridge: Cambridge University Press, 2013), p. 260.

⁹⁰ Karkoschka, *Notation in New Music*, p. 79.

⁹¹ Brown, 'On December 1952', p. 8.

establish as his intention for the score. He also writes that his aim in this specific performance was to ‘try and produce an improvisational work which used mostly the normal sounds of the instruments’.⁹² He admits that the motivation behind this interpretative approach was that his goal was to shock the Darmstadt audience with the performance. He writes that the best way he could think of to do that was to use conventional instrumental timbres, so that the performance sounded ‘almost as if it had been a Darmstadt piece’, rather than ‘a series of squeaks and squawks’, which would have been a more unfamiliar sound world at a place that was known as a centre for serial composition.⁹³

Brown states that he rehearsed with the ensemble for the Darmstadt performance for six hours, but points out that they ‘rehearsed the nature of improvising in relation to that page’ rather than preparing a specific interpretation.⁹⁴ He does not go into great details about the specific details of the subject matter of the rehearsal, but does clarify that he began it by being very prescriptive on the musical details and becoming progressively more flexible. His description of the performers being able to ‘almost visualize what is in front of them’, without needing to constantly consult the score, maps closely to the concept of the conceptual analogue, put forward in Chapter Six.⁹⁵ Alongside Brown, driving the early development of musical graphics was the Polish composer Roman Haubenstock-Ramati (1919-1994). As well as coining the term ‘musical graphics’, he produced a great number of them himself and curated the first

⁹² Brown, ‘On December 1952’, p. 9.

⁹³ Brown, ‘On December 1952’, p. 9.

⁹⁴ Brown, ‘On December 1952’, p. 10.

⁹⁵ The conceptual analogue is found on p.192, after ‘Hermeneutic Play’.

large exhibition of graphic scores at Donaueschingen, Germany, in 1959. His works employ a wide variety of notational specificities, ranging from prescriptive graphic notation systems through to fully abstract graphics.

Like Brown, Haubenstock-Ramati sought inspiration from Calder's kinetic sculptures.⁹⁶ He met Calder in 1957 in Paris, as he had received a six month scholarship to study there. He took Calder's idea of mobile form and used it as the basis for a composition he completed in 1958, titled *Interpolation* (1958). The piece is for one, two, or three flutes and allows the performers to construct their own instrumental parts from short melodic structures.⁹⁷ Haubenstock-Ramati's compositional work and research have been highly influential in the development of musical graphics. Karkoschka describes his work as 'among the most prominent achievements of the genre', observing that 'no other composer created such a rich spectrum of kinds of mobile forms'.⁹⁸ Perhaps his most well-known musical graphic is *Batterie* (1969) for percussion, which consists of a circle filled with abstract shapes and textures. He does not provide any instructions with the score, aside from instrumentation, which, following Inglis' taxonomy of musical graphics (discussed on p. 9) means that it can be classified as I.1.a.i and gives the performer considerable interpretative freedom.

A contemporary of Haubenstock-Ramati, the Italian composer Sylvano Bussotti (b. 1931) was similarly pushing the boundaries of notational possibilities in myriad

⁹⁶ Culture.pl Artists, 'Roman Haubenstock Ramati' <<https://culture.pl/en/artist/roman-haubenstock-ramati>> [accessed: 4 May 2016].

⁹⁷ Culture.pl Artists, 'Roman Haubenstock Ramati'.

⁹⁸ Karkoschka, *Notation In New Music*, p. 68.

directions. Bussotti created many musical graphics during his lifetime, one of the most influential being *Five Piano Pieces for David Tudor* (1959). The score is part of a larger collection, titled *pièce du chair II*, which was introduced at Darmstadt, at a course on music and graphics, in 1959.⁹⁹ Paul Attinello suggests that the collection can be seen as an anthology of Bussotti's early notational experiments.¹⁰⁰ Bussotti provides an explanatory note for the work, which states that 'the element "for David Tudor" in the title is not as it were a dedication, but an indication of instrument'. Bussotti's decision to include this note indicates the considerable influence Tudor has had on the performance of musical graphics and experimental performance generally. Number four in the collection famously featured on the first page of Gilles Deleuze (1925-1995) and Felix Guattari's (1930-1992) seminal book *Milles Plateaux* (1980), indicating that they identified parallels between musical graphics and their poststructuralist concepts, which are unfortunately outside of the scope of this thesis. Ronald Bogue (b. 1948) argues that it is the most important image in the book because, 'it functions as the books' musical score, guiding readers in their performance of the text'.¹⁰¹

In England in the 1960s, Michael Parsons (b. 1938) points out that, 'the breaking down of barriers between different disciplines and the growth of interest by artists in sound and performance created a favourable climate for the development of experimental music'.¹⁰² Tom Phillips (b. 1937) writes that 'music and art thereby became close

⁹⁹ Paul Attinello, 'Hieroglyph, Gesture, Sign, Meaning: Bussotti's Pièces de Chair II', *Perspectives in Systematic Musicology*, pp. 220-226.

¹⁰⁰ Attinello, 'Hieroglyph, gesture, sign, meaning', p. 220.

¹⁰¹ Ronald Bogue, 'Scoring the Rhizome: Bussotti's Musical Diagram', *Deleuze Studies*, 8.4, (2014), 470-490 (p. 470), in <[https://www.eupublishing.com/doi/full/10.3366/dls.2014.0166](https://www.euppublishing.com/doi/full/10.3366/dls.2014.0166)> [accessed 3 September 2016].

¹⁰² Michael Parsons, 'The Scratch Orchestra and Visual Arts', *Leonardo Music Journal*, 11, (2001), pp. 5-11 (p. 5).

cousins in places as unlikely as Walthamstow and Wolverhampton'.¹⁰³ At the centre of these developments was the Scratch Orchestra, founded by Cardew, Parsons and Howard Skempton (b. 1947) at Morley College, in 1969, as Parsons puts it, 'as the culmination of Cardew's search for new types of performer, from backgrounds other than that of a classical training'.¹⁰⁴ Anderson suggests that 'the Scratch Orchestra's more collective approach to performance reflected its loose and informal sociability, which was based on mutual respect and tolerance rather than on adherence to any pre-conceived structure or set of rules'.¹⁰⁵

At 193 pages long, *Treatise* is one of the largest musical graphics ever created. It was written between 1963–1967, at a time when Cardew was working as a graphic designer, working in a publisher's office. He describes his growing interest in graphic design over this time as follows:

While I was there I came to be more and more occupied with designing diagrams and charts and in the course of this work I became aware of the simple elegance of simple black lines in a diagram. Thin, thick, curving, broken, and then the varying tones of grey made up of equally parallel lines, and then the type – numbers, words, short sentences like ornate, literary, art-nouveaish, visual interlopers in the purely graphic context of the diagram.¹⁰⁶

¹⁰³ Tom Phillips, 'Playing pictures: the wonder of graphic scores' (2013), <<https://www.theguardian.com/music/2013/oct/07/graphic-music-scores-playing-pictures-tom-phillips>> [accessed 20 November 2013].

¹⁰⁴ Parsons, 'The Scratch Orchestra and Visual Arts', p. .

¹⁰⁵ Virginia Anderson, "'Well, it's a vertebrate...': Performer Choice in Cardew's *Treatise*", *Experimental Music Catalogue*, 25.3-4 (2006), p. 292.

¹⁰⁶ Tony Harris, *The Legacy of Cornelius Cardew* (London: Routledge, 2013), p. 246.

Along with his interest in graphic design, the other major influence for Cardew in the writing of *Treatise* was the work of Ludwig Wittgenstein (1889-1951), in particular his seminal book, *Logicus Tractatus Philosophicus* (1921). Cardew was inspired by Wittgenstein's exploration of the limits of language and communication and sought to do the same in music. Later in his life, Cardew reflected that, 'I now regard *Treatise* as a transition between my earlier preoccupation with problems of notation and my present concerns – improvisation and musical life'.¹⁰⁷ Cardew suggests that 'joining AMM was the turning point, both in the composition of *Treatise* and everything I had thought about music up until that point'.¹⁰⁸ AMM was an ensemble formed by the tenor saxophonist, Lou Gare (b. 1939), the drummer, Eddie Prévoist (b. 1942), and the guitarist, Keith Rowe (b. 1940), in London in 1965. Cardew joined in 1968, originally as a bid to broaden the pool of musicians to perform *Treatise*.¹⁰⁹

In the accompanying handbook for *Treatise*, Cardew lists a number of pre-publication performances.¹¹⁰ The first was in June 1964, on the terrace of the Forte Belvedere, in Florence.¹¹¹ Pages 57–60 and 75–79 of the score were played as two separate sections (lasting only one-and-a-half and four minutes, respectively).¹¹² Frederic Rzewski (b. 1938), on piano and other sound sources, interpreted the central line that runs through the score as a continuous sound. Cardew insisted that the performers treat the score as a system of symbols.¹¹³ Mauricio Kagel (1931-2008), who was reading aloud, ignored

¹⁰⁷ Harris, *The Legacy of Cornelius Cardew*, p. 248.

¹⁰⁸ Harris, *The Legacy of Cornelius Cardew*, p. 239.

¹⁰⁹ Eddie Prévoist, 'AMM 1965/1994 - A Brief and Mostly Chronological Historical Summary' <<http://www.efi.group.shef.ac.uk/mamm.html>> [accessed 13 February 2012].

¹¹⁰ Cornelius Cardew. *Treatise Handbook*. (England: Hinrichsen Edition Ltd, 1971), p. 2.

¹¹¹ Anderson, 'Well, it's a vertebrate...', p. 300.

¹¹² Cardew, *Treatise Handbook*, p. 3.

¹¹³ Cardew. *Treatise Handbook*, p. 5.

Cardew's instructions and instead 'insisted on his "freedom", refusing to limit himself to one aspect of the score'.¹¹⁴

One of the earliest and most important recordings of *Treatise* is Petr Kotik's 1967 interpretation with the QUaX Ensemble in Prague. Kotik met Cardew in Warsaw in 1962, and they began exchanging scores by mail, including *Treatise*, while it was still work in progress. Upon meeting again in London, in 1966, Cardew provided Kotik with additional portions of the score. Fresh from this encounter, Kotik started the QUaX Ensemble upon his return to Prague in 1966. The first thing the QUaX ensemble did was rehearse *Treatise*, working through the pages Kotik had been given. Kotik provides the following description of the experience of working with *Treatise*:

The piece was very important for getting all of us together, musically speaking, besides having a lot of fun working out individual pages by having all the musicians contribute ideas and suggestions. We worked regularly over a long period of time, ending up with a 2-hour version of the piece ... only performed once, at the concert on October 15, 1967 in Prague.¹¹⁵

This recording is an important early example of an interpretation of the score from one of Cardew's contemporaries. *Treatise* has been performed extensively around the world and has been a consistent feature of contemporary music repertoire. In September 2011, the UK-based choir, The Vocal Constructivists, gave the first ever choral interpretation

¹¹⁴ Anderson, 'Well, it's a vertebrate', p. 298.

¹¹⁵ 'Cardew's *Treatise* performed by the QUaX Ensemble', Mode (2003).

<<http://www.moderecords.com/catalog/205cardew.html>> [accessed 13 September 2015].

of *Treatise*, at the South London Gallery. In September 2014, The Vocal Constructivists released their debut album *Walking Still*, which contains a recording of four extracts of *Treatise* and a recording of Mark Applebaum's *Medium*. Interestingly, their recording of *Treatise* is split into four movements. The First Movement consists of pages 18-45, The Second Movement consists of pages 111-135,¹¹⁶ the third movement consists of pages 145-166 and the fourth movement consists of pages 174-190. As the album liner notes point out, 'the fact that this monumental work has not hitherto attracted the attention of choirs is surprising, given Cardew's own choral background (as a chorister at Canterbury Cathedral)'.¹¹⁷

1.3 Late Twentieth and Early Twenty First Century Developments

It is at the end of the 1960s that most histories of musical graphics have tended to stop, and Ian Pace argues that that this is because musicologists have subscribed to the view that no work of any interest has been produced since: 'graphic notation today seems like the product of a particular era (roughly from the mid-1950s until the late 1960s), and is seldom employed by composers of our time'.¹¹⁸ He puts forward a number of reasons for this, one of which is what he refers to as 'a new type of conservatism and distrust of the avantgarde from the early 1970s onwards, leading to disdain for some of the more outlandish developments of early years'.¹¹⁹ This disdain is clearly displayed

¹¹⁶ Also known as the 'black pages' (so-called by Cardew to indicate a preponderance of black circles that occur in pages 128–144).

¹¹⁷ The Vocal Constructivists, *Treatise* (Minnesota: Innova Recordings, 2011) [on CD].

¹¹⁸ Ian Pace, 'Graphic Notation', <<http://openaccess.city.ac.uk/6476/1/Graphic%20Notation%20%282007%29.pdf>> (Paper presented at a Lecture, 13-06-2007, at the Hochschule für Musik, Freiburg, Germany) [accessed 14 June 2012], p. 34.

¹¹⁹ Pace, 'Graphic Notation', p. 34.

in an article by John Evarts titled ‘The New Musical Notation: A Graphic Art?’ where he states that:

There has been a kind of revolution in the notation of some contemporary music, whose fantasies at times seems to exceed the extravagances of the music itself... Perhaps within a few years these picturesque squiggles, graphs and fantasies will be considerably more admired for their visual appeal than what they were intended to communicate, the music itself.¹²⁰

Pace also suggests that another reason for the decline in the production and general interest surrounding musical graphics has been the increasing ‘professionalisation’ of performers within contemporary music. He argues that, as their work became gradually more accepted by the mainstream of music, performers were under more pressure to demonstrate their virtuosity in realising complex, highly detailed notation, ‘so as to counteract claims that it does not really matter what one plays when performing contemporary music’.¹²¹ He goes on to say that the concept of ‘perfect’ realisation of a musical graphic does not have any tangible meaning and so the interest in creating and performing them faded away.¹²² However, Pace’s view is at odds with the substantial volume of musical graphics that have been created over the last few decades. Evidence for this can be found in the wealth of examples in Theresa Sauer’s 21st century compendium of experimental scoring developments, entitled *Notations 21*. In fact, the vast collection of scores within the book demonstrates a surge in interest rather than a

¹²⁰ John Evarts, ‘The new musical notation: A graphic art?’ (1968) *Leonardo*, 1.4, p. 412.

¹²¹ Pace, ‘Graphic Notation’, p. 35.

¹²² Pace, ‘Graphic Notation’, p. 34.

dying away, as it contains hundreds of examples of scores from composers based all over the world. Furthermore, she states that the scores she features within it are just a snapshot of the composers that she was able to get in contact with.¹²³

Since the late 1970s, the pioneering jazz trumpeter Ishmael Wadada Leo Smith has been experimenting with the creation of a graphic notation system, which has now evolved into a language he calls ‘Ankhrasmation’.¹²⁴ Smith explicitly states that ‘Ankhrasmation’ is a musical language as opposed to a musical graphic, because the score contains a large number of prescriptive verbal instructions and he provides a ten-page accompanying text to explain the structure and function of the language, which consists of blades (or arrows), bows and towers, which each have a specific musical function. Since 1992, the fellow jazz musician, composer and double bassist, Barry Guy (b. 1947), has been exploring the creation of musical graphics, both to insert into fully notated works and creating purely abstract musical graphics. He states that ‘the prime objective has been to integrate free improvisation (provided by improvisers) with composition’.¹²⁵ Like Brown, his experiences as a jazz musician have been instrumental in the development of his compositional approach.

Mark Applebaum’s (b. 1967) *The Metaphysics of Notation* (2008) is one of the most well-known 21st century musical graphics. It is one of the largest musical graphics ever

¹²³ Theresa Sauer, *Notations 21*. (New York: Mark Batty, 2010), p. 2.

¹²⁴ Ankhrasmation is a word invented by Wadada Leo Smith and is made up of Ankh, from the Egyptian for cross; Ras from the Ethiopian for Head and Mas for mother. This information was gathered from: <http://www.newmusicbox.org/articles/wadada-leo-smith-decoding-ankhrasmation/> [accessed 23 April 2014].

¹²⁵ Barry Guy, ‘Graphics Scores’ <<http://www.pointofdeparture.org/PoD38/PoD38Guy.html>> [accessed: 4 March 2015].

created, spanning 72 feet divided into twelve continuous panels, all hand-drawn by Applebaum himself. The idea for the score came, in Applebaum's words, from 'a crazy idea to paint the walls of a small room of the Cantor Arts Centre Museum with pictographic notation'.¹²⁶ He states that he soon found that the scale of the graphics had exceeded the scope of the space he was working in and so he decided to spread the panels around the main museum space, so that the performers and audience could wander freely to view the panels.¹²⁷ This led to a series of weekly performances, with the score functioning as an art exhibit during the week and functioning as a score on Fridays. These performances included the trumpeter Brian McWorter and flautist Molly Barth. Applebaum points out that 'the score has inspired over one hundred radically diverse musical interpretations and remains the locus of a larger social project that invites questions about musical ontology, the meaning of notation, the roles of composer and performer, the boundaries of interpretation, the impact of context on musical enterprise (it first appeared in a museum) and so forth'.¹²⁸

Robert Arnold's 2010 documentary, *There's No Sound in My Head*, discusses the genesis of the work and Applebaum's statement that he had no sound in his head when creating score, which he states he found a very liberating experience.¹²⁹ The documentary explores Applebaum's journey from inserting single boxes of musical graphics into otherwise fully staff-notated works, to creating fully indeterminate works,

¹²⁶ Mark Applebaum, 'Handbook for The Metaphysics of Notation' <<http://web.stanford.edu/~applemk/other-materials/HandbookForTheMetaphysicsOfNotationOriginalDraft.pdf>> (2008) [accessed 23 November, 2011], p. 1.

¹²⁷ Applebaum, 'Handbook for The Metaphysics of Notation', p. 1.

¹²⁸ Applebaum, 'Handbook for The Metaphysics of Notation', p. 1.

¹²⁹ Applebaum, 'Handbook for The Metaphysics of Notation', p. 1.

such as *Medium* (2008), and finally creating *The Metaphysics of Notation*. Arnold interviews a wide range of composers, performers and musicologists about the compositional and performative challenges that the score presents. Applebaum has not gone on to produce more musical graphics, but explains, in the handbook that accompanies the score, that creating *The Metaphysics of Notation* has encouraged him to prioritise shape more highly within his compositional agenda.¹³⁰

Another composer who has been actively producing musical graphics is the composer and experimental guitarist, Elliott Sharp (b. 1951). He has been central figure in the avant-garde and experimental music scene in New York City since the late 1970s, and has worked intermittently with graphic notation since 1972, but began to immerse himself in the medium again in the mid-2000s. Sharpe's first published set of musical graphics is entitled *Foliage* (2013) and consists of eighty images, which he created by distorting, layering, inverting and blurring staff notated works he composed, using graphic editing software. In Sharp's own words, *Foliage* is 'a graphic score open to interpretation and realization by any instrumentalist or ensemble of any size... a piece of retinal art as much as it is an instruction set for sound, form and function interlocked'.¹³¹ Like *The Metaphysics of Notation*, Sharp does not include any accompanying instructions or suggestions for instrumentation or duration in *Foliage*. Sharpe has continued to create musical graphics, successfully funding a Kickstarter campaign in 2018 for his *IrRational Music* project, which he describes as 'a mix of tales from the road and sky with thoughts on music, art, and the process of thinking

¹³⁰ Robert Arnold. *There's no sound in my head* [on DVD].

¹³¹ Elliott Sharp, *Foliage*, (New York: Terra Nova Press, 2012), p. 1.

itself, collected in a beautifully printed and illustrated book with accompanying graphic scores'.¹³²

In contrast to ink on paper graphics, composers have also begun to physically break up the visual unity of the score, through the use of playing cards. The first and most well-known example of this is Christian Marclay's *Shuffle* (2007). The score is presented as a large form deck of cards, which the performer needs to shuffle and then distribute, after which they are free to interpret as many cards as they wish and form their own rules, as Marclay sets out in the following instructions for the score:

This deck of cards can be used as a musical score.

Shuffle the deck and draw your cards.

Create a sequence using as many or as few cards as you wish.

Play alone or with others.

Invent your own rules.

Sounds may be generated or simply imagined.¹³³

Two of his more recent works, *Screen Play* (2005) and *Zoom Zoom* (2007), commissioned by the Kunstraum Innsbruck gallery in Austria, take the concept a stage further, by projecting scores onto screens on the gallery walls.¹³⁴ Another example comes from the Japanese composer, Makoto Nomura (b. 1968), who developed the

¹³² Elliott Sharp, 'Irrational Music' (2018) <<https://www.kickstarter.com/projects/1963704764/irrational-music-by-elliott-sharp>> [accessed 13 June 2018].

¹³³ Christian Marclay, *Shuffle* (London: Aperture, 2007).

¹³⁴ 'Kunst wird Partitur - Christian Marclay: Graphic Scores' <<https://www.artsy.net/show/kunstraum-innsbruck-kunst-wird-partitur-christian-marclay-graphic-scores>> [accessed 3 July 2013].

Shogi Composition method in the year 2000. Nomura describes his compositional method as follows:

Shogi Composition is the method of collaborative composition that I invented. Each player uses one colour, composes his/ her own part, and writes it down in his/ her own way. It should be thought of as a recipe for collaborative composition among various people with different musical backgrounds.

Using the method, Nomura co-composed two works, titled *Oi Asitawa* (2000) and *Natural History Museum* (2002), and describes the process of performing them as ‘just like playing cards around a table’, where performers ‘compose short passages one after another instead of playing cards’.¹³⁵

1.4 Sculptural, Photographic and Virtual Scores

Earle Brown sketched ideas for a motorized version of *December 1952*, consisting of a box containing mechanical elements moving at different speeds, and even got one of his students to build a prototype.¹³⁶ His sketches show that interest in constructing three-dimensional scores dates back to the beginning of musical graphics. It is therefore unsurprising that three-dimensional sculptures have been created by composers for performers to respond to. They are referred to in this thesis as ‘sculptural scores’, a subset of musical graphics where the score can function independently as a visual sculpture. Whilst sculptural scores operate similarly to all other forms of musical

¹³⁵ Makoto Nomura, ‘Shogi Composition’ (1999) <<http://www.makotonomura.net/blog/texts/shogi-composition/>> [accessed 8 October 2010].

¹³⁶ Brown, ‘On December 1952’, p. 6.

graphics, the experience of engaging with them is profoundly different, in that their three-dimensional nature allows the performer to move around the sculpture and see it from multiple angles. Composers have used many different types of materials to form their sculptural scores. The creation of Claudia Molitor's (b. 1974) *Stitched Score* (2012) involved her mending an old, hand-woven tablecloth with embroidery that incorporated notational elements. Similarly, Molitor's *Material Manuscript* (2011) is a score made out of fabric, which starts off conventionally notated but this notation becomes progressively less visible, but at the same time more tactile, as the tactile material dominates the notation. As Molitor puts it in her own words:

The first page is written with pen, as you would expect, but by the last page the notation is raised using different white materials. The audience is encouraged to explore these pages through touch, noting the different textures and listening to the sounds the friction between their fingers and the score makes.¹³⁷

The tactile nature of engaging with musical graphics that is of particular interest to Molitor.¹³⁸ In an interview with James Saunders, she states that 'it is wonderful that through musical notation the eye hears and the ear sees, and this I want to draw attention to by presenting a somewhat paradoxical score, a score that is not meant to be performed in a conventional way'.¹³⁹ This comment suggests that the requirement to physically interact with the score itself generates musical material and so the process

¹³⁷ James Saunders, 'Interview with Claudia Molitor' (2012) <<http://www.james-saunders.com/interview-with-claudia-molitor/>> [accessed 4 March 2015].

¹³⁸ Saunders, 'Interview with Claudia Molitor' (2012).

¹³⁹ Saunders, 'Interview with Claudia Molitor' (2012).

of engaging with the score is itself a performative action.

The Australian composer, Catherine Schieve (b. 1954), explores similar conceptual themes to Molitor's in a collection of Musical Graphics, titled *Nine Levels of Earth and Lustre* (2006), which requires the scores to be placed in natural environments, such as in a forest or by a river, and so the natural environment becomes an important element of each performance.¹⁴⁰ 'Blue Line' (2006), one of the scores in *Nine Levels of Earth and Lustre*, consists of a strip of translucent canvas, which doubles as a visual component of the piece, more than one hundred feet in length, painted in tones of blue, that can be stretched through a forest, across snow landscapes or alongside a busy urban road. The score was conceived for choir, electronics and a series of 'circulating instruments'. According to Schieve, performances of these works often involve homemade or adapted percussion instruments and the performance environment is set up as an open installation where the percussionists traverse the space in front of the scores that Schieve has strategically placed, so that the audience is free to move, listen and view the works at their discretion.¹⁴¹

The use of photographs as score material is another development that has become increasingly popular over the last few decades. I refer to these types of scores as 'photographic scores', which are typically heavily manipulated by composers, who use editing software to make the content of the photographs abstract and therefore open to a wide range of interpretative possibilities. Jez Riley-French (b. 1965) is one of the

¹⁴⁰ Sauer, *Notations 21*, pp. 236-237.

¹⁴¹ John Jenkins, 'Catherine Schieve - Moving between the eye and the ear'
<<http://www.rainerlinz.net/NMA/upclose/Schieve.html>> [accessed 11 October 2010].

main proponents of photographic scores. He refers to his works as 'scores for listening', a term he coined to describe works, mostly using text and photographic images, that 'explore the intuitive link between photographic images, situation, text and the compositional process, either performative or the act of listening'.¹⁴²

Many of Riley-French's scores for listening contain textual accompaniments, which act as explanations for why he composed the shot, rather than acting as prescriptive instructions; he does not make suggestions regarding instrumentation. However, there is no inherent reason why the content of photographic scores must be heavily manipulated and examples such as Fred Frith's (b. 1949) *Stone, Brick, Glass, Wood, Wire* (1986–1996) demonstrate that unmanipulated photographs of real scenes can also function as effective stimuli for performers to respond to. The score consists of photographs of stone paving, brick walls, windows, stacks of logs and high-tension wires, which Frith chose due to the patterns and repetitions they contained. Breaks in the patterns (for example, paint smudges, leaves on sand) guide soloists in how to shape and construct their musical materials. Time is read from left to right and pitch is read vertically. Through following Frith's instructions, with wide latitude given to each individual musician's interpretation of the proceedings, the resulting music is a form of structured improvisation.

The most recent development within musical graphics are scores that use computer graphics and algorithms to manipulate digital data. These types of scores are referred

¹⁴² Jez Riley-French, 'Scores for listening' <<https://jezrileyfrench.co.uk/scores-for-listening.php>> [accessed 13 November 2016].

to as ‘virtual scores’. Unlike physical sculptures, virtual scores enable the performer to manipulate the structure of the score materials in the moment of performance, which creates a dynamic relationship that gives the performer even more creative agency than a conventional musical graphic.

Some virtual scores also allow for performers to interact online, often in different geographical locations. Pedro Rebelo’s *Cipher Series* (2010) requires performers at separate sites to interpret three-dimensional rotating sculptures, each from a different perspective. Rebelo’s *SL’E’tude* (2009) takes the network element a step further by situating the score and performers in the virtual environment called Second Life. The audience in Second Life (present via avatars) engages with the work by selecting and triggering audio-visual events, which are in turn read as performance instructions by real-life (‘First Life’) performers. Rebelo refers to his works in this area as ‘production as notation’.¹⁴³ He states that that ‘the three-dimensional aspects of this notation developed out of the need to engage in both general and unique elements as a score is distributed electronically amongst various performance sites’.¹⁴⁴ Another related area that is very much in its infancy are architectural scores. These scores involve a reciprocal dynamic relationship between a physical, architectural structure and the musical material that is performed inside it. In these works, buildings respond to the sounds produced both by the musicians and the audience walking around the building by changing shape. Matthew Ritchie’s 2009 Morning Line project in Seville is an example of a physically realised architectural score.¹⁴⁵

¹⁴³ Pedro Rebelo, ‘Notating the Unpredictable’, *Contemporary Music Review*, p. 20.

¹⁴⁴ Rebelo, ‘Notating the Unpredictable’, p. 18.

¹⁴⁵ Matthew Ritchie, ‘The Morning Line’, <<https://www.designboom.com/art/the-morning-line-by->

There are many more minor musical graphic variations than can be covered in this thesis and John Cage's *Notations* (1969) compendium and Theresa Sauer's *Notations 21* (2009) compendium contain a plethora of score developments and written materials from their creators. Their work offers a further understanding of the developments that have taken place within musical graphics composition thus far. I now turn to the body of literature on how performers engage with musical graphics, in order to explore the work that has been done thus far to address the primary and secondary research questions of this study and highlight the current gaps in understanding.

1.5 Literature on Performing Musical Graphics

Research into the process of performing musical graphics has been largely neglected by both musicologists and practitioners and it has only been in the last decade that it has begun to be addressed. There are a number of studies that focus on performers' experiences of performing small subsets of scores by specific composers. Michael McInerney's doctoral thesis, 'Performance and the Page: An Artist's Investigation of the Dialogue Between the Musical Event and the Written Score' (2007) discusses a wide range of issues relating to the interpretation, preparation and performance of a range of graphically notated works by Anestis Logothetis (1921-1994).¹⁴⁶ His focuses on how experimental graphic scores disrupt the standard transmission model of musical communication and allow the score to become a 'site of

matthew-ritchie-with-aranda-lasch-and-arup/> [accessed 3 August 2010].

¹⁴⁶ Michael McInerney, *Performance and the Page: An Artist's investigation of the dialogue between the musical event and the written score* (unpublished doctoral thesis, University of Plymouth, 2007) Available at: <http://pearl.plymouth.ac.uk/pearl_jspui/bitstream/10026.1/826/6/497745_VOL1.pdf> [accessed 3 March 2010].

hermeneutic play, rather than a form of transmission’, where composition and performance are also both themselves acts of ‘deep investigative play’.¹⁴⁷ He also addresses how performers experience the flow of time when engaging with musical graphics and provides the following break-down to show how performers can approach abstract content within musical graphics:

Once the observer acknowledges the page, the task becomes one of identification: what kind of page is this? Is it a linear text, a map or diagram, or an image? Having done so, the attention moves to the second level - to analyse its constituent marks as sign, symbols, indexes or icons. Only then is the reader able to come to terms with the page, decode, unravel and make use of it.¹⁴⁸

Using this interpretative process as a starting point, McInerney then explores a number of ways that performers can approach Haubenstock-Ramati's *Batterie* and suggests that the score can either be read as a script (dividing the score up into self-contained symbols), a diagram or an image. McInerney's tripartite role as a composer, performer and researcher gives him a depth of insight into the transmission flow of musical ideas that I am not able to provide myself. He also interrogates the process of deep investigative play in the creation and performance his own works and assesses how considerations of hermeneutic play affect his compositional choices. The conclusions of his research are that open graphic scores play an important role in the creative

¹⁴⁷ McInerney, *Performance and the Page*, p. 161.

¹⁴⁸ McInerney, *Performance and the Page*, p. 160.

process, even if it is not possible to observe a tangible connection between a score and the musical material produced from it. He also notes that one of the main realisations from his research is the extent to which *December 1952* strikes an ‘exquisite balance between player autonomy and faithful hermeneutic play’.¹⁴⁹

Zubin Kanga's doctoral thesis ‘Inside the Collaborative Process: Realising New Works for Solo Piano’, explores his experiences of collaborating with composers to commission and perform new works for solo piano.¹⁵⁰ Kanga’s research involved working with ten different composers, collaborating on works with a wide range of notational specificities, from fully staff notated works to David Young’s watercolour composition, *Not Music Yet*. Young’s composition is the only musical graphic example in Kanga’s research. However, he points out that, ‘it is a very different application of this type of notation in comparison to the approaches of Earle Brown or Cornelius Cardew, whose scores are deliberately free of instructions and are open to wildly divergent interpretations of different styles and durations’.¹⁵¹ Conversely, Young’s compositional approach is characterised by where ‘the details of the overall interpretations may vary, but the overall shape, style and aesthetic of the overall interpretations differ to a much lesser extent’.¹⁵²

Young explains that his motivations for his compositional approach are that he has always been more interested in the musical material that can be created from graphic

¹⁴⁹ McInerney, *Performance and the Page*, p. 161.

¹⁵⁰ Zubin Kanga, ‘Inside the Collaborative Process: Realising New Works for Solo Piano’. [PhD Thesis] Royal Academy of Music (2014).

¹⁵¹ Zubin Kanga, *Inside the Collaborative Process*, p. 392.

¹⁵² Kanga, *Inside the Collaborative Process*, p. 393.

notation than the aesthetics of the notation itself, and his watercolour notation enables him to have more nuanced and precise control in interpretative areas that important to him.¹⁵³ Furthermore, Kanga describes the work as ‘in some ways extremely high resolution with an incredible amount of precise information on the page (infinitesimally so, given the watercolour medium) but it also could function as extremely low resolution notation, describing the general shape of the sounds, depending on the performer’s choice of focus’.¹⁵⁴ He states that this afforded him ‘great freedom and autonomy to choose whether to see the notation as precise or imprecise in different sections of the piece and at different stages of the process’.¹⁵⁵

Kanga’s account of working with Young contains some of the most detailed insights yet of the process of preparing a musical graphic for performance and addresses the modes of collaboration required at each stage of the creative process, assesses whether collaboration is confined to the preparation and performance stages, or whether there are opportunities at earlier stages in the creative process, and explores the degree to which performance spaces impact on the interpretation of scores. In a follow up article, titled ‘“Not Music Yet”: Graphic Notation as a Catalyst for Collaborative Metamorphosis’, Kanga goes into further depth of his experiences in collaborating with Young, from first receiving the score through to performing it publicly.¹⁵⁶ Clemens Gresser’s doctoral thesis, ‘(Re-)Defining the relationships between composer, performer and listener: Earle Brown, John Cage, Morton Feldman and Christian Wolff,’

¹⁵³ Kanga, *Inside the Collaborative Process*, p. 392.

¹⁵⁴ Kanga, *Inside the Collaborative Process*, p. 393.

¹⁵⁵ Kanga, *Inside the Collaborative Process*, p. 393.

¹⁵⁶ Zubin Kanga, ‘Not Music Yet: Graphic Notation as a Catalyst for Collaborative Metamorphosis’, *Eras Journal*, 16.1, 2014, pp. 37-58.

focuses on how the compositional and notational developments made by the composers known as the ‘New York School’ have redefined the relationships between composer, performer and listener and challenged the concept of the musical work.¹⁵⁷

Interviews of performers and composers have largely centred around the three key figures of Brown, Cardew and Tudor, either directly interviews of them or with musicians who have worked closely with them. Significant interviews with Earle Brown that discuss his views on performing *December 1952*, and his thoughts on performing musical graphics generally, include his 1996 interview with Mark Alburger, entitled ‘Available Brown: A Chance Interview with Earle Brown’,¹⁵⁸ his 2002 New York Times interview with Bruce Duffie¹⁵⁹ and his 2007 interview with Amy Beal.¹⁶⁰ Gloria Cheng’s interview for *Piano Phases* discusses her approach to performing *Folio and Four Systems* to honour him after his death in 2002.¹⁶¹ Cheng points out that although Tudor’s method of writing staff notated works in response to *December 1952* is self-defeating, she does the same herself as she finds the approach more comfortable.

¹⁵⁷ Clemens Gresser, *(Re-)Defining the relationships between composer, performer and listener: Earle Brown, John Cage, Morton Feldman and Christian Wolff* (unpublished doctoral thesis, University of Sheffield, 2004).

<<https://ethos.bl.uk/OrderDetails.do?jsessionid=F38643F8B2ADB92F3FF729503ED13A?uin=uk.bl.ethos.414650>> [accessed 3 February 2010].

¹⁵⁸ Mark Alburger ‘Available Brown: A Chance Interview with Earle.’ *20th-Century Music* 3.5 (May 1996), pp. 1-7.

¹⁵⁹ Bruce Duffie, ‘A Conversation with Bruce Duffie’. Available at: <<http://www.bruceduffie.com/brown.html>> [accessed 13 January 2013].

¹⁶⁰ Amy Beal, ‘An Interview with Earle Brown’. *Contemporary Music Review*. 26.3 (2007), pp.341-356.

¹⁶¹ ‘Interview: Gloria Cheng’, *Piano Spheres* (2018). Available at: <<http://pianospheres.org/interviews/interviews/gloria-cheng/>> [accessed 23 May 2018].

Interviews with composers about their musical graphics can be very insightful even if the interviewees are not performers themselves. Interviews can reveal how a composer has approached writing a score and would ideally like performers to approach it, which is particularly valuable if the score is abstract and has no accompanying instructions. Theresa Sauer's musical graphic *Circle Series* (2011) does not include any assisting information on how to perform it, but in a 2013 interview with Aileen Jacobson she reveals that the scores require the performer to 'use the colours, shapes and texture of her work to guide them'.¹⁶² In the case of sculptural or virtual scores, composer insights can also be critical to performers learning how they operate, as there no other reference points for them to base their understanding on. In an interview with James Saunders, Claudia Molitor describes how she interprets the tactile feedback of her sculptural score, *For Touch and the barely audible* (2012).¹⁶³ Ivan Hewett's interview with Elliott Sharp, about his musical graphic *Foliage*, explores how the score has enabled Sharp to explore new conceptual territories as a composer and how, as a performer, he deals with the abstractness of his score allowing for potentially infinite possible interpretations.¹⁶⁴ Exploration of musical graphics in film has been gaining momentum over the last decade.

Robert Arnold's *There's No Sound In My Head*, is a documentary that focuses specifically on the creative processes and conceptual issues behind the composition and

¹⁶² Aileen Robertson, 'Where the Musical Meets the Visual' (2013) <<https://www.nytimes.com/2013/05/12/nyregion/notations-21-project-is-at-art-league-of-long-island-in-dix-hills.html>> [accessed 6 June 2013].

¹⁶³ James Saunders, 'Interview with Claudia Molitor' (2012) <<http://www.james-saunders.com/interview-with-claudia-molitor/>> [accessed 30 August 2013].

¹⁶⁴ Elliott Sharp, *Foliage* (New York: Terra Nova Press, 2012).

performance of a musical graphic and interviews performers on their experiences of engaging with musical graphics in general. Arnold does not address the performer's experience of the rehearsal process and starts interviewing them whilst they are walking around the space and choosing the material to respond to. There are only a couple of short sound bites from the performers describing their approach to the work. The trumpeter, Brian McWhorter, has performed a number of Applebaum's works, from performance art to staff notated works, and has performed several of Stephen Vitiello's (b. 1964) musical graphics, commissioned for the Beta Collide Ensemble. He provides the following explanation of his approach to the work:

I have a couple of different ways that I like to approach graphic, or physical, pieces. I can look at the details of the piece and see if that's evocative of certain kinds of notes, certain kinds of gestures, certain kinds of rhythms and certain kinds of colours.¹⁶⁵

McWhorter's description is similar to the approaches described by McInerney, in relation to interpreting Haubenstock-Ramati's *Batterie* (1969). He also expresses how emotionally involved he gets in the moment of performance, 'following the lines emotionally' resulting in him becoming a 'sweaty mess'.¹⁶⁶ In contrast, the interview with the flautist, Molly Barth, reveals that her experiences of performing many complex staff notated experimental compositions has influenced how she approaches the score, as is evident from the following assessment of her approach to the score:

¹⁶⁵ Arnold, *There's no sound in my head* [DVD].

¹⁶⁶ Arnold, *There's no sound in my head* [DVD].

The difference between playing a graphic score and a conventionally notated score is actually not that huge. When something is written with a lot of complexity and we're coming in and out of each other's texture, it almost doesn't matter, in some ways, whether it is written down in a note score or in this sort of way. We just interpret it and play off of one another.¹⁶⁷

This suggests that she views both dense staff notated and graphically notated materials as gestures and her interpretative decisions are very much influenced by other performers around her. Arnold does not interview any other performers, choosing instead to interview composers from a wide range of backgrounds, including Brian Ferneyhough, who suggests that the score is both a 'risky enterprise', because Applebaum may view a performance as a disaster yet it might be perfectly valid theoretically, and not something that he would call music until 'someone sat down and tried to approach it with a certain rationale of transliteration; an ideology of representation'.¹⁶⁸

Expanding the purview of what constitutes literature, it is important to mention that YouTube has become a burgeoning repository of guides to performing musical graphics. For example, the YouTuber, 12tone, created a detailed video entitled 'Graphic Scores: Beyond The Written Note', which explains how session musicians can learn to work with musical graphics.¹⁶⁹ Michael Plourde's 'Music Stuff With Spock' series

¹⁶⁷ Arnold, *There's no sound in my head* [DVD].

¹⁶⁸ Arnold, *There's no sound in my head* [DVD].

¹⁶⁹ 'Graphic Scores: Beyond The Written Note' <<https://www.youtube.com/watch?v=hy9I-IC93gE>> [accessed 4 March 2018].

contains some insightful tutorials on how to perform and create graphic scores, in which musical graphics feature heavily.¹⁷⁰ Videos one to five in the series focus on how to approach Plourde's own works and videos six to twelve focus on how to how to perform and create graphic scores generally. As Plourde is a performer and a composer, he is able to provide insight on both roles and provides detailed historical context to all the suggestions and points that he makes.

Evidence for this is that there are dozens of tutorial videos, some of which have received thousands of views on YouTube. This shows that there is interest in matters relating to the performance of musical graphics. The issues with the currently available tutorial videos is that they lack depth of insight and detail on each stage of the creative process, both because of their lack of expertise and the limited materials there are available for them to draw on.

Symposiums and conferences have been critically important for the development of musical graphics and the source of intense debate between composers, performers and musicologists. One of the earliest formal debates on musical graphics took place at the experimental notation congress at Darmstadt in 1967.¹⁷¹ Roman Haubenstock-Ramati defended fierce criticism from the composer Otto Tomek on his own musical graphics, particularly on the topic of how Haubenstock-Ramati is able to distinguish musical graphics from visual art.¹⁷² The 2013 'Time Stands Still' Conference, at Wesleyan

¹⁷⁰ Michael Plourde, 'Music Stuff With Spock' (2016) <<https://www.youtube.com/watch?v=oGxS6YnYmfg>> [accessed 9 November 2017].

¹⁷¹ 'Komposition – Notation - Interpretation,' In *Notation Neuer Musik. Darmstädter Beiträge zur Neuen Musik*, ed. Ernst Thomas (Mainz: Schott, 1967).

¹⁷² Karkoschka, *Notation in New Music*, p. 3.

University, included a discussion session dedicated specifically to issues of performing musical graphics.¹⁷³ The session was led by The Vocal Constructivists, a UK based vocal ensemble, and involved each member of the ensemble standing up in turn and talking about their experiences of performing Cardew's *Treatise*. Although this marked an important first step and many enlightening and cogent points were made, the session was very informal and there were so many participants involved in the discussion that it was not possible for any of them to speak in any depth.

Elliott Sharp's 2016 presentation at the American Academy in Berlin, entitled 'Current Strategies for Composition and Performance' provides insight into how his experience as a performer helped to drive his compositional approach.¹⁷⁴ Since it began in 2015, the International Conference on Technologies for Music Notation and Representation (Also known as TENOR) has facilitated a great number of workshops and discussion sessions, to 'provide performers with a set of references or instructions that guide their performance' and 'de-ephemeralize performance praxis'.¹⁷⁵ They have also hosted key notes from Rebelo and Sharp about their compositional and performance practices.

1.6 Conclusion

It is clear from this all too brief survey that research into how performers engage with musical graphics is lacking and so this area of musical practice research is ripe for exploration. Research into deciphering the creative processes involved in performing

¹⁷³ 'Time Stands Still' (2013) <<https://www.youtube.com/watch?v=-5RfozDPVBI>> [accessed 9 November 2017].

¹⁷⁴ Elliott Sharp, 'Current Strategies for Composition and Performance' (2016). <<https://vimeo.com/147474757>> [accessed 5 February 2017].

¹⁷⁵ 'Tenor Performer Lab' (2015) <<http://matralab.hexagram.ca/tenor2018/>> [accessed 3 July 2018].

musical graphics, and performers' experiences of engaging in them, is particularly limited. As mentioned above, Ian Pace argues that the reasons for the lack of research into the performance of musical graphics are a general distrust of the avant-garde by practitioners and the increasing professionalisation of performers. Pace writes that these two factors have led to performers focusing on demonstrating virtuosity in realising complex, highly detailed notation and avoiding more abstract, improvisatory works. However, whilst this chapter has shown that research into performing musical graphics is limited, Pace's claim has been challenged that there has been a decline in the number of performers and performances of musical graphics since the early 1970s is contradicted by the evidence. In fact, there has been a growth of interest in both the composition and performance of musical graphics, as they have expanded from ink and paper based graphics to include sculptural and virtual scores.

Part II of this thesis analyses a wide range of performance scenarios, gathered through the practical research phase of this investigation, in order to decipher the creative processes involved in performing musical graphics, which are then mapped out in Part III. This chapter has shown that written and audio materials, which capture the end to end journey of preparing and performing musical graphics, are rarely documented by performers. I have not identified obvious reasons why so few performers have documented how they engage with musical graphics. One explanation could be that they either find documenting their workings to be in conflict with the spontaneity and creative freedoms that musical graphics foster. Another could be that they consider their creative processes to be too subjective and personal to be of use to other performers. Also, the large amount of sensory and perceptual information that floods a performers'

mind as they engage with musical graphics may prevent them from documenting their creative processes, and experiences of them, effectively.

Regardless of the reasons why so few performers document how they engage with musical graphics, the lack of available materials has limited the insights it is possible to provide in the historical contextualisation of musical graphics in this chapter. Not having access to performers' perspectives of the creative processes they use to engage with musical graphics means that important contextual information is missing, which is required to fully understand the relationship between the performer, the musical materials and the score. However, before analysing the performance materials gathered from the two case studies, it is necessary to first discuss the musical and extra-musical tools which will be used to decipher the creative processes performers utilise to engage with musical graphics.

Chapter 2 - Methodological Approach and Issues

2.1 Introduction

The methodologies used in this thesis have been designed to examine how performers engage with musical graphics, by analysing their strategies and reasoning for choosing which aspects of a score to interpret at each moment and the musical materials they create to respond to them. This involves the comparative analysis of several recorded performances of musical graphics and rehearsal discussion transcripts, the goal of which is to gain an understanding of performers' experiences of engaging with musical graphics that has not been provided by musical performance research thus far.

The two case studies, which make up Part II of this thesis, consist of workshop discussions and recordings of rehearsals and performances. The first case study involves a recording session, involving Samuel Rodgers, of a series of musical graphics by the English visual artist, Janet Boulton. I led the session, using my own vocalisations of my performance strategies to encourage Rodgers to express his own. The second involves a series of workshops led by the Danish composer and improviser, Carl Bergstrøm-Nielsen, involving students from Royal Birmingham Conservatoire jazz and composition departments. The focus of Part II is on analysing the recordings and discussion transcripts from these workshops and performances.

Two performance research concepts inform the discussion that follows. First, is the concept of playfulness, both its hermeneutic and performative aspects, and the analytic challenges it presents; deciphering it without oversimplification while still embracing

its messiness. Second is Jeff Pressing's concept of referent improvisation¹⁷⁶ and the layering of extant stimuli, both score based and environmental, and how they inform performers' interpretative decisions and the creation of musical materials. The following sections lay out the design of the case studies and outlines the concepts and methodological literature which has informed my approaches to capturing and interpreting performers' experiences. This chapter concludes by setting out my analytical priorities for the investigation and examine how those priorities have informed my approach to analysing the findings of the research materials.

A variety of extra-musical investigative tools have been useful in capturing and interpreting the experiences of the performers in these studies. In particular, auto-ethnography was used to process my own experiences and compare and contrast them with other performers, as I have been directly involved in all of the case studies as a performer. While auto-ethnography is an amalgamation of cultural study and autobiography, this methodology does not seek to arrive at 'musical graphics according to Joe Scarffe' or a comprehensive cultural analysis of performers of musical graphics. Rather, it aims to analyse a range of performer experiences of engaging with musical graphics to produce findings that other performers and researchers might use to assist them in effectively engaging with musical graphics.

In order to achieve accurate descriptions of the participants within the case studies, it was crucial to maintain a balance between emic and etic perspectives. My dual role as

¹⁷⁶ Jeff Pressing, 'Improvisation: methods and models'. In Sloboda, J. A., ed. *Generative processes in music: The psychology of performance, improvisation, and composition*. (Oxford: Clarendon Press, 1988), pp. 129-178.

both performer and researcher problematised this because adopting an etic approach and questioning performers on their experiences and interpretative choices presented the potential danger of impacting performers' actions and behaviours. Furthermore, my emic perspectives as a performer faced the axiological dilemma of either focusing on my contributions, and thereby influencing the interpretation of the recordings to fulfil research objectives, or focusing on capturing accurate descriptions of performers' experiences but negating my own contributions. Robert Yin points out that even the researcher's approach to documentation via audio and video recordings has a considerable impact on the how participants interactions are perceived, because they decide when, where and what to record.¹⁷⁷ To mitigate these potential issues, I did not edit any of the workshop recordings and focused on ensuring that my fieldwork was as thick and contextually sensitive as possible, as Yin states that 'the thicker the description, the more that selectivity might be said to have been reduced'.¹⁷⁸

Data was gathered via a workshop methodology where the participants were encouraged to vocalise their thought processes and creative decisions in the moment, but also then vocalise their reflections on those decisions to open up further interpretative pathways. This methodology draws on the work of the music educators John Paynter, Peter Aston, George Self and Murray Schafer, in the 1960s and 1970s, who pioneered the use of workshops in music education to 'transform the classroom into a "workshop" space, a laboratory for invention'.¹⁷⁹ Their motivation was 'to

¹⁷⁷ Robert K. Yin, *Qualitative research from start to finish*. (New York: The Guilford Press, 2010), p. 12.

¹⁷⁸ Yin, *Qualitative research from start to finish*, p. 12.

¹⁷⁹ Lee Higgins, 'The creative music workshop: Event, facilitation, gift', *International Journal of Music Education* 26.4 (2008), p. 328.

provide an environment more conducive for young people to explore music and music-making'.¹⁸⁰ Lee Higgins points out that 'as a spatial and temporal domain, the contingent structure of the workshop allows an open space to foster active and collaborative music-making'.¹⁸¹

My goal in setting up these workshop environments was to use their inherent flexible and open form nature to enable performers to share their strategies and experiences of engaging with musical graphics, when they felt it was appropriate to contribute, and discuss how their interpretative pathways develop both within individual sessions and across multiple workshops. To help facilitate these discussions, and ensure that every performer was able to vocalise their experiences, I ensured that there was a designated leader for each workshop. As I mentioned above, in the first case study, I continually vocalised my thought processes to encourage Rodgers to contribute. Bergström-Nielsen led the workshops in the second case study, although I occasionally prompted participants where I felt more extrapolation of their experiences was necessary. In both performance case studies, we were operating as 'facilitators', a role described by Christine Hogan as:

[...] a self-reflective, process-person who has a variety of human, process, technical skills and knowledge, together with a variety of experiences to assist groups of people to journey together to reach their goals.¹⁸²

¹⁸⁰ Higgins, 'The creative music workshop', p. 328.

¹⁸¹ Higgins, 'The creative music workshop', p. 328.

¹⁸² Christine Hogan, *Understanding facilitation: Theory and principles*. (London: Kogan Page, 2002), p. 57.

The self-reflective, process orientated nature of the role of facilitator overlaps effectively with the role of auto-ethnographer, as they have the shared goal of providing experiential insights that enable the reader to become an insider participant through engaging with the analysis of the research materials and their findings. This is why this thesis is titled as an investigative journey of self-reflective artistic practice and auto-ethnography: the facilitation process, and the resultant analysis of it in this thesis, requires oscillation between self-reflection of how the performers are engaging with musical graphics and analysis of the contextual cues which inform their praxes. However, Higgins points out that the use of facilitators bring about inevitable philosophical tensions within workshop environments.¹⁸³ These tensions arise due to impossible position that workshop leaders are in, balancing a desire to foster unconditional openness against the limitations of the each workshop, the boundaries of which are set by the available resources, time and the skill level of the performers.¹⁸⁴ To deal with these tensions, I set different workshop limitations, to assist the facilitators, which suited each case study.

For the first case study, I structured the sequence of the musical graphics and the durations of time spent on each according to Rodgers' instrumental limitations and kept my facilitation to a minimum to encourage autopoiesis. For the second case study, I encouraged Bergstrøm-Nielsen to begin each workshop by laying out his high level ethical and musical principles, upon which he was basing his interpretative vision, before then discussing concepts with the group. I also requested that he dedicate some

¹⁸³ Higgins, 'The creative music workshop', p. 328.

¹⁸⁴ Higgins, 'The creative music workshop', p. 328.

of the workshops to exploring some of his improvisational studies, so that the other performers could get an understanding of his approach to ensemble dynamics and parameterised musical content.

2.2 Examining Performer Experiences

2.2.1 Case Study Research design

Data was gathered from the discussion transcripts and recordings of two workshop scenarios, the aim of which is to reveal the strategies performers use to engage with musical graphics and clarify the transmission flow of information between score and performer, from first engagement with a score through to performance. The goal of the data capturing process was to capture ‘thick descriptions’¹⁸⁵ of performers’ experiences of engaging with musical graphics, allowing for reflection and encouraging the vocalisation of thought processes in the moment. I then used reflections of my own experiences to contextualise and validate these descriptions. This is necessary because rehearsing and performing musical graphics can be a disorienting experience, particularly if a soloist loses their train of thought or if ensemble performers are unsure if the other performers around them are engaging with the same parts of the score as them.

To capture as much of each performers’ experiences as possible, Bergstrøm-Nielsen and I encouraged the performers within both case studies to vocalise their thought processes. There are obvious practical limits to this, as I wanted to avoid a constant

¹⁸⁵ Clifford Geertz, *The Interpretation of Cultures* (New York: Basic Books, 1973).

cacophony of multiple streams of consciousness. It was therefore necessary for me, as researcher and facilitator, to encourage the participants to vocalise the salient moments within their experiences of engaging with musical graphics.

My tripartite role as a workshop facilitator, workshop participant and practising researcher generated methodological challenges throughout the case studies. The axiological dilemma, described above, resulted in a blurring of lines between my emic stance as performer and facilitator and my etic stance in fulfilling my research objectives of capturing performers' experiences. The authority differential between the participants and facilitators compounded this blurring and posed ethical dilemmas. Furthermore, when the goal of workshop facilitation is documentative empirical research, that presents an inherent conflict, as it frames the creative work within a defined extant ontology, which may shape how participants think and behave. This conflict is particularly apparent in the case of improvisational practice, as Derek Bailey points out, 'there is something central to the spirit of voluntary improvisation which is opposed to the aims and contradicts the idea of documentation'.¹⁸⁶ However, there is an important distinction to be made here between encouraging performers to voice their own empirical findings that they find salient, thus tackling the axiological dilemma posed above, and directly shaping their interpretative decisions.

My role was to ensure that facilitation was facilitative, within the workshops, by encouraging the participants to construct their own meaning rather than forcing those meanings to emerge. My overall aim was therefore to avoid controlling and limiting

¹⁸⁶ Derek Bailey, *Improvisation: It's nature and practice in music* (Boston: DaCapo Press, 1993), ix.

the participants under a smoke screen of empowerment idealism, which my roles of facilitator and researcher constantly threatened. I was also keen to avoid placing idiomatic straightjackets over the performers and not to allow the axiological dilemma of filtering performer experiences to cause me to preference idiomatic materials and findings that match my performance practice, particularly if there was an emic and etic knowledge discrepancy between my viewpoint on a musical situation and theirs.

As mentioned above, the case studies have been designed as self-contained empirical data collection environments and full discussion on the practical dilemmas this presented can be found within each case study. Adaptations to methodology, as necessitated by the events that unfolded in each workshop, are addressed in each respective case study. The first case study focused on the performance of two musical graphics by the English visual artist, Janet Boulton, from her *Eye Music Series* (2007). The performance took place at Boulton's studio and involved the sound artist and composer, Samuel Rodgers. The second case study focuses on a series of four workshops on performing musical graphics, which I organised as part of the 2014 Frontiers Festival, in Birmingham.

The workshops were all led by the Danish composer and improviser, Carl Bergstrøm-Nielsen, and involved ten student performers from the composition and jazz departments at Birmingham Conservatoire. The scores that were chosen for the workshops were Theresa Sauer's *Circle Series* (2010), Erik Christensen's *Telephone Conversation* (1975) and *Constantly on the Edge of a Breakdown* (1977) and Henrik Ehrland Rasmussen's *Threads* (2009). Christensen's score contains text instructions,

which ask the performer to adopt a variety of emotional states in response to the graphics, whereas Sauer's contains no accompanying instructions.¹⁸⁷

The open and porous nature of the workshop environments in the case studies allowed them to fluidly mix phases of conceptualisation with loose performance strategies, meaning that the workshops and performances were not discrete events but were part of a larger developmental trajectory. Drawing on the orientation of the trajectory was informed by conceptual analogues which the performers created in response to each musical graphic. Conceptual analogues act as a set of unwritten plans for how to approach the musical materials, which were formed during the workshops. A plan of musical actions, according to Schafer, is 'an abstract homomorphism of the performance, representing its essential structure'.¹⁸⁸ Each conceptual analogue differed in its specificity but they were intended to function as frameworks for meaning construction rather than as score analogues. To decipher the performers' motivations behind the action plans, I looked to principles from metacognition. At its most basic level, meta cognition is the concept of thinking about one's own thoughts. Douglas Hacker points out that it can involve 'thinking of what one knows (i.e. metacognitive knowledge), what one is currently doing (i.e. metacognitive skill) or what one's current cognitive or affective state is (i.e. metacognitive experience)'.¹⁸⁹ These principles were

¹⁸⁷ Although the scores within the series do not contain any instructional notes, there are several instructional ideas that Sauer expresses in a 2013 New York Times interview that I sent to Bergström-Nielsen for reference and are accessible here:
<<https://www.nytimes.com/2013/05/12/nyregion/notations-21-project-is-at-art-league-of-long-island-in-dix-hills.html>>

¹⁸⁸ Douglas Hacker, 'Definitions and empirical foundations' In D.J. Hacker, J. Dunlosky & A.C. Graesser (eds) *Metacognition in Educational Theory and Practice*. (London: Lawrence Erlbaum Associates, 1999), p. 3.

¹⁸⁹ Hacker, 'Definitions and empirical foundations', p. 3.

used to encourage the workshop participants to view practice as a ‘self-teaching’ activity, where they could gain clarity on their metacognitive processes and then express them to assist other performers and me as a researcher.¹⁹⁰

The design of the rehearsal transcripts were designed along the principles laid out in the following section and my introspective findings were processed using auto-ethnography, which is explained in the section after.

2.2.2 Data Gathering

Two analytic frameworks were particularly influential in determining my strategies for gathering data. First is Michael McInerney’s qualities of musical events, which he describes as ‘not simply sonic nor can be ascribed to the prescribing score’, and are as follows:¹⁹¹

1. The setting of the event as a visual tableau, and
2. The performance of the event as theatre
3. Or ritual;
4. The sonic realisation as more than transparent, as also authentic presentation of the performer’s own musicality;
5. The inherent decisions in bringing the work to the public forum, as a matter of personal ‘expression’ through the means of individually discerning judgement, of ‘taste’,

¹⁹⁰ Jorgensen ‘Time for practising? Higher level music students use of time for instrumental practising’. In H. Jorgensen and A.C. Lehman (Eds) *Does practice make perfect? Current theory and research on instrumental music practice* (Oslo: Norges musikkhogskole, 1997).

¹⁹¹ Michael McInerney, ‘Performance and the Page: An artist’s investigation of the dialogue between the musical event and the written score’ (2007) [PhD Thesis], p. 157.

6. The particular interpretative decisions involved in realisation as a further manifestation of individual discernment;
7. Idiomatic sound.¹⁹²

These qualities guided me in considering the sequencing of data gathering and the contextual factors that impact on it. In particular, they widened the focus of the data gathering to include the visual impact of the performance setting and the bringing of the action plans from the workshops into the public forum. This was important in providing an etic dimension to the research process and avoiding the data gathering succumbing to tunnel vision of focusing purely on gathering emic knowledge of the social interactions between performers. McInerney also provides a useful expansion to point 6, for how performers can approach the interpretation of different types of musical graphic content:

Once the observer acknowledges the page, the task becomes one of identification: what kind of page is this? Is it a linear text, a map or diagram, or an image? Having done so, the attention moves to the second level - to analyze its constituent marks as sign, symbols, indexes or icons. Only then is the reader able to come to terms with the page, decode, unravel and make use of it.¹⁹³

This process was particularly useful in considering how to separate out the data into conscious and unconscious interpretative decisions that performers make when

¹⁹² McInerney, 'Performance and the Page', p. 157.

¹⁹³ McInerney, 'Performance and the Page', p. 160.

engaging with musical graphics. The process also informed the phenomenological exploration of the perspective shifts that performers make between exploring the totality of each page of the score and the graphic content that resides within it.

The second framework that guided approach to data gathering is Pressing's concept of the 'referent' and his theorizing of the constraints placed on performers' improvisational strategies.¹⁹⁴ Pressing defines a referent as 'a set of cognitive perceptual, or emotional structures (constraints) that guide and aid the production of musical materials.'¹⁹⁵ The ethnomusicologist, Bruno Nettl (b. 1930), refers to the same concept as a 'model', which is where an improviser 'has something given to work from, that he uses as a ground on which he builds'.¹⁹⁶ Pressing states that the function of a referent is to 'provide material for variation [so] the performer needs to allocate less processing capacity to the selection and creation of materials'. Whereas the conceptual analogues were reflected on post-hoc, I broke up smaller clusters of performers' actions, during the workshops, into segmented referents, which are discussed in the case study analyses in Part Two. This was so that I could internally map out the developments of the musical materials, as they occurred within each workshop, and witness how the pre-composition of certain musical ideas reduced the need for decision making in the performances themselves. I then used the referent structures to guide my questioning of performers, during the workshops, on whether previous musical forms,

¹⁹⁴ Jeff Pressing, 'Cognitive Processes in Improvisation', in *Cognitive Processes in the Perception of Art*, ed. W. Ray Crozier and Anthony J. Chapman (Amsterdam: Elsevier, 1984), p. 346-347.

¹⁹⁵ Pressing, 'Cognitive Processes in Improvisation', p. 348.

¹⁹⁶ Bruno Nettl, 'Thoughts on Improvisation: A Comparative Approach', *The Musical Quarterly*, 60 (1974), p. 11.

experiences or structures from their own practice guiding the production of their musical materials.

Pressing focuses on the internal constraints on improvisers' freedoms, but my aim, influenced by McInerney's qualities of musical events, was to also capture external referent data. Helpfully, Stan Chung has expanded on Pressing's work to include two external referents:

1. External Values. What are the external social-cultural features and historical context that influence the improvisatory practice?
2. Expertise. How is expertise development conceived within the improvisatory practice?¹⁹⁷

Although specific data points relating to these external referents were not gathered, the contextualisation of the performers' interpretative decisions provided a means to explore how the performers conceived of the development of their own expertise. This was particularly useful in musical situations that deviated from Bergstrøm-Nielsen's interpretative conceptualisations in the second case study, as Landgraf argues that 'improvisation cannot be viewed independently of the social and cultural context of its articulation'.¹⁹⁸ Although referent structuring was highly influential on the data gathering process, I was aware that these structures resided within a larger pre-existing knowledge base for each performer, whether or not they had prior experience of

¹⁹⁷ Stan Chung, 'The Socio-Cultural Referent in Improvised Art, Music, and Theatre: Toward a Meta-Inquiry into Improvisation Studies' (British Columbia), p. 2.

¹⁹⁸ Edgar Landgraf, *Improvisation as Art: Conceptual Challenges, Historical Perspectives* (New York: Continuum), p. 11.

performing musical graphics. Pressing states that ‘improvisational fluency arises from the creation, maintenance and enrichment of an associated knowledge base, built into long term memory’.¹⁹⁹

In Case Study 2, I requested that Bergstrøm-Nielsen used the morning workshop sessions to address the foundations of each performer’s knowledge base. Pressing defines the knowledge base as ‘materials, excerpts, repertoire, subskills, perceptual strategies, problem solving routines, hierarchical memory structures and schemas, generalised motor programmes and more’. Bergstrøm-Nielsen approached the enrichment of each performer’s knowledge base by first utilising his own study compositions and then gradually incorporating each of the musical graphics into each session, where the action plans aligned. It was not necessary to structure the First Case Study in this way, as I was already aware of Rodgers’ knowledge base, due to our prior relationship and extensive past discussions.

A central concern in selecting performers for the workshops was the axiological dilemma, described above, of validating which performers to involve and judging which of their empirical avenues deserved focus. To try and avoid this dilemma, I did not personally invite any of the musicians specifically because of their expertise or instrumental specialism. Instead, a call out was made by the composition and jazz departments at Royal Birmingham Conservatoire and students who were available and interested contacted me to be involved. This meant that there was a wide range of experience levels amongst the musicians, with half of the musicians having performed

¹⁹⁹ Pressing, ‘Cognitive Processes in Improvisation’, p. 353.

musical graphics before and the other half having no prior experience. This was also desirable for the outcomes of this study, because one of secondary research questions addresses the impact of experience on how performers engage with musical graphics and so it was important to find out if the musicians' experience levels would impact on how they engaged with each score.

Influenced by the improvisational artists of the 1960s and 1970s, the workshops were purposely setup to be self-informing, or autopoietic. This meant that a key element in the gathering of performance data was the seeking of ongoing feedback during the workshops and the consideration of how it operates over different time scales. Pressing points out that 'short term feedback guides ongoing movements, while longer term feedback is used in decision-making and response selection'.²⁰⁰ Long term and short term feedback were not discrete data points that which could be discerned from the workshops, because single comments about a performer's technique or choice of musical materials sometimes manifested into larger musical narratives that influenced the overall response to a musical graphic. Instead, it soon became apparent that the feedback data was forming into multi-layered self-organisational loops, consisting of the performers' developmental journeys, interactions with their instrument, interactions with other performers and interactions with their performance environment. Deciphering these loops is a complex process because they are inherently messy. As John Butcher (b. 1954) points out, 'one has an extraordinarily complex matrix of

²⁰⁰ Pressing, 'Cognitive Processes in Improvisation', p. 350.

influences, intentions, innovations, visions, idiosyncrasies, habits, and insights filtered and fed through different intelligences into the music of the actual moment'.²⁰¹

Boulton or Rodgers were not interviewed about their experiences of Case Study 1, because the case study was intended to function as an interrogation of the performers' live engagement with each score. It was therefore preferable to contain all the discussions within the session itself, to conserve the autopoietic nature of the workshops. Furthermore, Boulton made it clear from the outset that she did not want to be consulted on matters relating to the interpretations of the scores or shaping the musical materials in the recordings. I was therefore keen to ensure that I only consulted her about the works and workshop when absolutely necessary, such as the logistical placement of the instruments and musical graphics in her studio.

Creating an environment where Boulton's viewpoints on her musical graphics, and performances of them, could be captured was one of the motivations for the setting up a chaired discussion during the Frontiers Festival in 2014. The discussion involved a panel of composers and performers consisting of Janet Boulton, Adam De La Cour, Carl Bergstrøm-Nielsen and Andrew Ingamells. The session lasted for two hours, with a question and answer session offered to students and staff at the end. In order for the panel to speak freely, the session was conducted informally. I did, however, steer the topics to address the primary and secondary research questions upon which this study is based. The session began with each of the panel members introducing themselves

²⁰¹ John Butcher, 'Freedom and Sound: This Time it is Personal', <<http://www.pointofdeparture.org/PoD35/PoD35Butcher.html>> [accessed 23 March 2011].

and their work, to help the other members and the audience be aware of their background and body of work. The performers involved in the second case study were also invited to the discussion, as it took place the day before the final two workshops, with the aim of helping them gain insight into composers' compositional choices and learn referent strategies from experienced practitioners.

For the same reasons that Boulton and Rogers were not interviewed, the Royal Birmingham Conservatoire student musicians were also not interviewed after each master-class, so as to not interfere with Bergstrøm-Nielsen's facilitation of the workshops and ensure that the focus could be kept on the live engagement with each score. However, Bergstrøm-Nielsen was interviewed after the workshops had concluded, because his focus on bringing out the other participants' viewpoints meant that he was often unable to express his own thought processes at the time. There was therefore an important opportunity to capture his reflections on the overall process and discuss wider issues relating to improvisation and musical graphics.

The topics covered in the interview ranged from the phenomenology of time in improvisation, Bergstrøm-Nielsen's thoughts on how performers with different experience levels engaged differently with each of the scores in the workshops and how the musical materials developed across the workshops and performances. The interview was highly exploratory, spurred by insights from the improvisation session between us prior to it, and was approached with a descriptive rather than analytic intent, which enabled a thorough reconstruction of his experiences of leading the workshops.

2.3 Auto-Ethnographic Approaches

Describing and analysing my experiences, and how they related to and interfaced with other performers, was a core focus of this investigation. Multiple forms of auto-ethnography were adopted to enable the descriptions and analyses of the experiences of the performers who participated in the two case studies. The narratives presented in Part II were then woven together from the ethnographic approaches employed in the analysis of the workshops, enabling me to shift the emphasis I was placing on myself, my interaction with others, musical-practice analysis and the contexts of the interview with Bergstrøm-Nielsen and the chaired discussion session.

Cathryn Ellis defines auto-ethnography as ‘an approach to research and writing that seeks to describe and systematically analyse (graphy) personal experience (auto) in order to understand cultural experience (ethno)’.²⁰² The aim of the approach is to create ‘aesthetic and evocative thick descriptions of personal and interpersonal experience’, which ‘help facilitate understanding of a culture for insiders and outsiders’.²⁰³ This is achieved by inductively seeking out patterns of ‘repeated feelings, stories, and happenings – as evidenced by field notes, interviews, and/or artefacts’.²⁰⁴ The process of gathering of these stories, feelings and happenings is not to produce neutral, impersonal, and objective descriptions of performers’ experiences. Rather, through adopting an auto-ethnographic approach, I became a ‘participant observer’, gathering

²⁰² Carolyn Ellis, Tony E. Adams and Arthur P. Bochner, ‘Autoethnography: An Overview’, *Qualitative Social Research*, 12.1, p. 1.

²⁰³ Ellis, Adams and Bochner, ‘Autoethnography: An Overview’, p. 1.

²⁰⁴ Jane Jorgensen, ‘Engineering selves: Negotiating gender and identity in technical work’. *Management Communication Quarterly* (2002), 15.3, p. 353.

data to help both insiders and outsiders to better understand the process of engaging with musical graphics.²⁰⁵

Auto-ethnography is not employed in a conventional form in this thesis, because the cultural analytical focus was localised to examining the impact of cultural elements on the structure of the creative processes involved in engaging with musical graphics. As a result, the two case studies, presented in Part II of this thesis, oscillate back and forth between self-reflection of my artistic practice and analysis of the impacts of cultural forces on the structures and cognitive layering of the creative processes. As discussed above (p. 63), this oscillatory movement is also beneficial for the analysis of workshop facilitation. This is because the workshops arranged for this research project, particularly those in the second case study, were structured in a back and forth movement between Bergstrøm-Nielsen's explanations of the cultural components of performing musical graphics and his questioning of the workshop participants about their experiences of engaging with the scores. The structure of the conceptualisation pipeline presented in Chapter Six (p. 199) is also informed by the findings which resulted from the oscillatory movement in the analysis of the case studies. The reflexive loop and the self-referential constructionist loop back in the pipeline were deciphered through the change of perspective from self-reflection to cultural analysis.

The advantage of using auto-ethnography over other qualitative methodologies for this investigation is that it 'accommodates subjectivity, emotionality, and the researcher's

²⁰⁵ Barbara Tedlock 'From participant observation to the observation of participation: The emergence of narrative ethnography' (1991) *Journal of Anthropological Research*, 47.1, p. 72.

influence on research, rather than hiding from these matters or assuming they don't exist'.²⁰⁶ Thus, it 'expands and opens up a wider lens on the world, eschewing rigid definitions of what constitutes meaningful and useful research'.²⁰⁷ These qualities of autoethnography are important for addressing how performers engage with musical graphics because their experiences are highly subjective and so require reflexivity.

Ellis suggests that the practice of auto-ethnography emerged because, 'scholars became increasingly troubled by social science's ontological, epistemological, and axiological limitations'.²⁰⁸ To address these limitations, researchers were influenced by postmodernism to 'reform social science and reconceive the objectives and forms of social science inquiry'.²⁰⁹ Central to this reformation was the realisation that the facts and truths discovered by scientists are 'inextricably tied to the vocabularies and paradigms the scientists used to represent them'.²¹⁰ This realisation introduced a conflict that scholars who present themselves as value free are not accounting for the inherent subjectivity in their choice of language when presenting their findings. To address the conflict, scholars began to explore proffering stories and their ability to capture 'complex, constitutive, meaningful phenomena', which 'introduced unique ways of thinking and feeling, and helped people make sense of themselves and

²⁰⁶ Carolyn Ellis & Michael G. Flaherty (Eds.) *Investigating subjectivity: Research on lived experience*. (California: Sage), p. 103.

²⁰⁷ Tony Adams, 'Speaking for others: Finding the "whos" of discourse'. *Soundings* (2005) 88.3, p. 333.

²⁰⁸ Ellis, Carolyn and Arthur Bochner. 'Autoethnography, personal narrative, reflexivity'. In Norman K. Denzin & Yvonna S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.) (California: Sage, 2000), p. 748.

²⁰⁹ Ellis and Bochner, *Autoethnography, personal narrative, reflexivity*, p. 750.

²¹⁰ Thomas Kuhn, *The structure of scientific revolutions* (Chicago: University of Chicago Press, 1996), p. 196.

others'.²¹¹ As Bochner puts it, 'scholars across a wide spectrum of disciplines began to consider what social sciences would become if they were closer to literature than to physics'.²¹² Musical graphics are therefore particularly suitable for auto-ethnographic study because they were created to push the ontological and epistemological limitations of the transmission of musical ideas, just as auto-ethnographic approaches were developed to push the limits within social science.

Each of the workshop recordings were approached as singular narratives, to be able to map out the creative processes to build the pipeline laid out in Chapter Six (p. 199).²¹³ While these narratives are largely conceptually driven and tied to each score, I was keen to ensure that the contextual and reflexive dimensions surrounding them were given due attention. Jaber Gubrium (b. 1943) and Holstein (b. 1948) state the following characteristics of experiential narratives:

Narratives are not simply reflections of experience, nor are they descriptive free-for-alls. Not just anything goes when it comes to storying experience. Rather, narratives comprise the interplay between experience, storying practices, descriptive resources, purposes at hand, audiences, and the environments that condition storytelling.²¹⁴

²¹¹ Fisher, Walter R. (1984). 'Narration as human communication paradigm: The case of public moral argument'. *Communication Monographs*, 51.1, p. 16.

²¹² Arthur Bochner, 'Perspectives on inquiry II: Theories and stories'. In Mark L. Knapp & Gerald R. Miller (eds.), *Handbook of interpersonal communication* (California: Sage, 1994), p. 31.

²¹³ These can be found in the Appendix.

²¹⁴ Jaber Gubrium and James Holstein, 'Narrative Ethnography'. In Sharlene Nagy Hesse-Biber, Patricia Leavy (eds.), *Handbook of Emergent Methods* (London: Guildford Publications), p. 255.

In order to capture this complex interplay, a narrative ethnographic approach was adopted, which enabled me to widen the analytical possibilities of processing my experiences. Narrative ethnography was pioneered by Gubrium and Holstein and brings together narrative analysis with field-based qualitative data gathering, ‘to capture—through multifocal analysis—the contextual influences and dynamics that shape narrative’.²¹⁵ Todd Landman (b. 1967) sets out four levels of analysis that need to be considered when examining narratives:

- 1) The linear level (relating to the sequential nature of storytelling and the basic structure of the narrative);
- 2) The relational level (what the story reveals about relationships between storyteller and audience);
- 3) The emotional level (conveying feelings and subjective understandings of an event);
- 4) The analytical level (where the social scientist reflects on the collected material).²¹⁶

Awareness of these layers informed how I presented the narratives in Part II of this thesis and helped to reveal the unconscious motivations behind how the narratives were structured. Landman points out that ‘recognizing that there are such levels involved in narrative inquiry while also acknowledging that the story is never twice the same avoids getting into an epistemological tangle about truth claims’.²¹⁷ Reflexivity was an

²¹⁵ Gubrium and Holstein, ‘Narrative Ethnography’, p. 258.

²¹⁶ Landman, T (2012) ‘Phronesis and Narrative Analysis’. In: Landman, Flyvbjerg and Schram (eds.) *Real Social Science*. (London: Cambridge University Press), p. 31.

²¹⁷ Landman, ‘Phronesis and Narrative Analysis’, p. 31.

important element in the construction of the narratives and my interpretation of how my practice was impacted by the research process was informed throughout by Landman's levels of narrative analysis. Ellis points out that approaches to reflexive ethnography lie on a continuum, ranging from minor biographic contextualization through to ethnographic memoirs, or confessional tales, where the ethnographer's reflexivity becomes the focal points of investigation.²¹⁸ My concern, at the outset, was that the narratives may become overly confessional, but focusing on the relational and analytical levels of the narratives provided an effective feedback structure to avoid this and prevent the emotional level from dominating.

The final core auto-ethnographic approach adopted in this research project is interactive interviewing. The interview with Bergstrøm-Nielsen and the chaired round table discussion session were both setup as interactive interviews, which Ellis describes as 'collaborative endeavours between researchers and participants', which enable them to 'probe together about issues that transpire, in conversation, about particular topics'.²¹⁹ Several characteristics of the interactive interview process also influenced the setting up of the workshops. For example, Case Study 2 was divided into multiple sessions, which was motivated by the desire to build rapport between the workshop participants; a common feature of interactive interviews. However, the workshops were not viewed as interview environments, in a traditional sense. Rather, they acted as environments in which collaborative probing could take place.

²¹⁸ Cathryn Ellis, *The ethnographic I: A methodological novel about autoethnography* (Walnut Creek, California: AltaMira Press, 2004), p. 50.

²¹⁹ Ellis, Adams and Bochner, 'Autoethnography: An Overview', Available at: <<http://www.qualitative-research.net/index.php/fqs/article/view/1589/3095>> [accessed 14 April 2018].

2.4 Conclusion

Through the conceptualisation of the study and both case studies, the principal concern was to avoid treating the musical graphics under investigation as musical aporias or, as Ferneyhough pithily puts it, probing ‘the wounded tooth, so that the toothache becomes part of the work’.²²⁰ This is why most of the extra-musical investigative tools that have informed the approach to investigation have been influenced by postmodern thought, to avoid the ontological, epistemological, and axiological constraints highlighted through this chapter.

Although the analytic frameworks, which have influenced the collection of workshop feedback data, are rigid, the aim was not to progressively narrow the filtering on that specific data to result in a blueprint for how performers should engage with musical graphics. Conversely, the goal was to unearth performance strategies and discover how performers handle autopoietic workshop and performance environments. This is why using narrative auto-ethnography was so important. It enabled the formation of layered accounts to illustrate the emergent relationship of data collection and analysis, so this could be framed as a ‘source of questions and comparisons’ rather than a ‘measure of truth’.²²¹ It provided an expansive toolkit for conveying the ‘emergent experience’ of doing and writing research.²²²

²²⁰ Brian Ferneyhough, in Arnold, *There's No Sound In My Head* (2010) [DVD].

²²¹ Kathy Charmaz, ‘The grounded theory method: An explication and interpretation’. In Robert M. Emerson (Ed.), *Contemporary field research: A collection of readings*. (Prospect Heights, Illinois: Waveland, 1983), p. 117.

²²² Carol R. Ronai. ‘The reflexive self through narrative: A night in the life of an erotic dancer/researcher’. In Carolyn Ellis & Michael G. Flaherty (Eds.), *Investigating subjectivity: Research on lived experience* (Newbury Park, California: Sage, 1992), p. 123.

Part II – Case Studies

Chapter 3 - Case Study 1: 'Eye Music' Series

3.1 Introduction

This chapter details the process and outcomes of the first case study, which focuses on the preparation and performance of two different musical graphics created by the English visual artist, Janet Boulton. The chapter begins by discussing the design of the workshop session and then contextualises Boulton's artistic practice and her motivations for creating the *Eye Music* Series. The audio recordings of this session can be found in tracks 4 to 7 on the supplied Memory Stick. The transcript of the session is found in Appendix 2 (p.233).

The two case studies which comprise Part II of this thesis were primarily selected to showcase how differences in approaches to composition, performer skill levels and performance environments can impact on how performers engage with musical graphics. In this first case study, the creator of the scores is purely a visual artist and so they did not create the musical graphics with an expected range of musical results in mind, whereas the scores in the second case study were all created by professional composers. Furthermore, the performers involved in the first case study are both very experienced with performing musical graphics and performing with each other, whereas the second study involves performers with a wide variety of musical backgrounds and experiences of performing musical graphics. The impact of these differences, discussed in this chapter, are utilised in Chapter Six to help explore how performers' approaches to the creative processes, laid out in the musical graphics performance conceptualisation pipeline (p. 199), can be impacted by extrinsic factors.

These case studies were also selected to showcase how the relationship between self-reflective artistic practice and auto-ethnography yields different insights into how performers approach the creative processes involved in performing musical graphics. In the first case study, my involvement as a performer, and my previous relationship with the musician I performed with, enables the focus to be on artistic self-reflection. Auto-ethnography is used sporadically to provide contextual enrichment of the relationship between performers and composers of musical graphics, as well as wider cognitive framing of the creative processes involved in performing them, which is a concept that is explored in more detail in the world building section in Chapter Six (p. 177). In contrast, the second case study addressed in Chapter Four involves a large group of performers and so allows for more bouncing between self-artistic practice and auto-ethnography, as described in Chapter Two.

For this case study, I worked in collaboration with the sound artist and composer Samuel Rodgers. Unlike the second case study, discussed in Chapter Four, this case study was conducted in one discrete session. The case study transcripts consist of several dyadic reflexive discussions, which vocalise the performers' interpretative decisions behind the creation of the musical materials in four recorded performances. These discussions sought to elucidate how the musical graphics intersected our musical backgrounds and hermeneutic lenses. Furthermore, the dynamic nature of the event, where the discussions and musical materials fluidly assembled into each recording, provides not only a contrast from the connected workshop environments in Case Study Two, but also represents a more common approach to performing musical graphics. All the discussion transcripts relating to this case study are found in the appendices, along

with transcripts of the chaired discussion session, where Janet Boulton provides more substantive insights into her perspectives on her compositional approach.

This chapter first outlines the design of the recording session and sets out the autobiographical narratives, which capture my experiences of engaging with these musical graphics, and connects them to wider cultural, political, and social meanings and understandings. Finally, an overarching structure of the transmission system, which framed the musical narratives and the referents that shaped them, is put forward and is then supplemented in Chapter Six.

3.2 Event Design and the *Eye Music Series*

All of the preparatory discussions and performances for this Case Study took place in one six hour session, split equally between four different musical graphics, all created by Janet Boulton. Examples of these scores can be found below. Boulton is an English visual artist based in Abingdon-on-Thames in Oxfordshire, who specialises in watercolour and paper relief works. She began her career focusing on the mediums of oil and acrylic, but later changed to watercolour, for reasons which she describes in her artist biography:

The decision to change her main medium from oil and acrylic to watercolour came out of an increasing interest in glass; windows, mirrors, commonplace glass objects and their reflections. Along with a feeling that it was the medium most suited to her purpose she had developed a strong interest in modern

watercolour as a material misrepresented in professional circles—either as the most difficult of all media or contrarily, the province of the amateur.²²³

All of the scores in this case study are from her *Eye Music* series (2004-2014), which consists of thirteen pieces, six of which are paper reliefs and seven are water colours. Boulton states that the series combines ‘observations of a still life installed in a window (comprising five plate glass shelves and rows of jam jars) with the forms of musical notation used in early medieval plain chant’.²²⁴ The still life, to which she refers, consists of an assemblage of jam jars on five glass shelves, which was installed in a window of her art studio thirty years ago and ‘celebrates the common jam jar’.²²⁵ She describes it as ‘representative of a life-long fascination with glass and its potential as a subject for painting, particularly as seen in windows and mirrors, with all their many spatial and reflective possibilities’.²²⁶ She also mentions that ‘another discovery, early on, was finding that, when making the support to contain the still life, it inadvertently formed a construction which bore similarities to the pages of a conventional musical manuscript’.²²⁷ In particular, it is the enclosing of the five plate glass horizontal shelves within a shallow perspective that drove this connection for her.²²⁸

Boulton’s states that early church music is her ‘strongest musical inspiration’ and was the motivation for using plainchant within the *Eye Music* series.²²⁹ She writes that she

²²³ Janet Boulton, *A Seeming Diversity: Paintings & Reliefs* (Devon: Uniform Books, 2017), p. 81.

²²⁴ Janet Boulton, *Eye Music Series* (Devon: Uniform Books, 2014), p. 34.

²²⁵ Boulton, *Eye Music Series*, p. 10.

²²⁶ Boulton, *Eye Music Series*, p. 10.

²²⁷ Boulton, *Eye Music Series*, p. 11.

²²⁸ Boulton, *Eye Music Series*, p. 10.

²²⁹ Boulton, *Eye Music Series*, p. 9.

had ‘a growing wish to look at, and make drawings from, an original early manuscript, rather than seeing illustrations in a history book on the subject’.²³⁰ To make these drawings, she visited the Library at Keble College, Oxford, where she was shown six large printed missals, originating from a number of medieval monasteries in Europe, containing plainchant within the liturgical texts. She was given permission to ‘replicate as closely as possible the calligraphic style of the musical notation’ using a carpenter’s pencil and small sheets of textured watercolour paper.²³¹ She writes that ‘it was directly from these drawings, made in the summer of 2013, that the relief works evolved and became, with their red, white and black colours, in some way, another kind of score awaiting interpretation’.²³² Her reflections on the process of creating the pieces in the *Eye Music* series are that ‘by appropriating the simple graphic shapes of early musical notation, she ‘gained the tools and the language, through ‘a process of deconstruction and re-invention’ to ‘make pictures which embraced the formal and random languages, of both painterly and musical traditions and ideas’.²³³

Boulton does not provide performance instructions with any of the pieces in the series and makes it clear that the pieces were not created to function as prescriptive musical scores:

The choice and the arrangement of the colour, the tones and graphic elements in this *Eye Music* Series of paintings and relief works is purely subjective, being personal and random. These paintings are neither a blueprint nor a

²³⁰ Boulton, *Eye Music Series*, p. 8.

²³¹ Boulton, *Eye Music Series*, p. 8.

²³² Boulton, *Eye Music Series*, p. 9.

²³³ Boulton, *Eye Music Series*, p. 11.

musical score. They are not prescriptive of any instrumentation or performance and have no starting or ending point - but I do have music in mind.²³⁴

Her clarifications on how to approach her works explain why she did not want to have any responsibility for, or direct involvement with, any resulting performances of the works for this case study. It is also the reason why, as I explained in Chapter Two, I organised a separate discussion session to allow her to voice her views on her works and her experiences of past performances of them. However, in multiple visits to her studio prior to the recording session, I did discuss with her the logistics of where to conduct the case study, which informed the decision to perform in her studio. It also means that, while something resembling plainchant notation appears in many of the pieces within the collection, Boulton did not intend to include it to specifically be read as musical notation. Furthermore, the paper relief technique used to construct the scores distorts the shape of the notation, obscuring standard reading. Therefore, while the series is titled the *Eye Music* series, Boulton is not using the term ‘eye music’ in the conventional sense, referring to the embellishment of staff notation which was common from the 11th to the 13th centuries. Rather, she is using it in a special sense, which is something that I clarify in my forward to the accompanying book for the series:

Janet Boulton refers to her collection as ‘Eye Music’, but it is important to recognise that she is using the term in a special way. Technically speaking ‘Augenmusic’ (eye music) is the “practice of utilising graphics to embellish staff notation, with a largely

²³⁴ Boulton, *Eye Music Series*, p. 12.

graphic or typographic function, in order to reinforce the affective meaning of the music". Boulton, on the other hand, is using the term to describe the visual impact of the works and the significance of their autonomy.²³⁵

This clarification was an important consideration when addressing the first two scores in this case study, titled *Red Missale* (2013) and *Early Music I* (2005), because Boulton includes plain chant notation within both of them. However, the colour and texture of the paper pulp in both scores, which the notative shapes are constructed from, does not serve a purely decorative function, but is intended to be an element of its stimulatory function as a musical graphic.

The event conducted for this case study was not formally structured into specific rehearsal and performance sections. Rather, the performance durations were fluidly agreed upon, based on mutual intuitive senses of narrative teleology and identifications of referent structures. These structures are discussed in more detail in the findings below. To explore Boulton's musical graphics, I collaborated with the composer and sound artist, Samuel Rodgers, who chose to perform with live electronics and a range of metal instruments and upturned cymbals, which he bowed, all positioned on the floor. My bassoon crook had a microphone extension, which allowed me to plug into Rodgers' audio interface and amplify the sounds of the bassoon.

I had performed on numerous occasions with Rodgers, in capacities involving free improvisation, text scores and musical graphics, prior to this event. However, I

²³⁵ Joe Scarffe, 'Introduction' in Janet Boulton, *Eye Music Series* (England: Uniform Books, 2014), p.i.

deliberately did not discuss which scores to perform with him or attempt to shape any of his or my interpretative directions prior to the event. The reason for this was that my focus is on how performers engage with musical graphics, from first witnessing a score through to the performance situation. Therefore, it was desirable to organise both case studies as discrete environments, without having to divert focus to previous communications or preparatory events or performances. These case studies were purposefully setup to explore the issue of how the relationships between performers impact how they engage with musical graphics. This is why the first case study involves a close performer relationship and the second case study involves a group with little or no previous relationships.

The following sections outline the visual and musical referents, which were established to respond to each of the musical graphics, and interrogates the development of the interpretative strategies in which the referents were situated. This is followed by a descriptive performance analysis of each score. Before reading the next section, please first listen to track four on the supplied Memory Stick, titled 'Early Music 1'.

3.3 'Early Music I'

3.3.1 Referents and Interpretative Strategies

The first score addressed in this case study is titled *Early Music I* and is constructed from paper pulp to form a relief (See Fig.3.1). Unlike *Red Missale*, addressed below (See Fig.3.2), this score does not contain any shapes that represent plainchant notation directly. However, there are subtle references, such as the faint score lines in the background and the large backwards 'C' shape, which represents an inverted 'Do' clef, and the shape directly above it which represents an 'Ut' clef. Despite mentioning the

sources of inspiration for the shapes to me in personal correspondence, Boulton does not suggest how they should be interpreted because, like all the pieces in the *Eye Music* series, it does not come with any accompanying instructions or notes for performance. After placing the piece on the stand in the studio, and taking a few minutes to quietly take in the score, we began by discussing the texture and colour arrangement. There was an initial slight disagreement between us over the interpretation of the texture within the score. Rodgers put forward the following viewpoint:

Although the texture seems harsh at first, I think there is a real delicateness in the way that the shapes and colours are broken up and I don't feel it is appropriate to approach this score with really harsh sounds.

I disagreed that the texture and colours suggest a delicate sound world, because the black pigment around the top edges of the score, and the red, seemed intense and oppressive to me. However, we both came to the conclusion that there was no requirement for us to use only harsh or only light textures and so agreed that our opposing views could be combined to structure the musical materials.

Resolving these sorts of conflicts are an important and necessary part of the process of improvisation and dialogue generally, as Barbara Herman points out:

A mature moral agent should [...] have some ability to negotiate complex or changing circumstances. Procedures of deliberation anchored in (the right kinds of) moral concepts give [one] resources to respond to unexpected or

unfamiliar events; [one] can challenge or even set aside familiar moral practices in order to accommodate a new situation. In doing this, [one] engages in a kind of moral improvisation.²³⁶

Therefore, I did not seek to avoid any aesthetic dilemmas that resulted from the conflicts between mine and Rodgers' 'characters', the term here referring to the decisions and improvisatory instances which flow out of the creative process of engaging with musical graphics. To the contrary, cultivating an 'ethical space that allows room for plurality and differences in character' was important to me from the outset. Wiggins refers to this process of establishing these sorts of spaces as 'cognitive underdetermination'.²³⁷

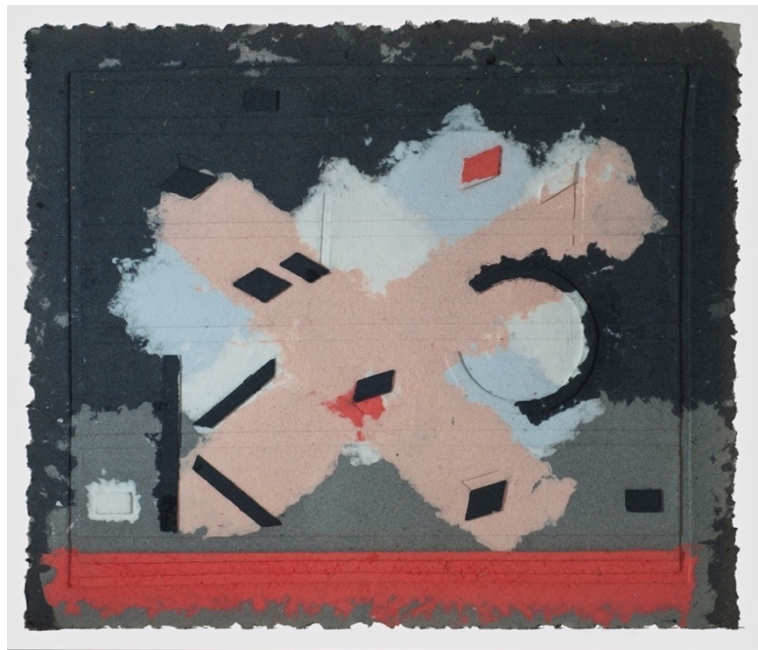


Fig 3.1, Janet Boulton, 'Early Music 1', score.²³⁸

²³⁶ Barbara Herman, *Moral Literacy* (Massachusetts: Harvard University Press, 2007), p. 288.

²³⁷ David Wiggins, *Needs, Values, Truth: Essays in the Philosophy of Value*, (New York: Oxford University Press, 1998), p. 170.

²³⁸ Janet Boulton, 'Early Music 1' in *Eye Music Series* (2005).

Encouraging a plurality of viewpoints to co-exist requires epistemic humility, which is itself a discipline that requires considered work to develop, as McDowell points out:

...Although a sensible person will never be confident that his evaluative outlook is incapable of improvement, that need not stop him supposing, of some of his evaluative responses, that their objects really do merit them. He will be able to back up this supposition with explanations that show how the responses are well placed; the explanations will share the contentiousness of the values whose reality they certify, but that should not prevent him from accepting the explanations any more than it should prevent him from endorsing the values.²³⁹

Once we had settled on a core interpretative framework, contrasting light and heavy textures, we then set about interpreting the score and forming referents to structure the development of the musical materials. These referents are set out below, followed by an analysis of the resulting performance.

Referent 1: Earthiness and Rhizomatic Qualities

One of the first observations I made to Rodgers was that the score ‘feels very “earthy”’ due to the ‘griminess of its texture’. Rodgers’ responded by suggesting that the paper pulp gave the shapes within the score a ‘soft, fragile intangibility’. He also expressed that the bordering around the piece seemed to suggest a frame, but its rough edges gave it a ‘ghostly permeability’. He also suggested that the ‘spilling of the colours over the

²³⁹ John MacDowell, *Mind, Value, and Reality* (Connecticut: Harvard University Press, 1998), p. 145.

frame all around the score seem to violate its structural integrity'. I then described the score as having a rhizomatic quality, reminding me of Jacob Thompson-Bell's score, *Rhizome* (See Fig.3.2), which consists of graphics, texts and leaves interspersed across textured paper.



Fig 3.2, Jacob Thompson-Bell, *Rhizome*, score.²⁴⁰

My suggestion for how to respond to this rhizomatic referent I had put forward was to overly moisten the bassoon reed, to make the sound very distorted, and produce multiphonics with a very tight embouchure, to force the harmonics into a beating resonance pattern. I also explored stopping my breath resonating through the reed with my tongue, to produce abrupt, percussive popping sounds. Rodgers' response to this referent structure was to use an amplified wire as his sole instrument in responding to the score, as he suggested that it more closely matched the grimy and earthy qualities of the score than the upturned cymbals he was also using for the performance. The act of interfacing

²⁴⁰ Jacob Thompson-Bell, *Rhizome*,
<<https://jacobthompsonbell.files.wordpress.com/2015/07/page7.jpg>> (2013), [accessed 13th March 2014].

with the instrument was also inherently rhizomatic, because the sounds it produced had no central emanating point from the instrument and its behaviour was unpredictable and could not be minutely controlled.

Referent 2: Intersection of Stave Lines and Shapes

While the interpretative strategies that captured the textural elements within the score were quickly established, responding to the shapes within the score, forming a referent from them, and creating musical materials to respond to that referent, was a much greater challenge. The reason for this, as Rodgers put it, was that ‘the score contains a fundamental contradiction between faint notative elements and abstract intangible structures that is really challenging to wrestle with!’ This then stimulated a discussion over whether we should interpret the score as a single instance or whether we should track our eyes through the score schematically, either horizontally or vertically. Rodgers argued that there was ‘too much textural content in the score to approach it as a single instance, however, we could jump perspective between visually journeying across individual lines and perceiving the score holistically’. We settled on this approach and thus treated the score, as Barthes puts it, like a schizophrenic temporal condition, like a photograph.²⁴¹ It therefore also echoes Brown’s view of *December 1952*, as David Gutkin puts it, of the score as a ‘phenomenal integration of time and space’.²⁴²

²⁴¹ Roland Barthes, *Camera Lucida: Reflections on Photography* (New York: Hill and Wang) p. 41.

²⁴² David Gutkin, ‘Drastic or Plastic?: Threads from Karlheinz Stockhausen’s “Musik und Graphik,” 1959’ *Perspectives of New Music*, 50.1-2 (2012), p. 283.

The red section at the bottom of the score was also a big interpretative obstacle for us. Rodgers' expressed that his main challenge with approaching it was that, 'it seems so at odds with the rest of the score'. Boulton suggested to me that the red section was inspired by the 'lifeline' in Cardew's *Treatise* (See Fig 3.3). The term 'lifeline' was coined by Cardew in the *Treatise Handbook* and refers to the central black line that runs through many of the pages of *Treatise*.²⁴³ Cardew describes it as the 'lifeline of the reader, his centre, around which all manner of activity takes place'. Charles Céleste Hutchins writes that 'it holds pages together, like a percussion staff might in western notation'.²⁴⁴

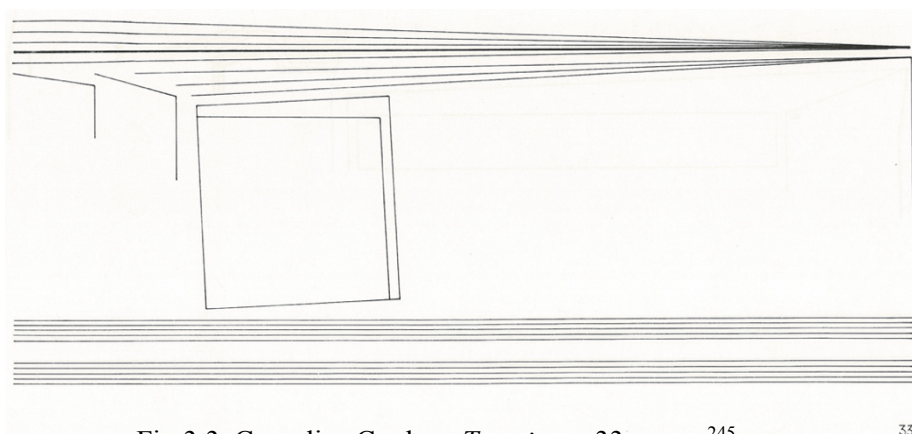


Fig 3.3, Cornelius Cardew, *Treatise*, p.33, score.²⁴⁵

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During the preparation process, I remembered that Virginia Anderson writes, in a 1964 performance of *Treatise*, that Frederic Rzewski performed the central line in the score as a continuous sound, starting a new sound at each break in the line within the score.²⁴⁶

²⁴³ Cornelius Cardew, 'Treatise Handbook'. In *Cornelius Cardew: A Reader*, eds by Eddie Prévost, pp.95–134. (Essex: Copula), p. 113.

²⁴⁴ Charles Céleste Hutchins, *Music and/as Process* eds. Lauren Redhead and Vanessa Hawes (Newcastle upon Tyne: Cambridge Scholars Publishing), p. 137.

²⁴⁵ Cornelius Cardew, *Treatise* (London: Edition Peters, 1972).

²⁴⁶ Michael Nyman, *Experimental Music: Cage and Beyond* (Cambridge University Press, 1999), p. 117.

Inspired by this, I suggested to Rodgers that producing a constant audible breathy sound on the bassoon could represent the red lines at the bottom of the piece. I also devoted some of the preparation time to tracking the red lines, from left to right, starting a new sound whenever the texture of the paper pulp broke the line.

Referent 3: Light Textures and Dynamic Limits

I mentioned above that light textures were an important structural consideration in responding to the score and so, to open up a wider palette of light textured sounds, I decided to limit the proportion of conventional sounds on the bassoon and focused instead on utilising the amplified crook to explore the range of micro sounds available to me. These sounds consisted of sucking air through the crook and then subtly blowing air back through it, blowing softly through the instrument without the reed and tapping the low register keys. These techniques are characteristic of the wider development of my practice as an improviser and performer. This is exemplified in sections of a score by the composer Daniel Hignell-Tully (See Fig 3.4) titled *Bassonore* (2010), which I commissioned him to write the piece for my final undergraduate performance at Dartington College of Arts, in 2010.

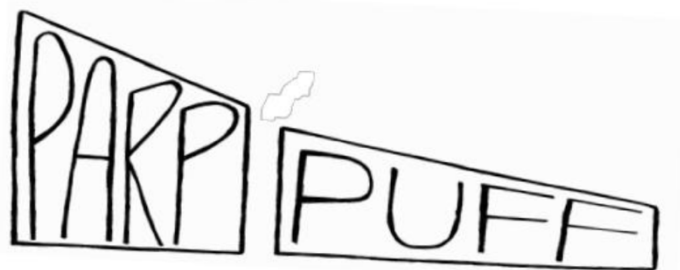


Fig 3.4, Daniel Hignell-Tully, *Bassonore*, score, p.42.²⁴⁷

²⁴⁷ Daniel Hignell-Tully, *Bassonore* (2010). <<https://issuu.com/distantanimals/docs/141840202->

The ‘parp’ and ‘puff’ graphics in Fig 3.4 indicate a journey from the quietest possible pronounced note to pure breath, with no resonance of the reed. Considering the visual density of the score, this exploration of the boundary between sound and silence was also of structural importance. It was a constant concern for me, throughout this event, to not dominate the sound world. Thus, engaging with the score from the starting point of silence was a central motivation for focusing on the lighter percussive elements of the bassoon. In this vein, Tom Hall makes the following observation about the relationship between sound and silence within improvised music:

Music is both sound and silence. We tend to think of improvising as playing a series of sounds, but it is the silence between these sounds that defines them. The first and most important choice in any group improvisation is whether to play sound or whether to play silence.²⁴⁸

It was mentioned in Chapter Two that selecting which participants’ viewpoints to extrapolate on posed an axiological dilemma and this dilemma also occurred in the selection of musical materials in both case studies. Boulton’s works make this dilemma particularly acute, because the scores are so full of visual details, so there is a persistent temptation to over play. This applies even in a situation, like in this case study, where there is a close relationship between the performers engaging with the score. Furthermore, Ed Sarath points out that ‘an awareness of sound as a kind of foreground phenomenon, against a backdrop of silence’ can be helpful in ‘expanding our

bassonore> [accessed 13 March 2014].

²⁴⁸ Tony Hall, *Free Improvisation: A Practical Guide*. (New Jersey: Brookbaby), p. 55.

boundaries and liberating us from day-to-day, conditioned modes of conception'.²⁴⁹ However, the focus on minute sounds and long periods of silence generated a tense atmosphere throughout the preparation and performance. Vijay Iyer writes about this source of tension within improvised music, stating the following:

The main source of drama in improvised music is the sheer fact of the shared sense of time: the sense that the improviser is working, creating, generating musical material, in the same time in which [they are] co-performing as listeners. As listeners to any music, we experience a kind of empathy for the performer, an awareness of physicality and an understanding of the effort required to create music. This empathy is one facet of our listening strategies in any context. In improvisational music, this embodied empathy extends to an awareness of the performers' coincident physical and mental exertion, of their 'in the-moment' (i.e., in-time) process of creative activity and interactivity.²⁵⁰

The tensions highlighted here may have affected how we engaged with the score, although it is difficult to know how much without setting up another case study that cultivated a more relaxed environment.

²⁴⁹ Ed Sarath, *Music Theory Through Improvisation: A New Approach to Musicianship Training*. (London: Routledge), p. 17.

²⁵⁰ Vijay Iyer, 'Improvisation, Temporality and Embodied Experience', *Journal of Consciousness Studies* (2004) 11.3-4, pp. 159-173, p. 162.

3.3.2 Descriptive Performance Analysis

The performance began with a tense silence, as we looked at each other, waiting to see which one of us would break it. After scanning the piece up and down, I was the first to break the silence, using the moisture of the reed to produce subtle percussive popping sounds, which I then began to form into a rhythmic sequence. During the formation of the sequence, I closed my eyes for several minutes, to allow me to focus on the delicate sound world of my breath passing through the instrument. The rhythmic sequence then gradually evolved into higher pitch squeaks, generated by sucking air through the reed. The squeaks punctuated a breathy sound that pervaded the whole performance. Increasing the air pressure on the breathy sound resulted in pitched notes jumping out. During this initial development of the breathy sound, Rodgers' was very carefully moving the amplified wire, creating a constant light crackling sound from the interference generated by it. As his dynamic level progressively increased, this led to sudden loud interjections, one of which had such impact that it resulted in a momentary silence. As well as a dynamic progression, Rodgers' textures evolved into more metallic resonances over time, as he slowly distanced his hand more and more from the wire.

Halfway through the performance, I began to respond more directly to the notational shapes and play more melodic material. It was at this point that I began to test the limits of notes sounding and interceded sustained notes, with microtonal bends, with muted flourishes. After the more melodic section, I settled into a succession of long oscillating multiphonics. I controlled the rate of the oscillations with my embouchure and breath pressure and also used my throat to produce additional textures.

Towards the end of the performance, Rodgers's hand movements became extremely precise, as his dynamic range condensed and he moved away from the abrasive interference. His material became more percussive as he engaged with the instrument so slightly that the stochastic sounds were barely audible. After exploring the limits of how quietly notes could be sounded on the bassoon, the breath once again took over, once no more discrete notes could be isolated. The breathy sound then slowly faded away until the end of the performance.

3.4 'Red Missale'

3.4.1 Referents and Interpretative Strategies

Before continuing to read on in this next section, please listen to track five on the supplied Memory Stick, titled 'Red Missale'. The second score we tackled is titled 'Red Missale' (2002) (See Fig.3.5) which, like 'Early Music I' is constructed from paper pulp and contains a section of plainchant notation, which Boulton extracted from Keble College Library, Oxford. As I mentioned above, the paper relief effect obscures standing reading of the plainchant notation and so is not able to be read fully as musical notation, but elements can be picked out to inform responses to the score.

Referent 1: Intensity of the Redness

The moment we placed the score in the performance space, three referents emerged from our discussions in quick succession. The first was the intense and saturating redness of the paper pulp. We both acknowledged that this made it difficult to structure our response, as we faced a conflict between the one dimensional colour referent and the complex multidimensional textural referent, which we could not resolve. This made me think of the 'black pages' in *Treatise* (See Fig.3.3), which are 'so-called by Cardew

to indicate a preponderance of black circles that occur in pages 128–144’.²⁵¹ Anderson points out that ‘in the first performance of these pages, at the American Artists’ Centre in Paris, Cardew, John Tilbury, and the composer David Bedford played the piece according to a time-space reading, using the black areas to indicate melody’.²⁵² I was influenced by their approach to visual density to use the different shades of red within the score to base my melodic ideas.



Fig. 3.5, Janet Boulton, ‘Red Missale’, Score.²⁵³

²⁵¹ Virginia Anderson, “‘Well, It’s a Vertebrate...’: Performer choice in Cardew’s Treatise’, *Journal of Musicological Research*, 25.3-4, pp.291–317 (2006), p. 298.

²⁵² Anderson, “‘Well, It’s a Vertebrate...’”, p. 299.

²⁵³ Janet Boulton, ‘Red Missale’, in *Eye Music Series* (2013).

My initial approach to addressing the saturating nature of the red paper pulp by playing multi-phonetic chords, to produce a thick homophonic texture. However, Rodgers pointed out that his live electronics system, metal instruments and upturned cymbals could not produce complementary textures and so it would not be feasible to approach the score in this way. Simon Shaw Miller writes that the material within each musical graphics is ‘characterised by an unstable relationship between its constituent elements’ and the instability of the relationship.²⁵⁴

Referent 2: Religious Experience

Negotiating a solution to the interpretative obstacle created by the first referent, led to the formation of the second; the religious subject matter within the score. To address the conflicts we were facing, Rodgers set out the following scene:

It struck me, from the first moment I encountered the score, that it could be approached like a religious experience. The score almost looks like a stone tablet with ancient religious writing on it, which we are responding to musically. I have a recording of filtered noise which could represent a divine energy. The noise is quite abrasive, but I feel that it could provide a really effective texture over which you can overlay the bassoon.

Rodgers also expressed that presenting the performance as a noumenal religious experience would fit well on the bassoon, because the high register of the bassoon could

²⁵⁴ Simon Shaw-Miller, *Visible Deeds of Music: Art and Music from Wagner to Cage* (Yale University Press: New Haven), p. 17.

mimic a worshipper's emotional exclamation and shares melodic and timbral qualities with a Middle Eastern chanter. The noise recording that Rodgers found totally filled the sound space of the studio. I initially found it oppressive, even though he was dynamically filtering the sounds, shelving off the higher frequencies progressively over time.

I voiced my concerns to Rodgers that I would have to consistently play at a fortissimo dynamic in order to cut through the noise, which was practically unsustainable and limited the timbral possibilities of the bassoon's multiphonics. His suggestion to solve this was that the volume could be slowly rolled off on the noise recording, to allow my bassoon sounds to become more prominent over time. I approved of this solution as it gave me structural constraints and meant that I was not fighting against the noise, as I could structure my dynamic level and music materials according to its intensity level. I did also have the momentary concern, internally, that making the noise so pervasive would mean that there could be no pauses or periods of silence in the performance. However, I did not raise this concern with Rodgers because the score does not contain any white space and so I felt arbitrarily adding space seemed unjustifiable. Moreover, at this moment, I had a quote from John Cage running through my head that 'there is no such thing as an empty space or an empty time'.²⁵⁵ I was also aware that the previous score had been approached with a totally different sound world and so the distinctions between the uses of musical materials were exacerbating how oppressive I was finding the noise.

²⁵⁵ John Cage, *Silence: Lectures and Writings* (Middletown, Connecticut: Wesleyan University Press, 1961), p. 8.

Referent 3: Plain Chant Notation

The other main interpretative issue was the paradox between the notative elements in the score and Boulton's intent for it to operate as a musical graphic. Rodgers and I discussed whether I should perform any of the plain chant notes directly or deliberately ignore them. Although I had originally decided against it, I began to directly play some of the plainchant notation, during the preparation of the musical materials, but used unorthodox fingerings to maximise the timbral depth of each note. The main reason for using unorthodox fingerings was that I wanted the timbral direction of each note to respond to the visual texture of the paper pulp from which each plainchant note in the score is constructed.

Referent 4: Textural Density

This led into the third referent; the textural density of the paper pulp within the score. The visual texture of the score is so complex that we did not feel that there was any intelligible way to interpret it on a micro scale. Rodgers pointed out that the score's visual texture had a fractal quality and so could be responded to from multiple perspectives, from close examinations of individual sections through to holistic considerations of the score. This influenced me to start inserting multiphonics between the notes in the plainchant melody and also slide, microtonally, between them. The French bassoonist, Pascal Gallois, has published a book of extended techniques for the bassoon, titled *The Techniques of Bassoon Playing* (2009). Prior to the research event, I had coincidentally memorised many of the microtonal, multiphonics and extended fingerings from it, which provided me with a large palette of timbres to work with.

3.4.2 Descriptive Performance Analysis

The performance itself began with the noise recording alone, as I decided to not jump in immediately, because I did not want to battle against the noise at its loudest point. When I did emerge, around thirty seconds after the noise had begun, I played a multiphonic to try and blend in with the noise and then jumped to a middle register melodic section, in order to contrast with the abrasiveness of the noise. However, I soon then stopped, as I felt I was being obscured by the intensity of the noise. When I then entered back in again, I began by playing some of the plain chant melody, but inserted multiphonics, attempting to match the texture and volume to the noise. Towards the middle of the performance, I started to introduce quick flourishes and overblew low register notes to force them into the high register. The moment the noise recording suddenly shelved all of the high end frequencies, I started tapping loudly on the keys and focused more on the main plainchant melody. When the high frequencies then appeared again, I used multiphonics to echo this change in texture. The noise recording suddenly cut out near to the end of the performance. This startled me at first but I then decided to continue the melodic idea before then stopping to allow the recording to play out.

3.5 Jam Jars in a Window, Grey – Musical Narratives and Interpretative

Strategies

The penultimate score that the case study engaged is titled ‘Jam Jars in a Window, Black and Grey’ (See Fig.3.6). As the title suggests, the score inspired by a still life sculpture in Boulton’s studio, comprising five plate glass shelves and rows of jam jars

of various sizes and shapes. In the accompanying guide to the *Eye Music* series, Boulton writes that:

On occasion, over the years, it has been altered by re-assembling the configuration of the jars and their labelling, but the basic structure within the window and the position of the plate glass shelves has remained untouched except for some periodic dusting. Observing the ever-changing light, tone and colour going on in the garden outside, has the effect of keeping the whole arrangement contemporary and alive.²⁵⁶

The preparation and recording of *Jam Jars in a Window* took place straight after *Red Missal* and the substantive difference of aesthetic between the scores required a sudden change of interpretative approach. Rodgers decided to use bowed, upturned cymbals to respond to the final two scores in the case study. The reason for this is that he expressed that they have a fundamentally lighter texture and so he felt that that amplified wire and noise recording had restricted sonic palettes that were too harsh.

Referent 1: The Window into the Garden

Rodgers and I began our discussion about how to approach the piece by agreeing that it perhaps most closely represented the still life installation out of all the pieces in the *Eye Music* series. We then spent some time in silence listening to the ambient sounds.

²⁵⁶ Boulton, *Eye Music Series*, p. 12.



Fig 3.6, Janet Boulton, Jam Jars in a Window, Grey and Black (2007), Score.

I had visited Boulton's studio on a number of previous occasions and had also recorded environmental sounds in the garden using omni-directional microphones, contact microphones and hydrophones. I therefore was intimately associated with the sound world of the garden and was trying to avoid focusing too heavily on remembering the sounds of the recordings I had made, which were heavily filtered sonic perceptions of the total sound world that occurs constantly in the garden. Such reasoning falls in line with what J. J. Gibson (1904-1979) called the 'ecological mode of perception', in which our perceptual systems are tuned to apprehend real-world sound sources in an environment, rather than only to pure sound itself.²⁵⁷ The time spent attuning our awareness to the sonic environment illustrates the extent that this referent was formed from a retroactive imagination of how the shapes in the score came to be on the page.

²⁵⁷ James Gibson, 'The Ecological Approach to the Visual Perception of Pictures' *Leonardo*, 11.3 (1978), p. 227.

Referent 2: Vibrations of the Glass Shelves

The act of engaging with this score produced significant somaesthetic dimensions, relating to our positioning within Boulton's studio and our positions knelt on the floor. This was perhaps best exemplified by the glass shelves in the studio vibrating when we played, becoming an extension of our instrumental forces. The vibrations reinforced my perceptions of my body as the 'locus of sensory-aesthetic appreciation'.²⁵⁸ This applied to both the vibrations as sounded from our instruments and the resulting resonate trail of sound that occurred when we stop playing. Furthermore, Eleanor Stublely (1960-2017) writes that 'musical listening involves a certain reciprocity that makes it seem as if the music has become part of our bodily being, touch ultimately being a matter of "both touching and being touched by"'.²⁵⁹ Although we had discussed the vibrations of the glass shelves at the outset, it was only for this score that we used it as a referent. writes that 'in intersubjective activities, such as speech or music making, one remains aware of a sense of mutual embodiment' and the fact that we only later employed the vibrations of the glass shelves highlights this.²⁶⁰

Referent 3: Cyclic Movement

One of the longest discussion points in relation to this piece, was the movement of the leaves on the score and the musical ideas that we could attach to them. The moment I saw the leaf like shapes, I began to trace a trajectory from them, reminding me of Kandinsky's description of 'an active line on a walk moving freely, without goal'. I

²⁵⁸ Richard Shusterman, 'Somaesthetics: A Disciplinary Proposal' In: *The Journal of Aesthetics and Art Criticism*. 57.3 (1999), p. 299.

²⁵⁹ Eleanor Stublely, 'Musical Listening as Bodily Experience'. In: *Canadian Journal of Research in Music Education*, 40.4 (1999), p. 5.

²⁶⁰ Vijay Iyer, 'The Temporality of Performance', In: *The Oxford Handbook of Critical Improvisation Studies, Volume 1* Eds. By George Lewis, Benjamin Piekut (New York: Oxford University Press), p. 79.

mentioned to Rodgers that I would be responding to them using quick, muted flurries of notes and would triple tongue stops on the reed to produce a fluttering around. Rodgers used the trajectory of the shapes to map to his physical bowing gesture.

3.6 Jam Jars in a Window, Pink and Turquoise – Musical Narratives and Interpretative Strategies

The final score that was engaged with in this case study is ‘Jam Jars in a Window Pink and Turquoise’ (2006-2012).

Referent 1: The Frameless Frame

The main discussion point during the preparation of this piece was the conflicting relationship between the rigidity of the shapes and the surrounding frame and the softness and translucency of the colours. One of my first comments to Rodgers was that:

... there is a sort of strange schematic nature to it, in that it's quite sort of blocky and like a frame. But then it's not, is it? Because the colours and the actual content on top of that frame doesn't relate to it at all. So, yes, okay, it is a square with rectangular boxes running through it, almost like stave lines. But actually the content doesn't pay attention to that at all. It's not constrained by that at all. So there's an interesting relationship there. So I wonder whether the structure of what we do maybe should, in some way, reflect that?

Rodgers nodded in agreement to my suggestion and responded by saying, ‘it's like an afterthought. You don't see that immediately. It could almost be a reflection in the glass’. However, his question to me was then, ‘how do we get that across though?’

Because it's a very rigid structure that's almost not there' and then argued that he did not feel the piece could be broken into sections. I responded to Rodgers' question with the following decodification of the shapes and colours:

Yes, that's a good point. That is something I was thinking initially when I first saw it, which is that we're so used to the colour being part of what that thing is. So this wire [points at wire] is blue, and then when it comes to the end of the wire the blueness ends, so this wire is blue. Whereas, in this sense, it's not like the structure ends and the colour ends, it sort of blurs between that. And I sort of want what we do to have the same thing.

Before proceeding with more specific details about the interpretation of individual lines and colours, the discussion topic shifted to the temporal phenomenology of interpreting the work. I expressed to Rodgers that 'I suppose we're not going to see it as starting somewhere and moving somewhere, because it's not really that sort of work' because it's 'too holistic'. Rodgers' response to this was that 'we should be in the piece as soon as we start it'. I agreed with this, declaring that it would be missing the purpose and potential of the work to start in the top left and move across.



Fig 3.7. Janet Boulton, 'Jam Jars in a Window,
Pink and Turquoise, from *Eye Music*, score.

Referent 2: Inverse playing relationship

I suggested to Rodgers that we could tackle the interpretative difficulties we were facing by setting up the inverse performance relationship between us:

I sort of feel like what we should do should be an inverted relationship to each other. So, with this [Points at the piece], the more the frame tries to constrain itself in different sections, the more the content fights against that. Because it's not a dispute between the two. It's not like you've got a framework and it's resisting that. It's more that, the more the framework tries to present itself, the more the actual content doesn't fit according to that. So I wonder whether, in a sense, when one of us is being sparse, the other should be more constant.

Rodgers' initial response was, 'yes, something more linear and less complex' and I then continued to explain that I felt that always having an inverse relationship between what we're doing means that 'it will always feel like there is a framework but it's a non-existent framework'. I realized at this point that I had perhaps been overly dogmatic in my approach to suggesting interpretative strategies, particularly when Rodgers tentatively responded, 'I think it's something we should try? Haha!' When he then questioned me on the extent to which we should swap roles, I then sought to allow him to express his preferred approach. We did not set out which parameters we were going to be inversely related on, but I mentioned to Rodgers that I felt that this ambiguity was 'nice and vague because inverse in what way? There's a number of ways that you can be inverse to each other. I kind of like that'.

3.7 Reflections on Repertoire and the Performer Relationship

I mentioned in Chapter Two that I have not interviewed Boulton or Rodgers about this performance event, specifically to avoid making post-hoc rationalisations about the performance. Thus, these reflections pertain only to the selection of repertoire and how it is impacted by performers' characters and relationships. I am aware of the irony of limiting post-hoc rationalisations, in light of the inherently temporally displaced nature of writing about the performance of musical graphics. However, the most important factor was avoiding writing up performance descriptions second hand, to avoid what Merleau Ponty refers to as philosophical 'limp'.²⁶¹ What he means by this term is that 'it is no more possible to set up a one-to-one correspondence between the historical event and the conscious philosophical interpretations of this event, than between the

²⁶¹ Maurice Merleau-Ponty, *In Praise of Philosophy and Other Essays* (Paris, Northwestern University Press, 1970), p.57.

event and its objective conditions'.²⁶² It is this philosophical ambiguity which I was seeking to avoid. While Boulton does not specify instrumentation, the choice of this repertoire for this case study was very much motivated by my awareness of how effectively our performances practices would be in responding to these scores. The content within musical graphics can thus be inherently constricting, even if the creator wishes the score to be free from instrumentation restriction.

Despite the similarities in our focuses on texture, within our performance practices, there has been a dialectical relationship between our knowledge bases and performance approaches, reaching back to our first experiences of performing together. To illustrate this, I expressed the following analogy to Rodgers during the preparation of the final score in this case study:

Whereas the bassoon was created to have that sort of jewel like thing. It's a sort of sculpting, in the same way that a diamond is a sculpting of nature of something that does a certain parameter of things that we find beautiful. Well, the bassoon is doing that. Whereas, in a way, you've taken an assortment of things that defy that, but are perhaps are bringing some aspects of that to it. And I think I'm trying to do the opposite. I'm taking the diamond and am taking it back to its earth like qualities. Whereas you're taking earth like things and are trying to make a diamond out of it.

²⁶² Merleau-Ponty, *In Praise of Philosophy and Other Essays*, p.57.

Whilst this metaphor was intended to be slightly tongue-in-cheek, I put it to him because I wanted to provide a referent for our overall performance relationship. Moreover, as well as identifying different types of referent, namely visual and musical, this chapter has revealed high level referents that provide narrative and social structures upon which interpretative strategies develop. The structure of and relationships between these referents will be conceptualized and expanded on in Chapter Six.

3.8 Conclusion

In Virginia Anderson's framework for analysing musical graphics²⁶³ and Brian Inglis' later expansion of her work,²⁶⁴ discussed in Chapter Two, the composer is presented as the producer and sender of musical information and performers and listeners are presented as receivers, with the score in the middle acting as a neutral layer. Analysis of the first case study, conducted through the course of this chapter, has challenged the structure of their frameworks and shown that the score is not a neutral layer, but is a stimulus for the creation of musical and conceptual material. Consequently, the first three creative processes involved in engaging with musical graphics have been identified in this chapter, which present the performer as simultaneously a receiver and producer of musical information.

The first creative process, identified in this chapter, consists of performers acknowledging the visual makeup of a musical graphic, identifying its material

²⁶³ Virginia Anderson, 'The Beginning of Happiness: Approaching Scores in Graphic and Text Notation', in *Sound and Score: Essays on Sound, Score and Notation*, eds. Paulo de Assis, William Brooks and Kathleen Coessens (Leuven: Leuven University Press, 2013), p. 130-142.

²⁶⁴ Brian Inglis, 'Towards An Analytical Framework For Graphic Scores, And A Proposed Typology', in *Putting The Graphic In Music – Notation, Analysis & Performance* (London: University of London, 2015) <<http://eprints.mdx.ac.uk/25905/>> [Accessed 15 May 2016].

structure and then analysing its constituents. Each of these three stages, which make up the first creative process, involve the progressive filtering of visual information from the musical graphic, as well as contextual information from other performers and the performance environment, to select what is salient to stimulate the creation of conceptual materials. However, further research, outside the bounds of this thesis, is required to ascertain if the structures of the information filters are consistent across all musical graphics, or are localised to musical graphics where the visual composition is highly complex, as is the case with Boulton's works.

The visual complexity and density of the pieces in Boulton's *Eye Music* Series made engaging in the first creative process particularly challenging. Moreover, Boulton is not a musician and so whilst she thought about music during the creation of the pieces, she did not consider the feasibility of her musical graphics as visual stimuli for musical performance. In particular, 'Red Missale' was so texturally complex that it obstructed the ability of Rodgers and I to survey and analyse its content effectively. Rodgers expressed that his bowed cymbals and amplified wire could not capture the textural complexity and colour intensity of the score and so used a recording of filtered white noise instead. Instrumental limitations can therefore obstruct how performers survey and analyse the content of musical graphics, especially if the instrument has a narrow pitch range. Also, the situation showed that overwhelming visual complexity can be handled by skipping the analysis stage of the first creative process.

The second creative process identified in this chapter is that performers build referents from the information filtered through the three stages of the first creative process. As

discussed in Chapter Two, referents are guiding images which ‘facilitate the generation and editing of improvised behaviours’.²⁶⁵ Referents therefore form the conceptual building blocks or ‘musical seeds’ of the performer’s response to a musical graphic. Pressing points out that the referents provide a palette of resources, ‘reducing the extent of decision making required in performance’.²⁶⁶ Referents also function as ‘fall back material’ and reduce the ‘attention required on the task of producing medium to long range order’ of musical materials.²⁶⁷

The third creative process identified in this chapter involves blending referents, built in the second creative process, into narratives. Analysis of the preparation of ‘Red Missale’ and ‘Jam Jars In a Window – Black and Grey’ showed that the blending process can result in either single overarching narratives or multiple distinct narratives, which can either intersect or contrast depending on their structural function within the overall response to the musical graphic. Furthermore, analysis of the building blocks of the conceptual narratives created in the first case study showed that they can contain very diverse subject matter, both musically and conceptually. However, the aim of referent blending is to create a palette of conceptual and musical materials, which the performer can manipulate throughout the performance. Composing entirely fixed narratives is therefore not desirable, because it does not allow for spontaneity in the performance. An important question which therefore arises regarding the spontaneity of referent blending is how is it affected when performers prepare multiple

²⁶⁵ Pressing, ‘Cognitive Processes in Improvisation’, p. 346.

²⁶⁶ Jeff Pressing, ‘Psychological Constraints on Improvisational Expertise and Communication’, in *In The Course of Performance: Studies in the World of Musical Improvisation*, eds. Bruno Nettl and Melinda Russell (Chicago and London: University of Chicago Press, 1998), p. 52.

²⁶⁷ Aaron Berkowitz, *The Improvising Mind: Cognition and Creativity in the Musical Moment* (Oxford: Oxford University Press, 2010), p. 5.

performances of the same score? Moreover, how does engaging in referent blending affect performers' improvisational practices generally? These questions strike at the heart of the intersection between improvisation and composition and addressing them requires tackling the further issue of the ontology of the musical work within the referent blending process.

Further theoretical elucidation of the creative processes identified in this chapter is provided in Chapter Six, where a musical graphic performance conceptualisation pipeline is presented in the form of a single page diagram. The creative processes identified in this chapter make up the first three stages of the pipeline. Chapter Four explores the creative process involved after the conceptual narratives have been formed and Chapter Five examines the process of modal transfer, where the conceptual narratives are rendered into musical materials. These creative processes occur chronologically, hence the pipeline structure, but non-linear elements of the pipeline are discussed in Chapter Six.

Chapter 4 - Case Study 2: Carl Bergstrøm-Nielsen Led Workshops

4.1 Introduction

Identifying the creative processes which occur after performers have engaged with the visual content of a musical graphic, and formed conceptual narratives from them, is the focus of this chapter. Through the course of the chapter five workshops are analysed, which comprise the second case study arranged for this research project, led by the Danish composer and performer Carl Bergstrøm-Nielsen.

The workshops involved an equal split of composition and jazz students from Royal Birmingham Conservatoire and took place over three consecutive days. Two of the workshops were setup specifically to address musical exercises, to help the performers get accustomed to performing musical graphics and working with Bergstrøm-Nielsen. The three remaining workshops were each then focused on preparing a different musical graphic. Performances of each musical graphic also took place the same day as the workshop of each score. Recordings of the performances are analysed in Chapter Five. All of the recordings referred to in this chapter are found in tracks 5-9 on the supplied Memory Stick and the discussion transcripts from the workshops referred to throughout the chapter are found in the appendices. This chapter begins by discussing the design of the Second Case Study. Following that is an analysis of each of the six workshops, beginning with the first and third workshops, which focus on musical exercises, and then moving through the second, fourth and fifth workshops chronologically. Finally, the insights drawn from the workshop analyses are pulled together to identify the creative processes involved in manipulating conceptual and

musical narratives, which is the third stage of the musical graphics performance conceptualisation pipeline presented in Chapter Six.

4.2 Design of the Workshops

The second case study arranged for this research project is comprised of six workshops, which were held over three consecutive days. All six workshops were facilitated by the Danish composer and improviser, Carl Bergstrøm-Nielsen. The aim of the workshops was to explore how performers engage with conceptual narratives formed from musical graphics and then manipulate them. Therefore, to ensure that each workshop could enable as much relevant research material as possible to be gathered, Bergstrøm-Nielsen prepared conceptual narratives to each of the musical graphics prior to the commencement of the workshops. However, it is important to clarify that his preparatory work did not result in the creation of fixed compositions. As discussed in Chapter Three (p.116), conceptual narratives formed from musical graphics provide a palette of conceptual and musical ideas, which the performer can use as a framework to guide their response to the musical graphic. The performers were therefore provided with a palette of materials which they were free to interpret and Bergstrøm-Nielsen's role then became to help them critique their selections and manipulations of his materials.

The instruments involved in the workshops were melodion, guitar, clarinet, live electronics, saxophone, soprano voice, piano, me on bassoon and Bergstrøm-Nielsen on French horn. The ensemble instrumentation for the workshops was not planned for any specific musical outcome. Instead it was the result of recommendations by faculty

in the composition department at Royal Birmingham Conservatoire of students who both had an interest in performing musical graphics and a desire to share their experiences. In particular, the goal was to find performers who were willing and able to discuss the intricacies of their experiences of engaging with musical graphics.

There are four musical graphics that were engaged with in this second case study: Theresa Sauer's *Circle Series* (2011), Erik Christensen's *Telephone Pieces* (1975) and *WHEN YOU ARE CHRUSHED BY TRAGEDY, YOU DISCOVER THE WORLD AROUND YOU* (1977) and Henrik Rasmussen's *Threads* (1998). These musical graphics were chosen because both Bergstrøm-Nielsen and I have pre-existing relationships with all of the composers and so were able to get privileged access to their motivations for composing the pieces. Furthermore, the scores were chosen to provide a wide variety of approaches to performer engagement, with Sauer's work containing abstract graphics with no accompanying instructions, Christensen's works containing abstract graphics with limited instructions and Rasmussen's work mixing abstract graphics with text instructions and musical symbols.

Whereas, in the first case study, Rodgers and I both had considerable previous experience of performing musical graphics, none of the participants in this case study had any previous experience. The contrast in performers' experience level between the two case studies was deliberate and made it possible to gather empirical data on how novice performers engaged with musical graphics and assess how their experiences differed from experienced performers. However, working with performers who were inexperienced in engaging with musical graphics meant that some workshop time had

to be spent educating them about adopting mindsets and frameworks from which they could form interpretative strategies for each musical graphic. Therefore, whilst Bergstrøm-Nielsen's main role was to act as a facilitator, the first and third morning workshops were less autopoietic and operated more like masterclasses.

Then, as the workshops progressed and the participants became more familiar with performing with each other and engaging with musical graphics, Bergstrøm-Nielsen increasingly sought performers' perspectives and intervened less in the structure of the workshops. The later workshops were then able to be more autopoietic as a result, because the creative responsibility for narrative construction was more distributed amongst the ensemble.

An issue with autopoietic environments, as discussed in Chapter Two, is that they are challenging to capture and analyse, because of their de-centralised, self-sustaining nature. Klas Nevrin uses Deleuze's term, 'dividual multiplicity' to describe self-sustaining nature of autopoietic environments, and states that it makes it 'arbitrary, indeed impossible, to decide who contributed and initiated what exactly, who or what came first as it were'.²⁶⁸ The solution found to effectively capture performers' perspectives in this second case study was for all of the performers to voice their thought processes as much as possible throughout. This enabled the referent structuring to be informed by dynamic, practice informed commentary rather than having to rely on post-hoc assumptions.

²⁶⁸ Klas Nevrin, 'Nomadology, Improvisation, Somaesthetics'. *The Second International Deleuze Studies Conference*, (Germany: University of Cologne, 2009) p.6. Accessible at: <<http://nevrin.se/wp-content/uploads/2014/06/Nomadology-Improvisation-Somaesthetics-4.pdf>>

Voicing every performers' thought patterns as they develop is challenging in a large ensemble context, because there are many simultaneous perspectives on how to interpret a musical graphic happening simultaneously. It has therefore not been possible to capture the performers' perspectives on engaging with each score at the same level of granularity as in the first case study. Instead, Bergstrøm-Nielsen put open questions to the workshop participants on their experiences and then delved deeper into avenues. I also pushed the performers to extrapolate on specific areas that related to referent structuring, limitations of their performance experiences and the role of improvisation in their engagements with each score.

The aim at the outset was for the same performers to be involved in every masterclass and performance. Unfortunately, practicalities precluded this, as it was not possible to find times for each masterclass that suited every performer's schedule. Thankfully, the majority of the performers were the same for each workshop and only a few alterations had to be made.²⁶⁹ It was desirable to involve the same musicians, as much as possible, for each of the sessions to make sure that the instrumentation and ensemble dynamic could be kept consistent. It was also important to ensure that the analysis of the preparatory sessions could focus on the discourse and practice and the participants' relationships with the scores and their instructions, rather than needing to constantly take into account the contrasts between the different musicians' backgrounds and personalities. Furthermore, a major focus of these workshops was exploring how the

²⁶⁹ The accordion player was not available for the workshop on the second day and the vocalist and clarinettist were not available for the afternoon sessions on the first and second days.

preparatory processes developed through each masterclass, as the participants became more experienced in working with each other and with musical graphics generally.

None of the performers were interviewed after each workshop in the Second Case Study, for the same reasons that Boulton and Rogers were not interviewed after the session in the First Case Study, so that the discussions could be contained in the workshops and the focus could be kept on the live engagement with each score. However, Bergstrøm-Nielsen pushed the performers to vocalise their thought processes in each workshop and gave them time to extrapolate on their creative decisions, so that he could then challenge them to open up other interpretative avenues. I interviewed him after the workshops had concluded, because his focus on bringing out the other participants' viewpoints meant that he was often unable to express his own thought processes, which is an issue he expressed after the first workshop. It was therefore important to capture his reflections on the overall process and discuss wider issues relating to improvisation and performing musical graphics.

Bergstrøm-Nielsen and I improvised together directly before my interview with him. The reason for arranging this improvisation session was so that we could learn about each other's improvisational styles and creative strategies, to help inform my questions in the interview, which explore how he approached the workshops in the second study and engages with musical graphics generally.²⁷⁰

²⁷⁰ The recording of the improvisation session can be found on track 4 of the supplementary recordings, provided with this thesis document.

Furthermore, Richard Sawyer argues that ‘the lens of improvisation emphasizes the interactional and responsive creativity’²⁷¹ of practitioners and so the improvisation session made it possible to learn from Bergstrøm-Nielsen’s experience, through what Richard Sennett calls ‘expressive instructions’.²⁷² The experience of improvising with him influenced the topics covered in the interview, focusing the discussion on the phenomenology of time in improvisation, how performers experience levels impacts on how they engage with musical graphics and how the musical materials developed across the workshops and performances.

Analysis of each of the six workshops, which make up the Second Case Study, is presented chronologically below. The related recordings for each of workshops are found on tracks 5-9 of the supplied Memory Stick. It is recommended to first listen to the recording of each workshop before reading the associated analysis, to understand how the performers interpreted Bergstrøm-Nielsen’s conceptual narratives and then manipulated them as an ensemble.

4.3 Workshop Exercise Sessions

4.3.1 Workshop 1 – Musical Exercises

The first half of the initial workshop session was structured like a lecture, allowing Bergstrøm-Nielsen to lay out a number of key concepts for how to engage with musical graphics. After providing a short autobiographical introduction, he began by framing

²⁷¹ Richard Sawyer, ‘Creative teaching: collaborative discussion as disciplined improvisation’. *Education Research* (2004) 33, p. 12.

²⁷² Anna Harris, ‘Expressive Instructions: Ethnographic Insights Into the Creativity and Improvisation Entailed in Teaching Physical Skills to Medical Students’, *Perspectives on Medical Education*, 7.4, p. 234.

the process of engaging with musical graphics as a self-reflexive constructionist project, stating that ‘the musician, himself or herself, is the most important instrument’. To succinctly encapsulate this concept, he said to the ensemble, ‘know thyself and you will play perfectly’. He then explained that engaging with musical graphics does not require a conventional knowledge base of musical techniques and therefore is ‘not a matter of how much you are a traditional virtuoso, it’s a matter of how sensitively and how cleverly you use what you can do’. He argued that ‘even beginners can do a marvellous job in improvisation’, because ‘they have their ears really out and they are really aware of what they are doing’. He later referenced that he was inspired in making this point by Cardew’s remarks in ‘Towards an Ethic of Improvisation’ and the musical virtues that Cardew lists within it. Bergstrøm-Nielsen concluded his introductory remarks by emphasizing the importance of awareness and inventing ways to ‘keep ears fresh’.

The first practical exercise that Bergstrøm-Nielsen presented to the participants was one of his game pieces, titled *Sea Game* (1996). The score consists of intersecting circles, which are divided into sections of arrows and pause symbols (See Fig 4.1). To accompany the score, he provides the following instructions:

Proceed individually from one checking point to another in any order and let the single points represent clues both within the total spectrum of pitches and within the interplay of voices.²⁷³

²⁷³ Carl Bergstrøm-Nielsen, *Sea Game*. (Copenhagen: Aalborg University, 1976)
<http://vbn.aau.dk/files/281035657/Sea_Game.pdf> Accessed 14th November 2013.

Bergstrøm-Nielsen first spent some time tackling the axiological dilemma of selecting musical material, which I discussed in Chapter Two. His approach was to set out the following metaphor:

There's some clever guy who wrote that, concerning this new material, it's like operating trains. In a tonal system there had to be strict regulations so that the trains wouldn't bump into each other. But if you make trains of soft rubber then everything can be combined, so to speak, and there's no such danger. Sounds are combinable.

He was quick to add the caveat that his metaphor was not inferring that the participants' musical material would have no meaning. His first practical engagement with the group was to instruct the participants to play the deepest sound they can possibly make on their instrument. His response to the material was that it was 'already interesting', but could be made more interesting by making a small improvisation from it. He instructed the participants to 'make differences in the dynamics and make pauses in between them, so that everyone will eventually hear all the others, so that no one disappears completely'. His immediate response to the improvised deep register material was, 'I feel now like the painter looking at his palette and looking at his colours and thinking "Oh how interesting! I'm going to make a great work out of this!"' His attention then moved to the duration and frequency of pauses.

He instructed the participants to use twice as many pauses within the improvised material and suggested that they should think about the resonance of a cello or a double

bass in order to help smooth out their articulation of the low register drones. When sounding the high notes, the participants encountered difficulties producing sustained high register sounds. To assist them, Bergstrøm-Nielsen provided the following advice:

There we encounter the difficulty of making everything imaginable with our instruments. We have to extend techniques. Well, this... *pointing to melodion* kind of deals with itself, but with reeds you have to move sensitively. There are many saxophonists who do many things with that. And female singers should have a chance as well.

Bergstrøm-Nielsen paused for a sustained period after the participants had played the high register drone, then quickly moving on to mid-range staccato notes. His pause was perhaps a tacit acknowledgement that resolving the technical issues with producing sustained high register notes on each instrument was not feasible within the time restriction of the workshop. For the mid-range notes, he instructed the participants to use an ‘interesting staccato pattern’ and a pointillistic texture. His immediate reaction to that material was that it was ‘really polyphonic’ and a ‘very new conception of sound which was so light and so freed from the mechanics of dogmas’. The latter remark reflected a central theme in Bergstrøm-Nielsen’s approach to the workshops, of ‘throwing away old systems’ and working with sound formations rather than musical materials. Furthermore, he expressed that his underlying goal in the preparatory workshops was to encourage the participants to think in terms of sound rather than harmonic systems, which he emphasized by providing the following

semiotic analysis of the groups' developmental journey of musical materials through the workshop:

...since the beginning of the workshop, we've thrown away the general basis, where musical phrases were the thing to do. Musical phrases are like speaking. You have to finish a sentence using various rules and that takes some time. Forming those sentences takes some time. They are large units of meaning. And so, whilst speaking the sentence, the others have to be silent [so] as to hear the whole sentence. But music doesn't have to be like that. You could have not just dialogue but multilogue. A polyphony of parts.

Whilst he was careful to avoid technical musical language to refer to the pitch and duration of notes, he referred to the polyphonic nature of the musical texture multiple times. He described the mid-range staccato material as 'rediscovering the art of polyphony in a very new way'. His reason for describing the material as a rediscovery of polyphony is that he argues that in early church music, 'they really did not think in terms of harmonic systems and bass and upper melodies', but instead 'had this intertwining of many melodies at the same time'. He then referred to the dialogical and multitudinous nature of the musical material the participants would be creating in response to the musical graphics in the later workshops as requiring the development of discipline and musical ethical values. He stated that the reason for the ethical sensitivities is due to the size of the ensemble, which meant that effective musical dialogue was particularly important. He proffered that the main value required to enable effective dialogue is ensemble sensitivity and explained that 'the reason why

it's so important that everybody be heard, in ensemble playing of this kind, is that everyone is unique'. He expanded on this point to illustrate that creating pointillistic material requires a strong sense of individuality from each performer.

After attempting each pitch register detailed in the score, Bergstrøm-Nielsen then requested that the group played through all of *Sea Game*, pulling all of the individual elements together. In terms of distinguishing the individual textures within the performance of the piece he admitted that 'I cannot know everything you did, or how you interpreted transitions and stuff', but expressed that 'I did not hear a mess, in terms of the piece, I just heard parts interacting which were clear to me all the time'.

Bergstrøm-Nielsen spent a considerable portion of the workshop discussing the importance of pauses and discussing the concept that 'music is not just the sound, music is what is between the sounds'. He devoted the final quarter of the first workshop to another of his own compositions titled *Pauses* (1992), in which the technical notes accompanying the piece state that 'only the pauses have been notated, while what to play and for how long is up to the performers'.²⁷⁴ Bergstrøm-Nielsen pointed out that 'it is very important how you do the pauses', as 'else, there are no restrictions, but pauses reign'. After playing through *Pause Piece*, the live electronics performer shouted out 'I just want to be able to make another sound!' I also voiced my own internal conflicts with interpreting the piece and my axiological dilemma in selecting pauses:

²⁷⁴ Carl Bergstrøm-Nielsen, *Pauses* (Denmark: University of Aalborg, 1992).

Joe Scarffe: ‘I think there were some moments where the pauses that attracted my eye were not the ones that I wanted to do at that moment, which was frustrating.

Carl Bergstrøm-Nielsen: Yes, we have the discipline and we encounter so many close thoughts and things which do not happen. Like cross roads, “And I would like to go there and now it’s not the time, oh...”

Joe Scarffe: Yes, and it’s the same with some of the pauses require you to prepare before you’ve begun. And sometimes the thought that, I’d go back and think, “Cor, that was a rubbish thought I had! Why did I think that? That was terrible! And I’d already committed myself to think that, that’s what I was going to do.

My reason for voicing this admission was not to critique my own interpretative strategies, but to highlight the dialectical nature of selecting material. Bergstrøm-Nielsen’s response to me was that ‘you’ve got to show initiative and take risks’ and accept that “if something is really horrible then it’s a waste of time”. He explained that the pauses should not be inserted into material to fragment it, but should be placed into more expansive gestures, in a more fluid way. He also pointed out that ‘there can be a tension between pausing and making sound’, which is ‘very important and very productive’ and allows for a ‘continuity of complex thinking’.

4.3.2 Workshop 2 – *Postcard Music* and *Fire Music*

In the second morning workshop, Bergstrøm-Nielsen focused on two more of his improvisational pieces, beginning with *Postcard Music* (1976). The score consists of

six loosely notated figures between two repeat signs. (See Fig 4.2) Like the scores in the first workshop, pauses again play an important role in this work, because the performer can decide whether silences are proportional to preceding material (rests) or of undetermined length (pause), with the brackets used differently in each of the three 'silent' bars. He writes at the bottom of the score that the performer should 'let the stream of sounds evolve and conclude according to its own nature'.

POSTCARD-MUSIC *Improvisational piece for an ensemble of preferably different voices/instruments.*

LISTEN VERY INTENSELY TO SOUNDS AND MUSICAL LANGUAGE-ELEMENTS EMERGING

(↑) ↑ (↑) ↑

(/n) also for this. Vary dynamics

(n)

(n) (n) (n)
(Vary timbre)
PPPP sost.

(n)

Vary tempo, rhythm, dynamics, attack and timbre.

↓ ↓ ↓ ↓

TRY TO MAKE THE OTHERS COMMENT YOUR PART AND MAKE YOUR PART A COMMENT TO THE TOTAL ACTIVITY

↑↓ = follow instructions; () = may be omitted; / = choose freely.
 To be read individually for each sign.
 LET THE STREAM OF SOUNDS EVOLVE AND CONCLUDE ACCORDING TO ITS OWN NATURE

Repeat in your own rhythm in at least 10 different ways.

Fig 4.2, Carl Bergstrøm-Nielsen, *Postcard Music*, Aalborg University (1976), Score.²⁷⁵

Again, like the first workshop, Bergstrøm-Nielsen broke the score up into individual constituents and asked the group to play through each figure individually. Before playing the first figure, he first described improvisational pieces, whether graphically notated or not, as a very adventurous form of communication, where the aim is 'to make a music which consists of a collective stream of consciousness, consisting of non-verbal reactions'. He also emphasized an instruction in the score that each performer should 'try to make others comment on your part and make your part a comment on the total

²⁷⁵ Carl Bergstrøm-Nielsen, *Postcard Music*, Aalborg University (1976), Score.²⁷⁵

activity’, which he stated makes one ‘responsible for accepting what is happening’. He also explicitly asked the performers if, during the pauses, they could listen very intently to each other, again developing the ensemble sensitivity virtue he introduced in the first workshop.

Bergstrøm-Nielsen’s response to the group’s playing of the first figure in the score was that it sounded ‘very demanding’ and ‘took time to get started’. His explanation for the issues is that the ‘initiative to make a sound and throw it out into the community is really a very demanding thing to do’. His suggestion to help the performers overcome the demands of the score was ‘to do it not so regularly and accept a very random situation’, such as ‘popcorns popping or even less regular’. The clarinettist expressed that they found his popcorn analogy ‘a good way of thinking about it’, although he admitted that the group ‘probably got faster’ than the tempo that popcorn typically pops.

After playing through the first figure of *Postcard Music*, Bergstrøm-Nielsen put forward a more in depth description of the axiological dilemma I raised in the first workshop and offered a more in depth analysis of the dialectical relationship between intuitive and more formalized interpretative strategies:

It’s true that our brain likes structures and it likes simplicity. But it’s certainly also true that it likes complexity and stream of consciousness. The way we get inspired, that’s really by stirring up emotions and notions inside us and one thought and notion will take the other and they like to fly and to move. Our inner life is really also similar.

His analogy of thoughts and notions connecting and moving together echoed the analogy of sound functioning like soft rubber trains he made in the first workshop. Whilst Bergström-Nielsen was notating more figures for the group to interpret, to challenge them with more improvisational scenarios, I took the opportunity to question the jazz students about whether they felt that approaching musical graphics with a jazz background made it easier for them to engage with musical:

Joe Scarffe: Something else I just wanted to say was to ask about was freedom.

I've never trained as a jazz musician, I don't have a jazz background at all. Do you find it easier or harder to engage with musical graphics having a jazz background?

Guitarist: I don't know really any other way. Because I only know my experience, so I can't say whether I find it easier than you. But some things about jazz you learn, and sometimes it makes you less free, but then other things, after a while, makes you more.

Joe Scarffe: Okay, right, yes I just wonder whether you always have it there about using certain scales or using certain modes, or rhythms.

Guitarist: I think, in the first couple of years, I was more intensely trying to get that stuff down. Whereas now I'm more thinking about playing. I think the idea is that when you're playing in a context where you have to play that you don't think about that either. It's something you feel rather than thinking.

Joe Scarffe: I suppose you get to an extent of getting it down that you can feel rather than having to think about it.

Guitarist: I think that's the aim.

Joe Scarffe: Yes, right, I'm just curious because I've never had that background and I've only learned about modes and things from a classical perspective and, when I improvise generally, I never think of it in a context of jazz scales or rhythms.

Clarinetist: Yes, I never think about modes or anything, when we're doing this.

I'm almost trying to deliberately avoid it in my head, because then you're thinking of a thing, aren't you? It kind of defeats the point of it. I feel like it makes me more sensitive, because I get time to learn the instrument. Well, this isn't really my instrument, but I feel more free to do this kind of stuff. Because I did do a lot of classical before and I learned the notes, but I didn't really get to know what I was playing as much. So, I feel like, more so with jazz, better prepared for this.

I was surprised by the clarinetist's final response, because it implied that he approached engaging with musical graphics as performer in the same way as Mark Applebaum approaches composing them, with 'no sound in his head'.²⁷⁶ Bergstrøm-Nielsen's response to the discussion was that we were really getting into the 'psychological process of adjustment' and learning 'how it feels to improvise'. Furthermore, I had assumed, when conceptualising the question, that they might express that their jazz training could present idiomatic constraints that the range of interpretative avenues available to them. Just before the end of the second workshop, Bergstrøm-Nielsen quickly introduced the group to another of his game pieces, titled *Fire Music* (1976).

Fire is passionate without being strained; it's unified without repeating itself; it's clean without being ascetic; it develops itself without being fixed to a scheme; it's fast and slow, leaping and calm at the same time.

The guitarist described the performance as 'like random things in the wind' and "very still, just movement, without people behind it' and the clarinetist described it as

²⁷⁶ Robert Arnold, 'There's No Sound in My Head' [on DVD].

‘hypnotising’ and ‘like a bed of sound’. Bergstrøm-Nielsen joked that the piece sounded like ‘the fire brigade arrived’ and expressed that one of the ensemble’s issues was that ‘there’s this temptation for strong instruments to go together and maybe make a club’. Ensemble balance had been a concern throughout the second workshop, which is why the soprano vocalist went to fetch amplification, as Bergstrøm-Nielsen was concerned about her being overpowered by the wind instruments.

4.4 Workshop 3 – Circle Series

The second workshop session focused on preparing Theresa Sauer’s *Circle Series* (2011). Sauer is a New York based composer who has been dedicated to promoting the composition and performance of musical graphics for over a decade, as well as many other graphic and other experimental approaches to scoring music, through her Notations 21 Project. She has also published *Notations 21* (2009), a compendium of twenty first century graphic scores created to celebrate the fortieth anniversary of John Cage’s compendium, *Notations* (1969). *Circle Series* consists of three different musical graphics, each representing different planetary shapes inspired by Tychonian maps, titled ‘Red Circle’ (See Fig 4.3), ‘Blue Circles’ (See Fig 4.4) and ‘Yellow Circle’ (See Fig 4.5). She also writes that the scores ‘rest within a square or rectangular frame referencing Jungian psychology, where the image of a circle inside a square represents the connection between our inner (circle) and physical (square) natures’.²⁷⁷ Sauer provides the following performance instructions with the score:

²⁷⁷ Theresa Sauer, *Circle Series* (New York, 2011).

The Circle Series notation is based on shape, colour, texture and symbol to guide the performer(s) in performance. Instruments, duration and performer number is open to choice. Using circles in notation, relieves the performer/interpreter from the linear experience of “reading” sound. It becomes an event-driven score in which the visual perception can be from any point in the score as in a circle there is no true beginning and no true end.²⁷⁸

Although Sauer refers to the series as ‘notation’, she does not provide any key or lexicon for the symbols that run through the middle of ‘Yellow Circles’ or those on the right hand side of ‘Red Circle’, leaving them open to interpretation. Bergström-Nielsen and the workshop participants settled on their own interpretation of these musical symbols, which is discussed below. Sauer’s motivations for the extreme interpretative openness of the piece is encapsulated in a text she used on a wall panel for an exhibition of *Circle Series* at the Chelsea Art Museum in New York, in which she described the piece as ‘an homage to the process of musical discovery’.²⁷⁹

Whilst I was putting the scores on the music stands for the performers, the live electronics performer asked me, as I placed ‘Red Circle’ on his stand, ‘is that a tomato?’ I involuntarily laughed and responded, ‘no, it’s a planet’. The pianist then shouted out, ‘by the way, that’s just been caught on camera!’ I then sarcastically retorted, ‘brilliant, that’s a great start!’ The live electronics performer then responded with, ‘it’s just that we were discussing what it might be, and I suggested I thought it

²⁷⁸ Sauer, *Circle Series* (New York, 2011).

²⁷⁹ Aileen Jacobson, ‘Where the Musical Meets the Visual’ (2013)
<<https://www.nytimes.com/2013/05/12/nyregion/notations-21-project-is-at-art-league-of-long-island-in-dix-hills.html>> [accessed 15 August 2014].

might be a tomato'. There was a momentary awkward pause, before Bergström-Nielsen then set out his interpretative strategy. However, I continued to internally question my response to the performer's view of the score and why I had judged his interpretation. Whilst I knew that the score was a representation of cosmological map, the performer did not have that information and there was nothing within the score itself to suggest to connection to him. My response to the performer was motivated by a feeling that he was not approaching the score seriously. However, I do not feel retrospectively that my reaction was justified and perhaps my position as insider researcher caused me to ignore Sauer's intention for the score to be a process of musical discovery.

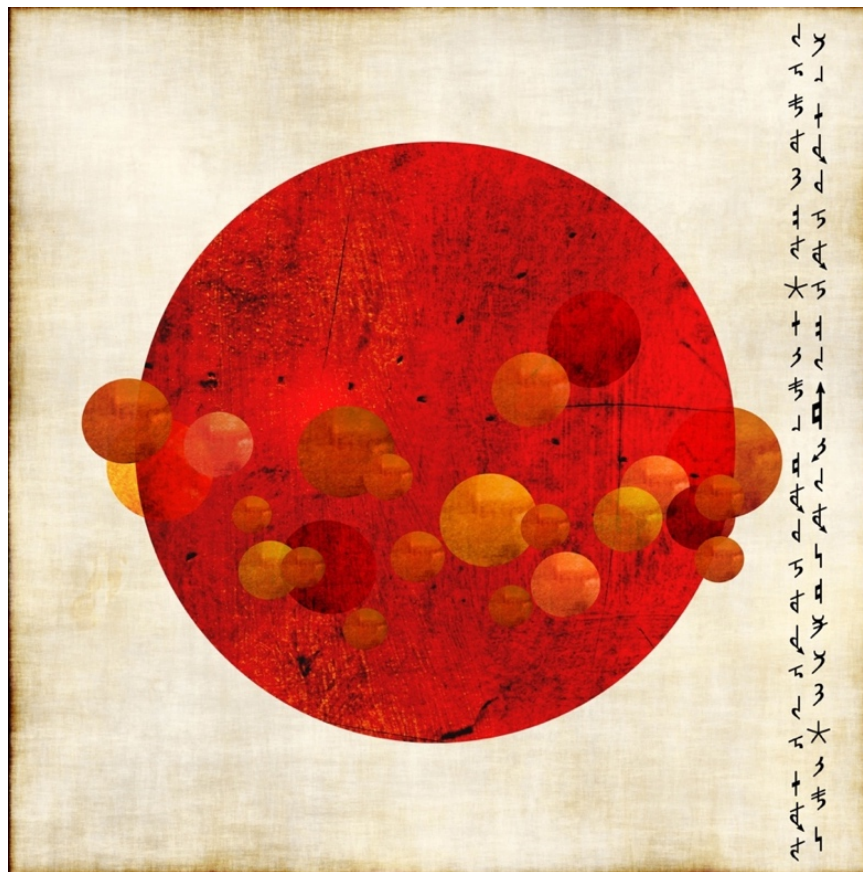


Fig 4.3 Theresa Sauer, 'Red Circle' (2011), score.

Bergstrøm-Nielsen decided to structure the score ‘Red Circle’, then ‘Blue Circles’ and finally ‘Yellow Circles’, to represent space expanding through the performance, mapped to a continuous increase in the dynamic range. His interpretation of ‘Red Circle’ was that “we need to have some contrast between small movements and large ones, and they could be interconnected”. He instructed that ‘without specification, can we all try to make a mixture of small movements and very, very large movements of a circular kind, freely interpreted’, to represent the big circle.

After Bergstrøm-Nielsen had set out his strategy for the score, the clarinettist then questioned him on the musical shapes on the right hand side of the score and whether they would impact on his interpretative strategy. He responded with the following interpretation:

Oh, I also speculated about that, and my answer would be - let’s imagine these are alterations of single events. Like accidentals valid for a whole measure, or maybe more. Maybe we could shift the timbre. Maybe we could shift the dynamics. Maybe even dramatically. Yes, maybe we could even shift the figures.

The guitarist then questioned me on why Sauer had not included the symbols on the sides of the other score, to which I responded that she had told me ‘she wanted to give it that fractal texture’ and ‘because the other scores don’t have that textural surface to the planets’, she felt that the incidental shapes would give the performer the opportunity to add more textural variety. In regards to ‘Blue Circles’, I pointed out to the group that

Sauer had told me that she wanted ‘Blue Circles’ to have a fractal quality, so that there is always nuance at whatever scale that you look at; a textural interest from the micro to the macro scale. Bergstrøm responded by expressing that ‘the tension between big and small, that’s very effective, I think’.



Fig 4.4, Theresa Sauer, ‘Blue Circles’ (2011), Score.

Bergstrøm-Nielsen’s approach to ‘Yellow Circles’ was that ‘there needs to be something really majestic and loud’ and then sang a very loud note to illustrate the intensity he was after from the group. In his conceptualization, the score represented the furthest point out in space, where the dynamic level is at its upmost and the grandness of the space being depicted is at the most extreme point.

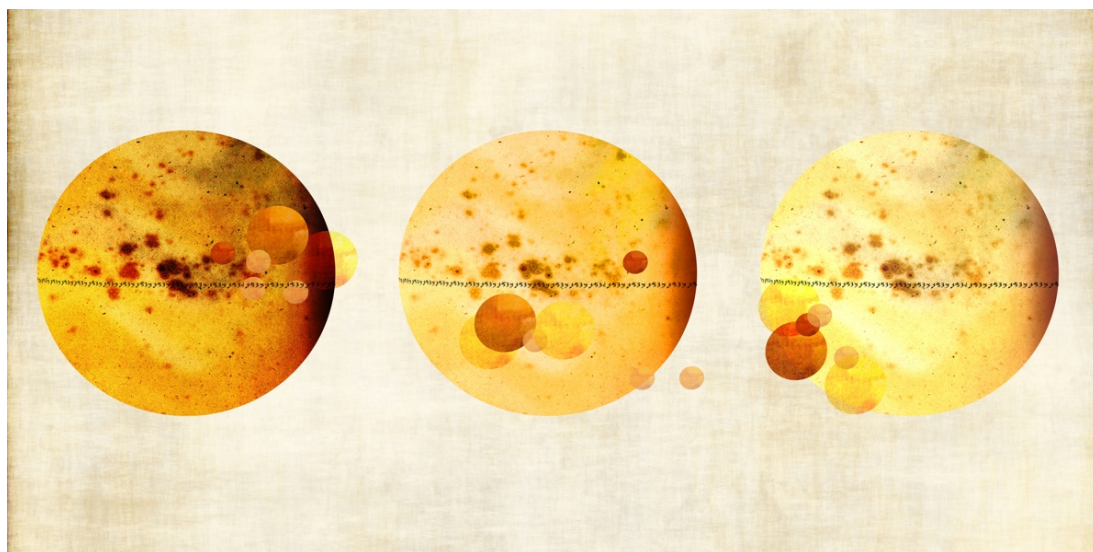


Fig 4.5, Theresa Sauer, 'Yellow Circles' (2011), Score.

In the final play through of the full score, Bergstrøm-Nielsen suggested to the performers that they should use their internal clock for the final performance so that they all measure out three to four minutes for each score and try to keep to the same durations. After the final full play through of all three scores, he praised the group for how naturally the consensus for the ending point was felt by the group, stating that 'it's a real art to be aware of probable endings and if we had an ending like this in the performance then it would be very convincing, like magic!'

4.5 Preparing Erik Christensen's *Graphic Pieces*

Erik Christensen is a Danish composer and musicologist who wrote his doctoral thesis on the topic of 'Music Listening, Music Therapy, Phenomenology and Neuroscience' at Aalborg University in 2012. His *Graphic Pieces* were created in the mid 1970s and consist of three musical graphics: 'Telephone Conversation for two or more musicians' (1975), 'Constantly on the Edge of a Breakdown' (1977), 'Necessary Consequences of

Unforeseen Structural Changes' (1977) and 'When You are Crushed by Tragedy You Discover the World Around You' (1977). The graphics within 'Telephone Conversation' were created by Christensen doodling during telephone conversations. Whilst introducing the piece in the workshop, Bergstrøm-Nielsen remarked that some of the telephone conversations 'had quite an emotional content and I know one had to do with employment procedures and the drama of getting a new job and similar interesting situation'. He suggested this meant that 'the content has somewhat erupted', perhaps referring to the impromptu nature of the doodling and the emotional states that the doodles convey.

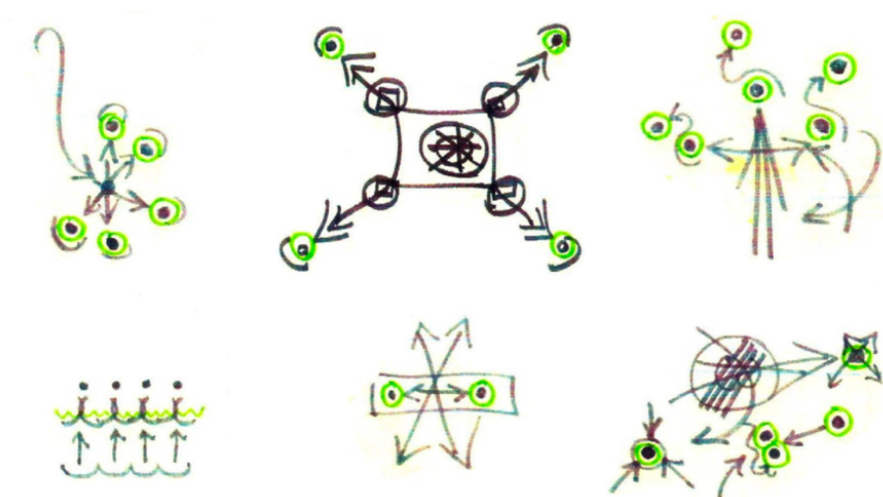


Fig 4.6, Erik Christensen, Extract from 'Telephone Conversation', in *Graphic Pieces* (1975-1977).

'Constantly on the Edge of a Breakdown' has a chaotic appearance, but Christensen is much more prescriptive in how the performer should engage with the work than he is with 'Telephone Conversation'. He states that the performer should 'consciously strive to provide a conscious overall form so that the chaos of the content suggested by the title is kept under control'. To create the form that he describes, he instructs that a new

set of playing rules must be agreed on before any new performance of the work. The accompanying instructions to ‘Necessary Consequences of Unforeseen Structural Changes’ states that the piece has ‘no relevant pre-history and is to be played without preparation’. It also states that ‘duration is to be agreed upon before playing and to be kept precisely’. ‘When You are Struck by Tragedy You Discover the World Around You’ requires the performer to use emotional states as stimuli to affect the construction of the material, as Christensen states in the instructions which accompany the score:

Let the black lines lead your eye around and around and around in the picture, until you feel very crushed and empty.

Then forget everything about the picture and play from your impression of everything you see and hear around you, as if it were the first time.

To end: take a look at the picture and react to it.²⁸⁰

Three out of the four graphic pieces were prepared within the workshop session. As Christensen states in ‘Necessary Consequences of Unforeseen Structural Changes’, that the piece should not be prepared before the performance, analysis on the engagement with the score is in Chapter Six.

²⁸⁰ Erik Christen, *Graphic Pieces*, (1975-1977) [Preliminary Study Version] Score notes.

4.6 Preparing Henrik E. Rasmussen's 'Threads'

Henrik E. Rasmussen is a Danish composer and a close acquaintance of Bergström-Nielsen, performing extensively with him since 1991 in the Intuitive Music Group, and also studied Music Therapy at the University of Aalborg. He created 'Threads' (sig. 2.7) in 1997, as part of a collection titled *Take Off Fantasy* (1995-2015), which is scored for flute, cor anglais, piano, accordion, or ad lib. ensemble. The score is split into seven sections, divided into four separate parts, consisting of two upper voices and two lower voices. Rasmussen does not provide any further instructions with the score, leaving the performers open to interpret his graphics as they see fit. However, Rasmussen does impose a linear, left to right visual structure through the inclusion of system dividers on the left hand side of the score.

The image shows a handwritten musical score titled "Threads" by Henrik E. Rasmussen, dated 1997. The score is divided into four parts, numbered 1 through 4. Part 1 features a waveform with a peak and a dip, labeled with circled numbers 1 and 2. Part 2 shows a musical staff with notes and dynamics like "sfz" and "tempo ad lib.", with a circled number 3 above the staff and a circled number 4 below it. Part 3 consists of several circles of varying sizes, some containing notes, and a circled number 3 below them. Part 4 includes a waveform, a musical staff with notes, and a diagram of a piano keyboard labeled "Broad sounds", with circled numbers 3 and 4 above the staff. The score is signed "Henrik E. Rasmussen 1997" at the bottom right.

Fig 4.7, Erik Rasmussen, 'Threads' in *Take Off Fantasy* (1997), score.

4.7 Conclusion

Analysis of the workshop in the first case study identified that the first three stages of engaging with musical graphics involves decodifying the visual material in the score, forming referents from them, and consolidating the referents into a conceptual narrative. This second case study was set up specifically to explore how performers engage with musical graphics after the conceptual narrative has been formed. Bergstrøm-Nielsen's role as a facilitator for these workshops meant that he prepared the stages of decodification, ekphrasis and world building in advance. His preparation work enabled the focus of the analyses in this chapter to be on how performers engage with more fully formed conceptual material. However, his descriptions and explanations of the conceptual materials he formulated has helped to clarify how experienced performers approach narrative construction.

In contrast to the first case study, none of the performers in this case study, apart from Bergstrøm-Nielsen and I, had previous experience of performing musical graphics. Therefore, his decision to dedicate the first and third workshops to musical exercises was important in revealing the skills and musical virtues which performers develop as they learn how to engage with musical graphics. In particular, the use and awareness of pauses, developing self-awareness and communicating effectively within polyphonic material and multilogues were skills which were repeatedly brought up by Bergstrøm-Nielsen that the performers should develop. The use of a facilitator in the workshops also made it possible to assess when the performers were engaging with musical graphics effectively, because Bergstrøm-Nielsen could step back and tell the performers that their musical materials were not relating to his conceptual narratives.

Analyses of the four workshops in this second case study have helped to identify the fourth creative process involved in engaging with musical graphics, hermeneutic playfulness. After Bergstrøm-Nielsen explained his rationale for decodifying the visual structure of each score, and described the musical narrative he had formulated, the group then began playing with the interpretation of the conceptual and musical materials he set out. Playing with conceptual material is necessary for performers to work out how to map musical materials to them, particularly if they were not involved during the decodification and referent construction stages.

This chapter has shown that multiple periods of play emerge organically from the preparation of musical graphics, as performers lock conceptual materials into their memory. Before each period of playfulness, performers agree the boundaries of each game to be played, to ensure that they are engaging with the same conceptual material. However, Bergstrøm-Nielsen's introduction of sudden rules to the group, such as the use of stop watches and the calculations of the performers' birthdays to stagger the timing of their entries, indicated that he did not want the conceptual narrative to be overly fixed. The questions which therefore arise from this are: how can one distinguish when conceptual materials have lost spontaneity? And at what point in the consolidation of conceptual materials does a performance of a musical graphic turn into the realisation of a composed response to a graphic analogue? Analysis of the workshops in the second case study has also shown that reflective discussion between each period of playfulness is important in enabling performers to ensure that they are in agreement about the collective development of the conceptual narrative and are clear about its parameters. Then, if not, they can then shift the rules of the hermeneutic game

which is being played accordingly.

The process of engaging in musical ekphrasis involves adopting a range of ekphrastic stances, one of which is playfulness. However, adopting a playful ekphrastic stance should not be confused with engaging in hermeneutic playfulness. The difference between them is that adopting a playful ekphrastic stance means that the content within a conceptual narrative is playful, whereas hermeneutic playfulness refers to playing with the interpretation of the conceptual materials after they have been formed. Moreover, the process of hermeneutic playfulness feeds back into the stages of decodification, world building and ekphrasis, because the content and structure of the conceptual narrative is effected by the process of play. New sensory and perceptual data, referents and narrative concepts are then formed, as a result of playing with the structure and content of the conceptual narrative. In the case of Sauer's *Circle Series*, Bergstrøm-Nielsen combined the three musical graphics within the collection into one conceptual analogue, which raises the question: to what extent can performers combine the visual material in musical graphics within conceptual narratives? Hermeneutic playfulness makes up the fourth stage of the musical graphic performance conceptualisation pipeline, which is presented in its entirety in Chapter Six. It also forms the first part of modal transfer, where the conceptual narrative is rendered into the final musical materials in the moment of performance. The next chapter analyses five different performances, which resulted from the workshops in the two case studies, to identify the final creative process involved in performing musical graphics, musical rendering, and its reflexive relationship with hermeneutic playfulness.

Chapter 5 – Performance Analyses

5.1 Introduction

Four performances are analysed in this chapter: a performance of two scores from Janet Boulton's *Eye Music Series*, a performance of Theresa Sauer's *Circle Series*, a performance of two scores from Erik Christensen's *Graphic Pieces* and a quartet performance of Henrik Ehland Rasmussen's *Threads*. All four of these performances were held at the Library of Birmingham and were the outcomes of the workshops which make up the two case studies addressed in Chapters Three and Four.

The four performances addressed in this chapter are analysed as they occurred chronologically, in the same order as the workshops in Chapter Four. Contextual information about the scores performed, and the backgrounds of the composers, are found in Chapters Three and Four. Discussion of the performance environments, and the obstacles they presented, are found below. The goal of these performance analyses is to identify the creative processes involved in rendering the conceptual narratives, formed through engaging with musical graphics, into musical materials. The insights gained from the analyses in this chapter help to setup the final section of the musical graphics performance conceptualisation pipeline laid out in Chapter Six.

This chapter begins by discussing the two performance environments chosen for the performances analysed in this chapter and identifying the challenges they presented. After that, the four performances which resulted from the two case studies are then analysed chronologically. The chapter concludes by identifying the final creative process involved in performing musical graphics: rendering the conceptual materials

formed from engagement with the musical graphic into musical materials.

Each of the performance analyses in this chapter revisit the interpretative strategies outlined in the workshops in Chapters Three and Four, to examine how the conceptual materials created in each workshop manifested in the musical materials in each performance. However, these analyses do not seek to provide exhaustive analysis of every single detail of the musical materials in each of the performances. Rather, their focus is on identifying salient elements of the musical materials, which help to support the existence of the creative processes identified in Chapters Three and Four and complete the picture of how the visual modality of the musical graphic is translated into the auditory modality of the performer's response to it.

5.2 Performance Environments

5.2.1 Library of Birmingham Atrium

All of the performances analysed in this chapter took place in the central atrium of the Library of Birmingham. This performance environment was unorthodox and challenging for the performers, due to their location, the location of the audience and the acoustics of the space. The ensemble was situated in the centre of the main atrium of the library, facing the main entrance of the library and directly in front of a large exhibition of musical graphics, which I had curated. The main entrance has a consistent high footfall and generally high ambient noise volume from footsteps and conversations amongst visitors. Although most visitors were aware of the performances taking place and were duly respectful in containing the volume of their conversations, the level of

ambient noise was still a sharp contrast for the performers to the studio in Royal Birmingham Conservatoire where the workshops took place.

The location of the performances in front of the exhibition meant that audience members were moving freely around the space and not in a fixed position throughout each performance. Furthermore, the audience were fragmented in the space, split between a nearby seating area, a semi-circle stood around the performers and visitors wandering around the exhibition. There were also periodic announcements made through the Library PA system. I personally found that the mobile nature of the audience, made it difficult to connect with them because whenever I looked up from the score, there was a different set of audience members to engage with. Furthermore, it was not possible for the performers to visit the space in advance of the performance and so they were only able to familiarize themselves with through successive concerts. Some of the performers arrived early to get accustomed to the space, but were not able to play their instruments or try out any material, as the library had strict limits on the length of time that the ensemble could be in the space. Acoustically, the atrium was a challenging space to perform in, because the sound did not reverberate effectively through the space and small details within the sound world could only be perceived if the audience were in close proximity to the performers. Moreover, the very high ceilings and glass construction of the building minimized the low frequencies of the instruments and emphasized the middle and high registers, leading to pedal notes on soprano register instruments standing out.

5.2.2 Central City Café

On the final evening of the 2014 Frontiers Festival, I organised a concert at a local café in central Birmingham. The café was a more challenging environment than the library atrium in regards to the ambient noise, because the performance space was tucked around the back corner, but was not acoustically isolated from the main café space. This meant that the performances were in a constantly battle to be heard over the ambient noise of the café. Furthermore, the sounds of coffee machines and items being gathered by staff members were very intrusive, which raised the concern that the ambient noise would mask the subtleties of the musical material, meaning that we may have to abandon the space. However, as the concert time approached, the ambient noise reduced, as the main café emptied and more audience members attended the concert. This meant that the clarity of each performance increased as the concert progressed. The main advantage of the café environment over the library atrium was that the audience was fixed and the narrowness of the space gave the performance an intimacy that was lacking in the expanse of the library space and so it was easier for the performers to communicate with the audience directly.

5.3 Library Concert 1 – Circle Series

This performance was the beginning of the workshop concerts, which took place each day throughout the 2014 Frontiers Festival, in the central atrium of the Library of Birmingham. This concert involved Theresa Sauer's *Circle Series*, and the group performed all three scores in the series, 'Red Circle', 'Blue Circles' and 'Yellow Circles' respectively. The ensemble for this performance consisted of eight musicians:

French horn, bassoon, soprano vocalist, clarinet, alto saxophone, guitar, trumpet and melodion.

The performance begin with a pointillistic, polyphonic texture, with quiet circular figures, following Bergstrøm-Nielsen's instructions in the workshop that 'without specification, can we all try to make a mixture of small movements and very, very large movements of a circular kind, freely interpreted'. As this was the first lunch time concert, the performers were unsurprisingly nervous about performing a musical graphic for the first time and the tentativeness of the initial material reflected their nerves. The group also paused and looked nervously at each other, appearing to expect the audience to be silent before they started playing, but the high degree of footfall from the general public around the central atrium of the library meant that this was not possible. Bergstrøm-Nielsen interrupted the long pause and started the performance by playing a muted flurries of notes, followed by the clarinetist playing accented appoggiaturas. The melodion then interrupted the opening material by playing a long sustained note, which encouraged the group to follow suit, quickly changing the texture to be much more homophonic. I interpreted the melodion player's sudden change of material as a response to an incidental shape on the right hand side of 'Red Circle' and the group then following her lead. I sensed that the performers were beginning to transition into sustained notes and so began to produce long multiphonics to blend with the developing instrumental texture.

Towards to the end of the response to 'Red Circle', at 6 minutes into the performance, I sensed that the musical material was beginning to lose momentum and so started to

play a much more dominant role, playing high register melodic material and utilizing dramatic hairpin dynamics at the beginning of 'Blue Circles'. The texture of the response to 'Blue Circles' was split between alternating sections of long chordal clusters from the bassoon, melodion and saxophone, with melodic ideas above from the French horn, and trio contrapuntal material from the melodion, bassoon and clarinet weaving between each other. The final sustained cluster section led into a mutually sensed pause by the group, after which Bergström-Nielsen then launched into loud percussive sounds, as the ensemble transitioned into responding to 'Yellow Circles'.

The final section began with strident chords, produced by the French horn, trumpet, bassoon and saxophone, building to a climax at the fifteen minute mark, led by the French horn and trumpet, with the layering of sustained notes building the dynamic level. The performance ended much more uncertainly than in the workshop session, with the trumpet and melodion engaged in a contrapuntal dialogue that stuttered to a sudden conclusion. My interpretation at the time for why the performance ended unconvincingly was because the high degree of ambient noise made it difficult for the performers to distinguish musical material from environmental sounds. Furthermore, the acoustics of the space emphasized each performers' individual sound world over the combined ensemble texture, encouraging the performers to approach their responses more soloistically than they had in the workshops.

5.4 Library Concert II – Erik Christensen *Graphic Pieces*

The second library concert consisted of a performance of *Graphic Pieces* by Erik Christensen. Two of the four pieces within the set, titled ‘Telephone Conversations’ and ‘Constantly on the Edge of a Breakdown’ were performed in the concert. Discussion on the preparatory sessions can be found in Chapter Four and the transcripts of the discussions in the workshops can be found in Appendix II. In the preceding workshop on this score, Bergstrøm-Nielsen instructed the performers to divide into two groups and alternate which group was playing every thirty seconds, stating that ‘the ones play for the first half minute and then silent for the next half minute, and the twos will play during the second half minutes and then will be silent during the first half minutes’. Group One consisted of guitar, saxophone and bassoon. Group Two consisted of soprano vocals, French Horn and clarinet.

The performance began with ‘Telephone Conversations’ and the ensemble began much more confidently and unified than in the final play through in the workshop, with the clarinet and guitar opening with a contrapuntal exchange. The saxophone then began with scalar chromatic gestures, which the rest of Group One began to then imitate. Group Two’s material began with the soprano vocalist producing a percussive rhythm, which encouraged a transition into a short vocal section, with the guitar and trumpet producing plosive extended vocal techniques. The remaining material alternated between Group 1 producing fragmented contrapuntal material and Group 2 producing more sustained homophonic material. with the clarinet and French horn sharing melodic fragments. The piece ended with the trumpeter producing four plosive verbal utterances, which emerged from a spread sustained cluster and the clarinet acrobatically

soloing on top.

The concert ended with a performance of ‘Constantly on the Edge of a Breakdown’. The performance involved the same group split as the first piece, but Bergstrøm-Nielsen instructed them, in the workshop, to think of the date of their birthday and if the day of the month is less than ten, then to add two to that number and use it as the length, in seconds, . They were then required to keep to the same durations of playing and pausing throughout the performance. This meant that some of the performers had written down the structure of their entries, so that they were not focusing on the timing of their entries more than the score in front of them. Bergstrøm-Nielsen’s explanation for implementing this rule was that it would lead to ‘a rather mixed situation, individually’, because each performer’s durations would likely be different.

The performers had not engaged with the score before or discussed any interpretative strategies within the workshop, as Christensen states in the performance instructions, that ‘the overall form should be agreed on for the specific performance; it may not be rehearsed or played at an earlier performance’. I felt that there was an instant change in tension level for this piece, perhaps because the performers were calculating their individual timing intervals, which caused the beginning to be very tentative. The initial material had a spectral quality with the melodion producing chords and the horn and trumpet producing contrasting multiphonics which produced very audible partials. The texture of the performance was substantially different to ‘Telephone Conversations’ because the material was not split so clearly between the groups, so the material was more consistently contrapuntal, with all of the instruments exchanging melodic ideas

throughout. My involvement in the performance felt solipsistic and I found it difficult to combine my musical materials with other instruments, because there was not a sense of contrasting structural entities to join as the musical ideas dissipated so quickly. The ending was very unified, led by a chromatic vocal descent by the guitarist.

5.5 Library Concert III – Henrik Rasmussen’s *Threads*

The score for Rasmussen’s *Threads* is divided into four parts and, for this performance, was split one to a part: Bassoon for part one, trumpet for part two, guitar for part three and French Horn for part four. The workshop to prepare the score for the performance was much shorter than the other musical graphics, as although the pitch, dynamics are not defined, and the fifth section is entirely abstract, there is an ideology of transliteration provided by the composer and so Bergstrøm-Nielsen felt it did not require as much conceptual narrative construction work as *Circle Series* or Christensen’s *Graphic Pieces*.

The first section of the score consists of interweaving, pen drawn lines, with part one made up of slow undulations, fast undulations and then a straight line and part two weaves around it, intersecting it twice. To respond to the gentle undulations of the line in part one, I played slow pitch bends. Simultaneously, the trumpet was sliding over a wide range of notes. To respond to the faster squiggles of the line, I overblew a B flat, two octaves below Middle C, to produce a sustained multiphonic and then adjusted its reverberations with my embouchure. In contrast to the workshop, I decided to respond to the line after the circular dot as a continuous sound rather than as a silence. This was a last minute change of mind, as I had decided during the workshop to keep to the

interpretation of the line as silence. I was not influenced in making this decision by the disagreement with Bergstrøm-Nielsen within the workshop, discussed in Chapter Four. My reasoning was that I did not want the pause to be too elongated and then cause parts two and four to feel uncertain about when to start the second section. Moreover, in context, it made sense to me to interpret the line as a continuous sound because the trumpet had slid down onto the same note as me and the blending of our instrumental colours inspired me, in the moment, to continue playing.

The second section is notated and consists of parts three and four sharing the same staff system. The guitarist interpreted the demisemiquaver pattern with fast trill tapping, whilst the French horn played the Sforzando Piano notes strictly as written and the tempo was kept at 60bpm. The third section began with a very sparse texture, perhaps reflecting the size and spacing of the initial bubbles. As an ensemble, we did not discuss how to respond to the bubbles, but there was an intuitive consensus amongst the performers to approach them with short, detached notes. As I discussed in Chapter Four, Bergstrøm-Nielsen mentioned to me in the post workshop interviews that he had a slight conflict in interpreting the bubbles, because there were not enough of the big bubbles to enable him to play as many long notes as he wanted to. His solution in the performance was to play a larger number of short detached notes with a variety of articulations.

In the workshop, the French horn and trumpet both played some longer sustained notes in response to the bubbles, which influenced me to map my playing to the trajectory of the bubbles through the air and play chains of sustained notes that ended abruptly.

These musical figures to my conceptual analogue of the bubbles floating through space and suddenly popping. The fourth section returns to just parts one and two and I was unsure whether the trumpeter would repeat musical figures or would interpret the graphic as a single figure. In the workshop, he used a lot of key clicks and breath attacks, whereas in the performance, his contributions were very minimal and consisted entirely of loud squeaks, which he produced by sucking air through the mouth piece. In the workshop, my approach was very percussive and I mostly used the low register, whereas in the performance I used more sustained multiphonics to respond more directly to the shapes.

In the fifth section, Bergstrøm-Nielsen emerged *al niente* and surged until the ghost note projected into a full note. The guitarist then entered, using tremolo to be able to produce a continuous line, to map to the figure in the score, and slid up and down the fretboard to simulate the undulations of the line. The guitarist was not able to exactly sync up Bergstrøm-Nielsen's pitch bend to his entry, because he did not see his hand signal, and so Bergstrøm-Nielsen quickly rectified the issue by repeating the pitch bend.

The musical material in the sixth section was highly florid, contrapuntal and fragmented, as suggested by the wavy interweaving lines. Neither the bassoon nor the trumpet parts mapped the gradient of the line to pitch registers of our scalar figures exactly. Instead, they were interpreted as loose depictions. My reason for not following them exactly was that there is an overlap half way along the intersecting lines where I was not able to decipher how the lines should split off and so I decided to interpret the entire figure as quick, acrobatic flourishes. We ended our section slightly too early for

parts 3 and 4 to overlap, because we had approached the figures as very quick flourishes, which distorted our perception of time and meant that they had to quickly adjust by jumping into the gap before the silence loomed. It was not possible for Bergstrom-Nielsen to follow both the just conventional techniques on the French Horn and so he sang and played simultaneously to provide two simultaneous pitch trajectories. The guitarist used a mixture of finger tapping to represent the curling squiggles and palm muting to cut the sound and allow for the gaps between each graphic figure. The seventh section instructs the performers to play broad sounds and the conceptual material I had formed in response to the graphics were that they represented flat plates, which allowed through low pitches but heavily filtered out high pitches. I used a very tight embouchure to produce multiphonics which intentionally projected towards the low register. All the other instruments played loud percussive notes leaping between extremes of register.

5.6 Fourth Library Concert – *Eye Music Series*

The final library concert involved one of Janet Boulton's *Eye Music* pieces in the first case study, 'Jam Jars in a Window – Grey and Black'. This concert was a fundamentally different performance context to the workshop in Boulton's studio, in terms of venue size and acoustics, as discussed above. The performance was also recorded by the BBC as part of a Radio 3 Broadcast and so there were restrictions on the duration of the performance and the number of visitors that could pass through the space, to ensure that the broadcast was not affected by extraneous sounds.

The performance of 'Jam Jars in a Window – Grey and Black' involved a septet

consisting of soprano voice, bowed cymbals and live electronics, bassoon, clarinet, saxophone and trumpet. This performance was the first time that Rodgers and I had performed with a large ensemble and we also did not have the opportunity to prepare the response with them beforehand. I spent a few minutes prior to the performance providing a brief summary of the conceptual analogue that Rodgers and I had formed from the workshop, but we did not get the opportunity to play any musical material with them or clarify our musical ideas beyond the summary. This situation is therefore an example of performers inheriting creative processes from other performers.

When briefing other performers on a conceptual analogue, or on conceptual materials generally, the aim is to provide the high level narrative and not lay out a prescriptive recipe for performers to follow, unless stated otherwise by the composer. What I explained to the performers was that Rodgers and I had found the musical graphic challenging to interpret and so we had settled on the strategy of being in an inverse relationship to each other, in terms of our ensemble behaviour and approach to the musical materials. I also explained that we were exploring the boundary between sounded notes and extended techniques which caused unsounded notes, such as breath attacks or muted cymbals. To sum up the conceptual analogue for the performers, I referred back to the observation I made in the workshop that I was ‘taking the diamond and am taking it back to its earth like qualities’, whereas Rodgers was ‘taking earth like things and trying to make a diamond out of it’. I felt that this analogy would be useful for the performers, because it evocatively sums up the inverse playing relationship I was trying to describe. I then left the performers open to interpret my description as they wanted, so that I was not tying them down to any specific interpretative

agreements. In the chaired discussion session, Andrew Ingamells describes performing musical graphics as like asking someone to marry you, because it requires a delicate balance of sincerity and spontaneity. In the same vein, I was trying to avoid specifying the parameters of the response and thereby overly stipulating the performers' interpretative visions.

During the performance, Rodgers' bowed cymbals and electronics struggled to project against the other instruments and through the expansive acoustic. He brought speakers with him and so it was more of a textural issue than a dynamic level issue, because the tone colour of his instruments had an inherently spectral quality and were unpredictable in the sound worlds they could produce. He was therefore concerned about raising the dynamic level too high and obscuring the other instruments in the ensemble. The size of the ensemble also meant that it was difficult for the performers to behave in inverse relationships with each other because there were no subdivisions within the group, like Bergstrom-Nielsen arranged for Christensen's *Graphic Pieces*. However, during the performance, the performers self-organised into sub groups which then behaved in inverse relationship to each other. For example, the trumpeter, clarinettist, vocalist and saxophonist came together to play contrapuntally whenever Rodgers was producing more homophonic textures, such as spectral chords from the cymbals or feedback wire.

5.7 Café Concert

Two musical graphics were performed in the Café Concert: *Cycles* (Henrik Erland Rasmussen) and *Graphics 1* (Carl Bergstrøm-Nielsen). Alongside them, one of the exercises from the first workshop of the second case study, titled *Postcard Music* (Carl

Bergstrøm-Nielsen) was also performed. The concert was specifically advertised as ‘an evening of graphic scores by Scandinavian composers’ and all of the musical graphics explored related to the theme of leaving a trace. The ensemble was made up of the same performers as in the library performance of ‘Jam Jars in a Window – Black and Grey’ aside from the trumpeter, making it a sextet rather than a septet.

Cycle (1998) by Henrik E. Rasmussen consists of a single repetitious cycle, which is made up of a two note rhythmic figure that feeds into a ‘common soundscape’ and then loops back around into the two note figure. He writes in the score that ‘no attacks should be played simultaneously with the other musicians’, but the performer should ‘strive to let the statements of the rhythmic motif alternate regularly’. On the left hand side of the score, he sets out a structure for the development of the cycles, where the two note rhythmic figure starts off appearing frequently and becomes increasingly rare each time the performer journeys through the cycle, which is broken up by several general pauses.

In the performance, the entry of each performer’s two note figure was staggered, building cumulative cluster chords between them. As the rhythmic figures became more seldom, the melodic units lengthened and the performers were able to sustain more contrapuntal material. In the final section, when the indicated rhythm could be interpreted ad lib, the performers used it as a jumping off point for melodic exploration and the performers took turns, sharing melodic ideas and material to accompany them. Rasmussen writes at the bottom of the score that ‘the piece stops when the right intensity has been arrived at’. I was surprised that the ensemble collectively decided that the right intensity was extremely low, as the performance concluded by fading into

nothingness. However, it felt at the time that the performers were mesmerized by the multilogue between the vocalist, clarinettist and saxophonist, so they were able to dictate which intensity to end the piece with.

Graphics 1 (1975) by Carl Bergstrøm-Nielsen consists of the letter 'X' printed numerous times by a typewriter across the page. He writes in the score that the aim of the score is to capture the experience of using a typewriter and their mechanistic nature. In the performance, due to a special graphic notation theme about "traces", this old piece was taken up. It explores the process of using a typewriter. I remember the work with typing a whole page through with "x" and spaces. 'We might think of text as something to overview, but I really discovered that just one page takes several meters of space'. In a brief discussion with the performers just before the concert started, I explained that I would be approaching the score with a constant regular rhythmic pattern, simulating the sounds of key presses on a typewriter. The conceptual analogue I had formed in my mind was of a bank clerk sat in a large oppressive building, mechanistically processing through lots of tasks. However, character I was projecting into was not a frenetically busy or stressed, but was happily typing out myriad documents.

The final piece on the concert programme was *Postcard Music* (1976), which Bergstrøm-Nielsen also used as an exercise in the third workshop to help the performers to understand the importance of pauses and develop their ensemble skills. In the workshop, the performers struggled with the score at first as they held the pauses for too long, causing them to get out of sync. Bergstrøm-Nielsen suggested in the workshop

that pauses are problematic because they cause one to stop and reflect on their actions. His advice to the performers was that they should use the thinking opportunity that pauses provide to pay closer attention to their environment and sound world. However, in the concert, the performers were much more confident and unified in their interpretation of each section of the score and I was aware that the ensemble were listening to each other's music language elements very intensely and musically comment on each other's materials, as Bergström-Nielsen recommends in the score.

5.8 Conclusion

Analysing the performances of the case study workshops has provided the opportunity to explore how the formation of conceptual analogues, identified in the two case studies, manifest in the performance situation. Although it is not always possible to accurately link the musical materials in the performance to the workshop discussions, even from my emic perspective as a performer, it is still important to interrogate how performers render conceptual materials musically. The performance analyses have shown that conceptual analogues are not prescriptive scores from which every element of a performance can be traced back. Rather, they are construction sites, made up of verbal agreements and conceptual narratives, which provide loose parameters for performers to build collective responses from.

McInerney points out that if musical performance is viewed as a culture, or process of making music, rather than a presentation of a body of works, then the role of rehearsal and the performance event can be seen in a new light; as elements of a game rather than the inevitable product of the rehearsal process. The audience are spectators of the game

between the performer and the musical graphic and the performer's role is to play within the conceptual environment they have built through their engagement with the score and discourse with other performers. Rehearsal and performance situations can thus be regarded as privileged time, which is 'different from everyday life',²⁸¹ where performers have the opportunity to connect imaginary worlds to their musical knowledge base. The experience of performing musical graphics is therefore a submerging of the performer into an endless to-ing and fro-ing process of self-discovery, in which they can be freed from ontological constraints.

These analyses have shown how conceptual materials manifest in musical materials across different time horizons. For example, the *Circle Series* performance took place two hours after the workshop and so the conceptual materials and interpretative decisions were still fresh in the performers' minds. Whereas the workshop to prepare for the performance of Christensen's *Graphic Pieces* took place on the previous day, so there was almost an entire day between the workshop and the performance. Using Bergsonian analysis, the impact of the degree of time delay reflects performers' durational intuitive reactions to the visual stimuli within the musical graphic.²⁸² As Samberg points out, 'any stimuli, no matter how concrete, must always have a context in order for our brains to determine its identity'.²⁸³ The longer the gap between the creation of the conceptual analogue and its rendering, the deeper performers have to delve into their unconscious, intuitive memories. These memories are stored as either

²⁸¹ Johan Huizinga, *Homo Ludens: A Study of Play in Culture* (London: Routledge & Kegan Paul, 1949), p. 28.

²⁸² Samberg, 'Philosophy of Music: Graphic Scores and the Brain', p. 4.

²⁸³ Samberg, 'Graphic Scores and the Brain', p. 4.

holistic conceptualisations of the performer's relationship with the musical graphic or fragmented specific details that need to be reworked into a new conceptual analogue. In the library performance of 'Jam Jars in a Window – Grey', I was able to convey the contents and structure of the existing conceptual analogue Rodgers and I had formed, to the rest of the ensemble. There might therefore be a case to be made that as performers gain experience of working together, conceptual analogues evolve into more defined social contracts, but it is outside the remit of this thesis to build this case here. However, in the next chapter, I use the findings of the two case studies and these performance analyses to inform the creation of a musical graphic performance conceptualisation pipeline, which will help to clarify how the creative processes of performing musical graphics tie together chronologically.

Before commencing with the analyses, it is necessary to first discuss some of the limitations that musical graphics present for performance analysis. In general, it can be possible to determine the graphical element a performer starts to interpret, within a musical section, but not where their eyes move across the page. However, when the graphic material is visually dense, and the musical materials are similarly thick, it can become impossible to clarify the relationship between them. Furthermore, while some of the interpretative strategies offered by Bergstrøm-Nielsen are clearly reflected in the final musical materials, others are imperceptible. This is why I made the decision not to interview the performers after each performance and have not transcribed the musical materials for each performance, because the focus is on how performers engage with each score in the moment of performance. Therefore, it is not the goal of these analyses to show the extent of Bergstrøm-Nielsen's creative footprint on the recordings.

Analysing performances of musical graphics can offer insights into how performers engage with musical graphics that analysis of preparatory workshop environments cannot. In particular, performance analyses offer the opportunity to analyse how the interpretative strategies, developed in preparatory sessions, manifest into the final performance materials. Performer's interpretative decisions can be examined through their impact on the ensemble, and my own practice is developed self-reflexively; a journey which is also useful for the outcomes of this thesis. Furthermore, these analyses offer outcomes which might assist performers in developing their own practice, emphasise how performers at different experience levels approach musical graphics differently, and begin to extend the boundaries of how musical graphics are created in the future.

Part III: Conceptualising Creative Processes

Chapter 6 – The Musical Graphics Performance Conceptualisation Pipeline

6.1 Introduction

Now that each of the creative processes involved in engaging with musical graphics have been identified, it is possible to present the musical graphics visualisation pipeline. The pipeline lays out the structures and relationships between those creative processes. The findings of this study rely on analysing the structure of the referents which emerged from the two case studies in Part II to discover how performers engaged with each musical graphic. This chapter uses several extra-musical tools to map out the creative flow which developed alongside and after those findings. As practice research progressed, literary theoretical devices arose as tools that could help to clarify how referents are formed and then blended into narratives. Since referents are cognitive models, the process of creating and manipulating them is suited to analysis by literary methodologies, because the sensory and perceptual coding, which builds the referential structures, can be isolated and then assessed as self-contained entities.

Four extra-musical tools are used in this chapter: poststructuralism, musical ekphrasis, Text Word Theory and hermeneutic play. Each tool is used to relate to a different part of the creative process of engaging with musical graphics. Material from the first case study is primarily used to map out the first two stages of the creative flow – decodification and world building – and material from the second case study is used to map out two other stages – ekphrastic narrative construction and playing with musical concepts. The map of the creative process of engaging with musical graphics presented in this chapter is thus split into four sections, moving chronologically from a performer's first encounter with a score through to the performance. This map is an

initial attempt to decipher how musical graphics are engaged with by performers and so is not aiming to be exhaustive or definitive. Rather, the aim is to identify the creative processes involved in preparing and performing musical graphics and then indicate further avenues for research, to inform the future efforts of other practitioners. The chapter ends with the presentation of a musical graphics visualisation pipeline, which maps out the structures and relationships between the creative processes involved in the performance of musical graphics. Finally, I critique the pipeline and suggest avenues for further research which arise from it.

6.2 First Stage of the Pipeline: Decodification

The initial stage of engaging with musical graphics involves interpreting and analysing the visual material within the score, to encode sensory and perceptual data into referents. As discussed in Chapter 2, McInerney refers to this process as decodification.²⁸⁴ He states that the decodification process consists of three stages.²⁸⁵ First is the acknowledgement of the overall makeup of the work and then the individual constituents within it.²⁸⁶ Second is the identification of the page itself and whether it contains linear text, maps, diagrams or images.²⁸⁷ Third is analysing the constituents within the musical graphic as signs, symbols, indexes or icons.²⁸⁸ He states that it is only when these processes are complete that ‘the reader is able to come to terms with the page, unravel, decode and make use of it’.²⁸⁹

²⁸⁴ Michael McInerney, ‘Performance and the Page’, p. 152.

²⁸⁵ McInerney, ‘Performance and the Page’, p. 152.

²⁸⁶ McInerney, ‘Performance and the Page’, p. 152.

²⁸⁷ McInerney, ‘Performance and the Page’, p. 152.

²⁸⁸ McInerney, ‘Performance and the Page’, p. 152.

²⁸⁹ McInerney, ‘Performance and the Page’, p. 152.

In the first case study, the full decodification process was exhibited, because neither performer had interpreted the musical graphics before and so all the perceptual and sensory coding took place in real-time. The liveness of the full decodification process meant that all of the interpretative issues had to be resolved dynamically and could not be resolved in advance. For example, the extreme abstractness of ‘Jam Jars in a Window – Black and Grey’ and the textural complexity of ‘Red Missale’ meant that the second decodification stage was initially obstructed, preventing the performers from analysing the constituents of the scores and forming referents from them. To overcome the obstructions, the third stage of decodification was delayed, whilst musical materials were found which could represent the first and second stages. Once suitable musical materials had been found, the third stage was then resumed and constituents within each score were analysed, depending on their relevance to the high level musical picture which had been built. In contrast, Bergstrøm-Nielsen had prepared interpretative strategies in advance of each workshop within the second case study. The inexperience of the participants within the workshops and his role as a facilitator meant that temporally displacing the first and second stages of the decodification process from the third was necessary, so that he could guide them in preparing their interpretations of the scores.

Roland Barthes (1915-1980) writes that images are inherently polysemous and therefore ‘imply, underlying their signifiers, a “floating chain” of signifieds, the reader able to choose some and ignore others’.²⁹⁰ The floating nature of the signifieds within

²⁹⁰ Roland Barthes, 'The Death of the Author', in *Image Music Text* (London: Fontana Press, 1977), p. 39.

musical graphics means that decodification is a constructivistic process, because a performer's analysis and interpretation of score constituents depends on their knowledge base. In *From Work to Text*, Barthes sums up the evolution of the role of the performer by writing that, 'we know that today post-serial music has radically altered the role of the "interpreter", who is called on to be in some sort the co-author of the score, completing it rather than giving it "expression"'.²⁹¹ Brown reflects Barthesian poststructuralism in his description of *December 1952* as 'a field of activity rather than a monument to the composer'.²⁹² Furthermore, Barthes states that 'the Text is very much a score of this new kind: it asks of the reader a practical collaboration'.²⁹³ The process of decodifying musical graphics is therefore inherently improvisatory, even though its high level structure is procedural and chronological.

Barthes argues that 'polysemy poses a question of meaning, which always comes through as a dysfunction'.²⁹⁴ To avoid this dysfunction, he suggests that society uses tools such as pictorial and linguistic messages 'to counter the terror of uncertain signs'.²⁹⁵ This could explain why some composers supply text instructions with their musical graphics, such as in *Threads*, in the second case study. However, creators of musical graphics also embrace the polysemous nature of images, such as Boulton and Sauer, and use their dysfunctional nature to provoke the performer to take creative responsibility, by generating their own meaning from the content and constructing the musical material using their own creative vision.

²⁹¹ Roland Barthes, 'From Work Text' in *The Rustle of Language* (New York: Richard Wang), p. 56.

²⁹² Earle Brown, 'On December 1952', *American Music* (2008), p. 3.

²⁹³ Barthes, 'The Death of the Author', p. 146.

²⁹⁴ Barthes, 'The Death of the Author', p. 39.

²⁹⁵ Barthes, 'The Death of the Author', p. 39.

Embracing polysemy exposes an underlying dialectical tension over whether the composer or performer should have ownership over the creation and structuring of referents. For example, during the preparation of 'Red Missale', I was tempted from the outset to perform the parts of the plainchant notation within the score that were not obstructed by the paper relief. However, I was concerned that by doing so, I was undermining the function of the piece as a musical graphic by interpreting it as a linear script. I later rejected these concerns, as although Boulton did not conceive of the piece as a musical script, this does not mean that shapes that indicate symbolic specificity must be ignored. Also, McInerney suggests that interpreting an abstract musical graphic as an image, in his case *Batterie* (1969) by Haubenstock-Ramati, requires the performer to 'invent some intersense modality through which one might create an acoustic equivalent'.²⁹⁶ Therefore, if the composer does not instruct the bounding of signifieds, then there is no reason why neumatic shapes cannot be interpreted directly and doing so enables the performer to take advantage of a form of inscription available to them within the score.

The situation at the beginning of the second workshop, in the second case study, where I mocked a performer for suggesting that Sauer's 'Red Circle' looked like a tomato, was another manifestation of the tension over ownership of the referent. Like Boulton's musical graphics, *Circle Series* does not contain any interpretative instructions and so, as mentioned in Chapter Four, I did not feel justified in criticising the performer for expressing their creative vision, particularly as they had no understanding of the context surrounding the score. This example also demonstrates that the dialectical tension can

²⁹⁶ McInerney, 'Performance and the Page', p. 138.

be exacerbated by the discrepancy of power structures between performers. It was my insider position as practicing researcher and my relationship with Sauer that motivated my response, in order to subconsciously indicate my expertise to the group.

Within codified signs, John Phillips points out that there is no natural or necessary connection between phonemes and graphemes.²⁹⁷ He states that ‘the correspondence has just come about over time and repeated usage, which evolves through tiny, imperceptible changes to either part’.²⁹⁸ The lack of an inherent connection between phonemes and graphemes could explain why Bergstrøm-Nielsen did not enforce his challenge of my interpretation of the first part of Rasmussen’s *Threads*, because he could not conclusively argue that my interpretation of responding to a straight line with silence was invalid. However, he did stress that I must take responsibility for my interpretative decision and the impact that it may have on the ensemble.

Decodification requires thematic unification, because each stage of the process of analysing and interpreting the visual content of a musical graphic involves filtering the total body of information coded during the preparation of a score. McInerney writes that ‘images exist as a single symbol, whose constituent parts do not necessarily possess separate and distinct meaning’.²⁹⁹ Furthermore, he goes on to write that ‘though they might be susceptible to individual analysis, their individual meanings may only be understood with reference to the over-arching meaning of the image as a whole’.³⁰⁰ The

²⁹⁷ John Phillips, 'Structuralism and Semiotics', <<https://courses.nus.edu.sg/course/elljwp/structuralism.htm?>> [accessed 18 March 2013].

²⁹⁸ John Phillips, 'Structuralism and Semiotics'.

²⁹⁹ McInerney, 'Performance and the Page', p. 147.

³⁰⁰ McInerney, 'Performance and the Page', p. 148.

approaches taken in interpreting all of the scores in both case studies support his argument. Even in Sauer's *Circle Series*, where there are three separate, visually distinctive scores, Bergstrøm-Nielsen treated them as a singular unified depiction of the cosmos, with the progression from 'Red Circle' to 'Yellow Circles' reflecting movement through space, causing a shift in the perspective of the planets. Thematic unification is also an important element of decodification because referents are not self-contained stimuli. Therefore, the change of modality from the visual to auditory domain requires the weaving of referential structures into narratives, which leads into the next part of the creative flow, blending referents into text worlds.

6.3 Second Stage of the Pipeline: World Building

Once musical graphics are decodified and referents are constructed, the next stage is to merge referential structures, in order to form precursory narrative concepts. A clear example of this process was in the approach to interpreting 'Red Missale' in the first case study. After analysing the intense redness of the score and the textural complexity of its paper relief construction, the next step involved blending the material referents from the musical graphic with the socio-cultural referents of its religious connotations. The referential structures of the rough texture of the score and its tablet like shape were blended with the inscriptive elements, which reference the shape of plainchant notation, to form the idea of the musical graphic as a religious artefact. The redness of the score and its rough edges were then blended to form the concept of it being imbued with a religious mystical energy. These narrative precursory concepts provided the foundations for the overall narrative of the musical materials, representing an intense religious experience, stimulated by the contents of the musical graphic.

I propose that the blending of referents to form narrative concepts can be understood as a process of world building, an element of a cognitive linguistic methodology called Text World Theory. It was developed by the linguist, Paul Werth (1942-1995), in the 1990s and its basic premise is that human beings process and understand discourse by constructing mental representations of it in their minds.³⁰¹ Text World Theory provides the analytical tools to examine these mental representations, or text-worlds, by describing their production and structure. Werth stated that his aim was to develop a theory based on language use that was grounded in context, as opposed to a theory in which language was abstracted from context for the purpose of analysis.³⁰²

Thus far, Text World Theory has been applied almost exclusively to literary texts.³⁰³ However, Werth had extremely ambitious applications for his theory, claiming that it could address discourse ranging from telephone conversations to dramatic performance, and church sermons to newspaper reports.³⁰⁴ Unfortunately, Werth's untimely death at the age of fifty three meant that he was only able to use Text World Theory to assess short literary fragments.³⁰⁵ Isabel van der Bom points out that Text World Theory 'has not been applied extensively to face to face conversation, even though Werth takes face to face discourse to be the prototypical discourse type.'³⁰⁶ She encourages Text World Theory-scholars to 'apply the theory to domains outside of the

³⁰¹ Peter Werth, *Text Worlds: Representing Conceptual Space in Discourse* (London: Longman, 1999), p. 1-3.

³⁰² Isabel van der Bom, 'Text World Theory and stories of self' (2015). [PhD Thesis] Available at: <<http://etheses.whiterose.ac.uk/10110/1/Isabelle%20van%20der%20Bom%20-%20%20Text%20World%20Theory%20and%20stories%20of%20self%20-%20THESIS.pdf>> p.14.

³⁰³ Joanna Gavins, *Text World Theory: An Introduction* (Edinburgh: Edinburgh University Press, 2007), p. 166.

³⁰⁴ Gavins, *Text World Theory*, p. 6.

³⁰⁵ Gavins, *Text World Theory* p. 6.

³⁰⁶ van der Bom, 'Text World Theory and stories of self', p. 16.

literary'.³⁰⁷ Furthermore, she cites of the key aims of her thesis is to address non-literary applications of Text World Theory and establish the theory as fit for that purpose.³⁰⁸

Text World Theory is a context-sensitive framework, which means it was specifically designed to analyse how contextual factors, such as the influence of the location, context of each rehearsal and performers' prior experience and knowledge, all play a role in the processing and production of discourse. Furthermore, van der Bom states that 'the theory is specifically suited to oral discourse because it makes a distinction between different conceptual levels and recognises the important interactions which take place between the situation of a discourse and its resulting linguistic and conceptual structures'.³⁰⁹ It is therefore well suited to addressing the conversations between performers in the preparation of musical graphics.

Following Werth's theory, there are four types of conceptual worlds: The discourse-world, the text-world, the modal-world and the sub-world. The discourse-world is the outer or macro level, which addresses the circumstances that surround human beings as they communicate with one another.³¹⁰ This discussion of the discourse-world is therefore itself a discourse-world, as my background, personality and image will all effect how this thesis is expressed and interpreted. Werth points out that 'all discourses take place in some kind of discourse-world'.³¹¹ This is because, as van der Bom puts it,

³⁰⁷ van der Bom, , 'Text World Theory and stories of self', p. 51.

³⁰⁸ van der Bom, , 'Text World Theory and stories of self', p. 51.

³⁰⁹ van der Bom, 'Text World Theory and stories of self', p. 2.

³¹⁰ Werth *Text Worlds*, p. 207.

³¹¹ Werth, *Text Worlds*, p. 85.

‘all discourses construct a discourse situation; the discourse-world is a conceptual construct’.³¹²

The transfer of knowledge between discourse participants is known as incrementation.³¹³ Gavins points out that ‘as they communicate, the discourse-world participants increment a variety of different knowledge structures’.³¹⁴ They may, for example, ‘exchange facts, specify goals’ or, more generally, ‘express emotional states, argue opinions, or simply offer a point of view’.³¹⁵ An important contextual factor within the discourse-world layer is the physical setting where preparatory sessions takes place. She suggests that ‘the objects within this environment constitute shared perceptual knowledge’.³¹⁶ However, as the score is at the centre of the discourse, it is an equally large contextual factor to the backgrounds of the performers themselves. Furthermore, scores can contain a huge variety of perceptual knowledge, from which the discourse can be constructed. Gavins also points out that ‘other sensory input will also be shared in a discourse-world’ and ‘the smells, sounds and temperature of the immediate environment are often just as important in the development of a discourse as those objects and entities which can be visually identified.’³¹⁷ All these kinds of sensory inputs have ‘the potential to impinge upon a discourse at any time’, because performers may choose to refer to any of them in the process of engaging with musical graphics.³¹⁸

³¹² van der Bom, ‘Text World Theory and stories of self’, p. 7.

³¹³ Gavins, *Text World Theory*, p. 21.

³¹⁴ Gavins, *Text World Theory*, p. 64.

³¹⁵ Gavins, *Text World Theory*, p. 9.

³¹⁶ Gavins, *Text World Theory*, p. 72.

³¹⁷ Gavins, *Text World Theory*, p. 22.

³¹⁸ Gavins, *Text World Theory*, p. 22.

Another important element in the construction of discourse-worlds is the performer's skill level and experience. Experienced performers will be likely to be much more sensitive to how their contribution to the discourse is communicated and perceived. They will also be able to manage the discourse more effectively. Another reason is that the discourse-world contains not only the performers participating in the discourse and their relationship with their instruments and the performance space, but all the personal and cultural knowledge they bring with them to the language situation. As Gavins points out, 'each and every discourse participant brings a fresh set of experiences and knowledge to the discourse-world, which helps account for individual interpretations of texts'.³¹⁹

When temporal and/or spatial coordinates are not shared by all discourse participants, this is known as a split discourse-world.³²⁰ When stages of decodification are temporally displaced, either because the performer has prepared interpretative strategies in advance or has resolved interpretative issues or generated creative ideas outside of the rehearsal or performance situation, this causes the discourse-world to be split. When the performers then meet again to prepare the work, knowledge incrementation is then required to codify the new perceptual knowledge into the pre-existing referential structures. Online network based musical graphics, such as Pedro Rebelo's *Sipher Series* (2010), create physically split discourse-worlds, as the discourse is inherently disembodied, due to performers working in different performance spaces, often in different countries. This can causes the discourse to be more fragmented and

³¹⁹ Gavins, *Text World Theory*, p. 83.

³²⁰ Gavins, *Text World Theory*, p. 21.

less fluid, as even through a video link, it is more difficult to see the body language of the other performers and take linguistic cues from one another. Connection issues and delays between the different sites can exacerbate these communication issues and make it difficult to synchronise with other musicians during performances.

The next layer after the discourse-world is the text-world. This layer refers to the mental representations of the discourse that the participants construct in their minds, in which the language being produced can be conceptualised and understood. The text-world layer ‘provides a framework through which the precise structure and cognitive effects of individual mental representations can be examined’.³²¹ Text-worlds are in constant flux, as performers’ mental representations continuously shift and change. Gavins points out that ‘while some discourses may require only simple and short-lived text-worlds to be constructed, others may involve many dozens of complex conceptual structures, built and sustained over an extended period of time’.³²² Some scores may be more likely to stimulate simpler or more complex conceptual structures, according to the intent, experience and skill of the composer, but, fundamentally, the complexity and duration of the text worlds will be determined by the performers themselves. Gavins summarizes how evocative and immersive text-worlds can be:

Our experience of these worlds can be as real to us as our experience of the everyday world in which we live. The feeling of being so immersed in a text-

³²¹ Gavins, *Text World Theory*, p. 55.

³²² Gavins, *Text World Theory*, p. 60.

world as almost to lose sense of who and where we are is familiar to just about anyone who has ever read a novel.³²³

Projection is a major contributor to the emotional experience of narratives.³²⁴ Sara Whitely writes that projection is ‘often expressed and understood in terms of a transportation metaphor’, with narratives transporting ‘an experiencer away from the here and now’.³²⁵ Furthermore, Gavins writes that the feelings of immersion can be so potent that ‘the emotional and physical responses in our text-world experiences may reduce us to tears, provoke laughter, even start revolutions’.³²⁶ The interpretations of *Circle Series* and *Graphic Pieces* involved text-worlds which required the most conceptual projection in the second case study. In the preparation of *Circle Series*, Bergstrøm-Nielsen began with directly transposing the circular shapes within the score into circular musical figures. He then began to construct a text-world of a vast cosmological space and invited the performers to project themselves into it:

We could imagine an imaginary space coming from this dynamic difference. After all, distances in the universe are enormous. It’s a very large distance between the planets. So when we have three ellipses, it’s beginning to look a bit alive. Then we are dealing with a very potent space. Extremely potent.

³²³ Gavins, *Text World Theory*, p. 68.

³²⁴ Sara Whitely, ‘Text World Theory and the Emotional Experience of Literary Discourse’, p.70 [PhD Thesis] Available at: <<http://etheses.whiterose.ac.uk/15112/1/527271.pdf>>[Accessed 13/08/2014].

³²⁵ Richard Gerrig, *Experiencing Narrative Worlds: On the Psychological Activities of Reading* (Connecticut: Yale University Press, 1993), p. 3.

He interpreted each of the scores as a planetary system, which he described as having ‘their own way of being and it’s not exactly like expressive speech, but it’s like a more impersonal nature’.³²⁷ Of all the case study examples, the interpretation of ‘Red Missale’ was the performance environment that I found to be the most immersive experience, because the central interpretative narrative was an intense religious experience and so involved a direct projection of an imagined highly immersive and emotional mystical experience.

In Werth’s original version of the text-world framework, he argued that any changes to the spatial or temporal parameters of the initial text-world would create a sub-world.³²⁸ Werth set out three types of sub-world: ‘deictic’, ‘epistemic’ and ‘attitudinal’.³²⁹ Helen Hargreaves writes that ‘deictic sub-worlds occur when there is a shift away from the temporal or spatial parameters of the main text world’.³³⁰ The shift can be controlled by the creator of the musical graphic or by the performers that are participating in the discourse, temporarily moving focus to a different text-world layer or element. Epistemic sub-worlds relate to the degree of certainty expressed by a discourse participant to a particular utterance and can be used to account for hypothetical situations, or assumptions made by them. Lastly, attitudinal sub-worlds are described by Werth as ‘notions entertained by the protagonists, as opposed to actions undertaken by the protagonists in the discourse’. In the case of ‘Red Missale’, attitudinal sub-

³²⁷ Gavins, *Text World Theory*, p. 79.

³²⁸ Werth, *Text Worlds*, p. 20.

³²⁹ Werth, *Text Worlds*, p. 21.

³³⁰ Helen Hargreaves, ‘A Text World Theory approach to viewpoint analysis, with special reference to John le Carré’s *A Perfect Spy*’ <<http://www.pala.ac.uk/uploads/2/5/1/0/25105678/hargreaves2012.pdf>> [accessed 14 February 2015], p.3.

worlds manifested in the imagined behavioural traits of the character undergoing the religious experience.

Gavins, argues that the 'sub' prefix in 'sub-world' is misleading because it suggests that newly created worlds (which are often numerous and extensive in discourse) are always and necessarily subordinate in some way to the first text-world.³³¹ She therefore proposes that the term 'sub-world' be replaced with 'world-switch' to avoid this confusion.³³² In terms of preparatory discourse, world-switches can occur due to changes in the temporal and spatial parameters in the score, or changes in the text worlds and the roles of the musicians within it. For example, Sauer's *Circle Series* allows the performer to use as many of the pages of the score as they like, in any order they like, enabling them to be in control of where the world switching takes place in the preparatory discourse. Erik Christensen's *When You Are Crushed by Tragedy You Discover the World Around You*, in the second case study, contains an unusual example of world switching, as the performance instructions state the following:

Let the black lines lead your eye around and around and around in the picture, until you feel very crushed and empty. Then forget everything about the picture and play from your impression of everything you see and hear around you, as if it were the first time. To end: take a look at the picture and react to it.³³³

³³¹ Gavins, *Text World Theory*, p. 169.

³³² Gavins, *Text World Theory*, p. 84.

³³³ Erik Christensen, 'When You Are Crushed by Tragedy You Discover the World Around You', in *Graphic Pieces (1975-1977)*, score notes.

In this example, the world switch is not caused by a change of content, but by an instructed change of emotional engagement with the visual contents of the musical graphic. World switching can also be formally structured by performers, for artistic effect. For example, in the second case study, Bergstrøm-Nielsen created alternating world switches using fixed parameters, by splitting up the ensemble into two groups and asking them to alternate every thirty seconds, by timing their entries with stop watches.

Text-worlds are navigated using world building propositions, the function of which are to ‘set the spatial boundaries of the text-world’.³³⁴ The function of these deictic terms is to locate the discourse in a particular place, ‘which may be real or imagined, novel or familiar’.³³⁵ Examples of world building propositions include:

Locatives (For example: In Sheffield, downstairs, abroad),

Spatial adverbs (For example: Here, there, far away),

Demonstratives (For example: These, those, that),

Verbs of Motion (For example: Come, go, run away).³³⁶

In the decodification stages of the case studies, locatives were mostly used in reference to the score and deictic shifts within it. However, locatives can also be used to refer to elements of the text world itself, depending on how tangible and referable it is. Scores that contain geographic locations and reference points can involve the use of locatives.

³³⁴ Gavins, *Text World Theory*, p. 97.

³³⁵ Gavins, *Text World Theory*, p. 97.

³³⁶ Gavins, *Text World Theory*, p. 98.

Spatial adverbs were used, in the case studies, to point to the relationship between the text-world and the musical materials. Demonstratives related directly to practice, and were used to demonstrate musical ideas and then refer-back to them and the conceptual structures to which they relate. Verbs of motion referred both to the movement and actions of the performer and the movement and action of the music itself. Gavins points out that ‘deixis is by no means limited to expressions of time and space’.³³⁷ There are many other deictic elements in discourse which can aid the participants in their initial construction of a text-world. The world-building elements may nominate objects and entities, or give further information about the social relationships between them.

In both case studies, world building propositions were used extensively. In the first case study, demonstratives and spatial adverbs were most prevalent, particularly in the later stages of decodifying the score materials into referents. For example, towards the end of the decodification of ‘Jam Jars in a Window – Grey’, I emphasised the demonstrative ‘this’ and spatial adverb ‘somewhere’, in order to help Rodgers navigate the text-world I was building, in recognition of how challenging we both found the score to interpret, due to its abstract nature and use of watercolour:

So this wire [points at wire] is blue, and then when it comes to the end of the wire the blueness ends, so this wire is blue. Whereas, in this sense, it’s not like the structure ends and the colour ends, it sort of blurs between that. And I sort of want what we do to have the same thing. I think it’s particularly easy to do with the bassoon, because I can make something that sounds like a bassoon

³³⁷ Gavins, *Text World Theory*, p. 97.

note, but, actually, there are characteristics of that which will carry on into something that's not a note. So it's sort of that same boundary. So there's not that definite tonal colour and there's not a definite colour in the work either. I suppose we're not going to see it as starting somewhere and moving somewhere, because it's not really that sort of work, is it?

The density of visual information in Boulton's scores required us to constantly check which visual elements we were referring to and how the different text-worlds we were creating related to them. However, verbs of motion and locatives were rarely used because the conceptual analogues formed from Boulton's musical graphics were too abstract to be easily navigable, as I indicated by suggesting that 'it defies pinning down'. In the case of 'Red Missale', deixis was limited, because the projection into the religious experience was not a spatial domain that could be traversed. In the second case study, Bergstrøm-Nielsen relied on demonstratives to indicate to the performers how to navigate through the text-worlds he had constructed before the workshops. Split discourse-worlds therefore may require a higher preponderance of demonstratives, so that the performer can navigate other performers around their text-worlds. For example, in the preparation of *Circle Series*, Bergstrøm-Nielsen used locatives to situate the text-world in the cosmos and then spatial adverbs and verbs of motion to guide the performers so that they could visualise the movement through space and then mutually sense the structural change to each score in the series.

6.4 Third Stage of the Pipeline: Musical Ekphrasis

After the referents and text-worlds are constructed, the next stage in the creative process is the construction of the overall narrative. I propose that the process of constructing

narratives in response to musical graphics can be understood as a process of musical ekphrasis. The origin of the word ekphrasis is from the Greek word *ekphrazein*, meaning ‘to speak out’,³³⁸ and the practice of ekphrasis began in the rhetorical schools of Ancient Greece, where it was used as a rhetorical device to describe works of art clearly and evocatively.³³⁹ The American writer James Heffernan (b. 1959), defines ekphrasis as ‘the verbal representation of visual representation’.³⁴⁰ The German researcher of comparative literature, Claus Clüver (b. 1932), later widened Heffernan’s definition to ‘the verbal representation of a real or fictitious text composed in a non-verbal sign system’.³⁴¹ The broadening of the usage of ekphrasis has been important to encompass the rapidly increasing breadth of artistic representation that is now possible and resolve the discrepancies between academics that have occurred as a result. Peter Wagner points out that ‘if critics agree at all about ekphrasis, they stress the fact that it has been variously defined and variously used and that the definition ultimately depends on the particular argument to be deployed’.³⁴²

In her 2003 book, *Musical Ekphrasis: Composers responding to poetry and painting*, the German musicologist, Siglind Bruhn (b. 1951), proposes that ekphrasis also exists in music. To define musical ekphrasis, she widened Claus Clüver’s definition of ekphrasis from ‘the verbal representation of a real or fictitious text composed in a non-

³³⁸ James Heffernan, *Museum of Words: The Poetics of Ekphrasis from Homer to Ashbery* (London: The University of Chicago Press, 1993), p. 1.

³³⁹ Siglind Bruhn, *Musical Ekphrasis: Composers Responding to Poetry and Painting* (New York, Pendragon Press, 2000), p. 15.

³⁴⁰ Heffernan, *Museum of Words*, p. 3.

³⁴¹ Claus Clüver, 'Ekphrasis Reconsidered: On Verbal Representations of Non-Verbal Texts' in U.-B. Lagerroth, H. Lund, and E. Hedling, eds., *Interart Poetics: Essays on the Interrelations of the Arts and Media* (Amsterdam: Rodopi, 1997), p. 26.

³⁴² Wagner, Peter ed. *Icons-Text-Iconotexts: Essays on Ekphrasis and Intermediary* (New York: De Gruyter, 1996), p. 13.

verbal sign system',³⁴³ to 'a representation in one medium of a real or fictitious text composed in another medium'.³⁴⁴ From there, she creates a 'three-tiered structure of reality and its artistic transformation',³⁴⁵ which she states must be present in every case of musical ekphrasis:

- (1) A scene or story - fictitious or real.
- (2) Its representation in a visual or a verbal text.
- (3) A rendering of that representation in musical language.³⁴⁶

The tripartite nature of Bruhn's structure of the ekphrastic process highlights that the source narrative in the first step is rendered twice; first as a visual or verbal text and then in musical materials. Her separation of the representation stages also indicates that the rendering stage is an inter-sensory modal transfer from the second stage, so the musical materials are not just loosely inspired by the visual or verbal text, but is a transliteration from the visual to the auditory domain. Therefore, as Bruhn states, ekphrasis does 'more than merely enumerate the details of the visual image and their spatial position within the work of art' and elicits 'interpretations or additional layers of meaning, changes the viewers' focus, or guides our eyes towards details and contexts we might otherwise overlook'.³⁴⁷ There is thus an inherent reflexivity in the relationship between the three stages, because the musical materials from the rendering process can impact on the interpretation of the scene or story and its representation.

³⁴³ Claus Clüver, 'Ekphrasis Reconsidered', p. 26.

³⁴⁴ Bruhn, *Musical Ekphrasis*, p. 18.

³⁴⁵ Bruhn, *Musical Ekphrasis*, p. 23.

³⁴⁶ Bruhn, *Musical Ekphrasis*, p. 27.

³⁴⁷ Bruhn, *Musical Ekphrasis*, p. 28.

Bruhn states that musical materials have a greater flexibility in ekphrastic approaches than literary ekphrasis, because ‘music, while resembling verbal texts in that it develops in time, simultaneously “paints”’.³⁴⁸ What she means by this is that musical materials convey the ‘experience of colours and textures, rather than referring to them as language does’.³⁴⁹ Furthermore, she points out that both the range of musical registers and musical textures, within which she ranks polyphony highest, creates a ‘spatiality to which literary modes can only allude’.³⁵⁰

Gisbert Kranz (1981-87), in the preface to his three-volume anthology of ekphrastic poetry, organizes the approaches a poet may take rendering works of visual art into poetry, into number of categories. Kranz’s classification system is a multi-dimensional, complex grid of cross-classification groups. Therefore, to simplify Kranz’s system for use within a musical context, Bruhn selected five of his ekphrastic stances – transposition, supplementation, association, interpretation and playfulness – to ‘show that the distinction made in the sister domain is equally relevant in the field of musical ekphrasis’.³⁵¹ Transposition, also referred to as ‘mimesis’, involves the recreation of ‘not only the content of the primary work of art but also, and significantly, pertinent aspects of its form or its arrangement of details’.³⁵² This ekphrastic stance was the most commonly adopted through the case studies and is particularly clear to see in the interpretation of *Threads*, because the coloured dots in the former and bubbles in the latter both required direct transposition into musical materials.

³⁴⁸ Bruhn, *Musical Ekphrasis*, p. 45.

³⁴⁹ Bruhn, *Musical Ekphrasis*, p. 45.

³⁵⁰ Bruhn, *Musical Ekphrasis*, p. 47.

³⁵¹ Bruhn, *Musical Ekphrasis*, p. 303.

³⁵² Bruhn, *Musical Ekphrasis*, p. 318.

Supplementation involves adding non-spatial dimensions to the visual representation that the creator of the musical graphic may imply, but cannot realize directly. These can include 'sensory experiences, where content may describe sound, smell, taste and touch, which images can only suggest but not make explicit'.³⁵³ Supplementation also allows the musician to 'read postures as arrested gestures and infer a possible "before" and "after" that would enclose the captured moment'.³⁵⁴ Association involves making associations with ideas and emotions that lie outside of the score. Associations can be indicated by the composer, decided entirely by the performer or a mixture of the two. When making associations with external ideas and emotions, performers can use information known to the listener and the composer and can manipulate this for artistic effect. For example, Bergstrøm-Nielsen mentioned in the preparation of *Circle Series* that 'there's a circle which could be a psychological symbol of the outer world, I think, the Jungian self'. I also suggested that we could also respond to the fractal nature of the circles in the score, as I was aware, from previous conversations, that this was an area of interpretative interest for Sauer.

Bruhn's final ekphrastic stance is playfulness, which, as the label suggests, is where composers take a light hearted approach to ekphrasis. There are not any examples of performers taking playful ekphrastic stances in the two case studies, because none of the musical graphics contained humorous or satirical content. An example of ekphrastic playfulness can be found in performances of William Hellermann's *Visible Music Series* (1963-1978), which takes a playful stance on the use of staff notation by

³⁵³ Bruhn, *Musical Ekphrasis*, p. 325.

³⁵⁴ Bruhn, *Musical Ekphrasis*, p. 325.

presenting fragments of nonsensical staff notation in a number of unusual scenarios: *Madame Butterfly* (1967), *Juicy Music* (1972) and *Staff of life II* (1977) are all obvious food related musical puns. *To Brush Up On* (1975) features staff notation being brushed as if the notes are being painted and *Sweeping Up* (1969) consists of a dust pan and brush surrounded by musical notes that are scattered across the floor. None of the scores have any instructions and are all autonomous as conceptual art. In a performance at the Chelsea Art Museum, Hellermann interpreted *To a Brush Up On* (1976) by brushing up notes from the floor with a dust pan and brush.³⁵⁵ In a performance at The Library of Birmingham in April 2014, which was part of the Frontiers series alongside the performances from the workshops in the second case study, but could not be recorded, the composer's surname was brushed in black paint onto a large canvas with a broom, inspired by Hellermann's interpretation.

6.5 Fourth Stage of the Pipeline: Hermeneutic Play

Once the referents and text-worlds have been constructed into an over-arching narrative, the final stage of the process of engaging with musical graphics involves playing with the interpretation of all of the conceptual materials which have been built up through the stages of decodification, world building and ekphrasis. At this penultimate stage, musical ekphrasis has consolidated the referents and text-worlds into a conceptual analogue, which the performer then renders into musical material. Bruhn's tripartite structure of musical ekphrasis indicates that the rendering process involves an inter-sensory modal transfer from the visual to the musical domain. Whilst

³⁵⁵ I learned about this performance from personal correspondence with the composer and a document he created for me listing the performances of the work, which can be found in the Appendix.

the rendering is occurring, the ekphrastic narrative and musical materials engage in a reflexive relationship. The performer is then able to play with the developing relationship between the musical and conceptual materials.

The concept of play is central to Hans-Georg Gadamer's (1900-2002) approach to hermeneutics. He identifies that central to playfulness is a to-ing and fro-ing movement, which 'is 'without goal or purpose' and 'happens as it were, by itself'.³⁵⁶ To illustrate this concept, Gadamer explains how the word is used in general parlance:

If we examine how the word 'play' is used and concentrate on its so-called metaphorical senses we find talk of the play of light, the play of the waves, the play of gears or parts of machinery, the interplay of limbs, the play of forces, the play of gnats, even a play on words. In each case what is intended is to-and-fro movement that is not tied to any goal that would bring it to an end.³⁵⁷

Gadamer states that 'in order for there to be a game, there always has to be, not necessarily literally another player, but something else with which the player plays and which automatically responds with a countermove'.³⁵⁸ In regards to musical graphics, the case studies showed that the process of preparing musical graphics results in a tripartite reflexive structure of musical materials, the conceptual narrative analogue and the information from the score and performance environment which informed them. As McInerney writes, 'the process of coming to knowledge is itself a

³⁵⁶ Hans Georg Gadamer, *Truth and Method* (New York: Continuum, 2004), p. 103.

³⁵⁷ Gadamer, *Truth and Method*, p. 104.

³⁵⁸ Gadamer, *Truth and Method*, p. 68.

hermeneutic process, an interpretative to-ing and fro-ing between the student and the matter being studied'.³⁵⁹ Furthermore, Gadamer refers to the point at which 'human play comes to its true consummation in being art', as 'transformation into structure'.³⁶⁰ It was mentioned above that projecting oneself into text-worlds is the means by which conceptual structures become immersive and stimulate emotional responses. Similarly, Gadamer states that 'play fulfils its purpose only if the player loses himself in play'.³⁶¹

Gadamer does not view seriousness as an inhibitor of play and states that, to the contrary, it is 'necessary to make the play wholly play'.³⁶² He also emphasizes the importance of tarrying or lingering with a work, which is 'to become so intentionally absorbed in a work of art that one forgets oneself'.³⁶³ As McInerney points out, just because the identity of a work is 'open', it does not entail that it is a 'prescription for chaos'.³⁶⁴ Instead, the openness increases the hermeneutic demands of the material, giving the performer the opportunity to fully engage their interpretative skills.³⁶⁵ There are therefore limits to the to-ing and fro-ing nature of hermeneutic play.

³⁵⁹ McInerney, 'Performance and the Page', p. 289.

³⁶⁰ Gadamer, *Truth and Method*, p. 103.

³⁶¹ Gadamer, *Truth and Method*, p. 248.

³⁶² Gadamer, *Truth and Method*, p. 267.

³⁶³ Cynthia R. Nielsen, 'Gadamer on the Event of Art, the Other, and a Gesture Toward a Gadamarian Approach to Free Jazz', *Journal of Applied Hermeneutics* (2016) <<https://philarchive.org/archive/NIEGOT>> [accessed 3 June 2017].

³⁶⁴ Mike McInerney, 'Performance and the Page', p. .

³⁶⁵ Mike McInerney, 'Performance and the Page', p. 132.

6.6 Full Musical Graphic Performance Conceptualisation Pipeline

The map below (p. 199) represents a conceptualization of the end to end creative process of engaging with musical graphics (Fig 6.2). The approach to setting out the pipeline was influenced by the ‘Visual Mappings of Traditional and Alternative Music Notation’ undertaken by Matthias Miller, Johannes Haubler, Matthias Kraus, Daniel Keim, and Mennatallah El-Assady, at the University of Konstanz in Germany, whose work bridges the domains of information visualization and music (See Fig 6.1).³⁶⁶ Although their focus is on musical notation, the structure of their ‘Music Notation Visualization Pipeline’ is suitable for adaptation to musical graphics because it captures how data points are extracted, mapped onto visual structures and then reflexively fed back into the pipeline, as a loop. It is structured into five steps: extraction of musical features (Step 1), data transformation (Step 2), visual mapping (Step 3), encoding into visual structures (Step 4) and user interaction with the system (Step 5). Each step in the pipeline acts as a progressive filter of the overall perceptual and sensory data fed into the pipeline at the beginning. The fifth step, which represents human interaction, depicted as a human head processing data, feeds back into Steps 2-4, informing the continuous transformation of musical data into visual structures.

Whilst the map of engaging with musical graphics presented here is structurally informed by the ‘Music Notation Visualization Pipeline’, its orientation is entirely different. Rather than musical data being extracted into feature sets and then mapped

³⁶⁶ Matthias Miller, Johannes Haubler, Matthias Kraus, Daniel Keim, and Mennatallah El-Assady, ‘Music Notation Visualization Pipeline’, University of Konstanz, p. 4. <http://vis4dh.dbvis.de/papers/2018/Analyzing%20Visual%20Mappings%20of%20Traditional%20and%20Alternative%20Music%20Notation.pdf> [accessed 13 October 2018].

onto visual structures, visual data is extracted into referents and then those referential structures are transformed into narratives, which are then rendered into musical materials. Structural acknowledgment, material identification and constituent analysis, respectively, form the first stage of the map, labelled as the decodification step. As mentioned above, the decodification process is inherently chronological and procedural, although the extraction of visual data into referents is an improvisatory process. The second step involves the blending of musical, material and socio-cultural referents into text-worlds. The text-worlds are vertically stacked to indicate that they are multi-layered and are navigated by performers using deictic terms. It was not possible to indicate it in the diagram, but it is during the second step that the precursory narrative worlds begin to form into the framework for the conceptual analogue, in preparation for Stage 3, where the process of musical ekphrasis cements the over-

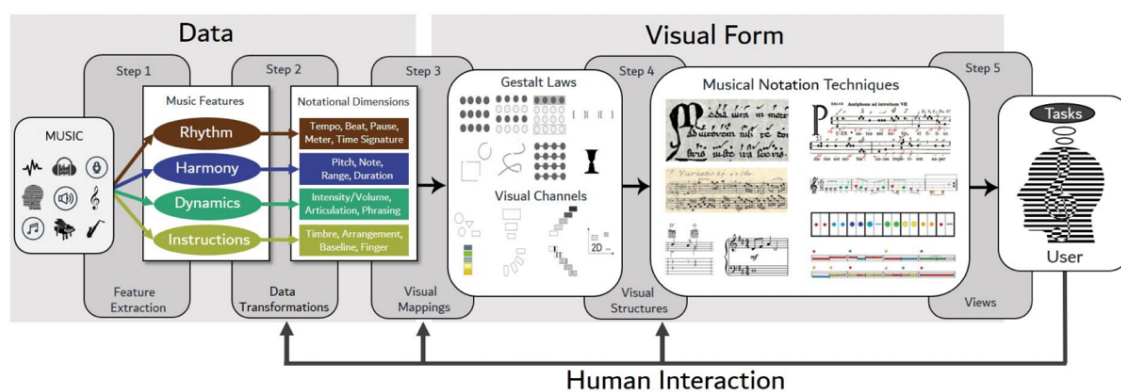


Fig 6.1, 'Music Notation Visualisation Pipeline'.³⁶⁷

The text-worlds are depicted here as all unifying into the over-arching narrative during the process of ekphrasis. The reason for depicting the text-worlds as unifying in this way is that world building is the part of the creative process where the referential

³⁶⁷ Miller et. al, 'Music Notation Visualisation Pipeline', p. 3.

structures are blended into narrative concepts, which are then refined into a more formalised narrative structure. It is a slight oversimplification, because the text-worlds remain throughout the narrative construction phase and impact on the reflexive loop within the modal transfer stages in steps 4 and 5. However, I prioritised the depiction of the consolidation of the text-worlds during narrative construction, to indicate the degree that the process of ekphrasis refines the conceptual information into a singular thread. Moreover, the 'referent construction' box is not connected to the text world layers, because they are not directly connected in the creative process. Whilst world building involves a process of blending referential structures, text-worlds can also exist independently, because they can impact on the narrative construction without being directly tied to an established referent. The ekphrastic stances are depicted as bridging narrative construction and modal transfer, because they shape the presentation of the musical rendering.

Hermeneutical playfulness is depicted as feeding back into Steps 1-3, because the manipulation of the ekphrastic narrative impacts on the referents and text-worlds which it contains. The fifth and final stage involves the interaction between the visual and auditory modalities, through the rendering of the ekphrastic narrative in musical materials. The conceptual analogue and musical materials bridge the fourth and fifth steps and are positioned in a continuous reflexive loop. Hermeneutical playfulness then feeds back information from the conceptual analogue and musical materials into the first three stages, in a process labelled 'self-referential constructionism', because the insights gained from the to-ing and fro-ing of hermeneutic play increments knowledge back into the narrative construction process.

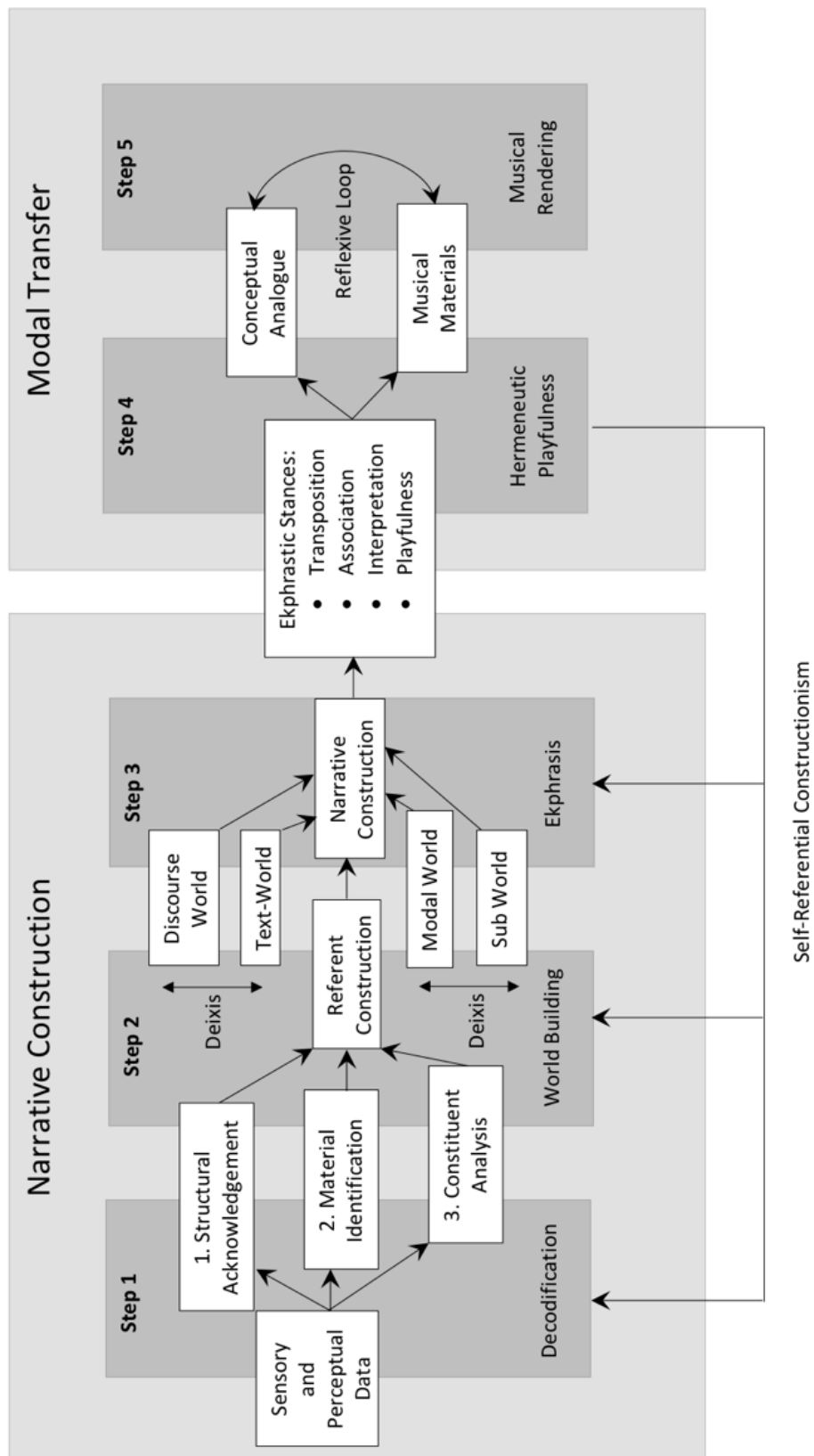


Fig 6.2, 'Musical Graphics Performance Visualisation Pipeline'.

6.7 Critique of the Musical Graphics Visualization Pipeline

The pipeline presented above is a central output of this thesis and lays out the creative processes discovered during the journey of conceptualising how performers engage with musical graphics, which I undertook through this research project. The pipeline structure emerged dynamically from the case studies and the relationships between the creative processes within it has been a constantly evolving picture. The pipeline is therefore central to providing answers to the primary and secondary research questions, posed at the outset of this thesis, which are tackled in Chapter Seven. Although the pipeline is closely tied to my experiences of the case studies, it is also intended to have utility as a discrete tool, to aid performers in conceptualising their engagement with musical graphics. At this nascent stage of conceptualising the performance of musical graphics, it is not clear whether the pipeline is entirely universalizable, but the creative processes are presented at a level of abstraction that is designed to relate to as many performers as possible.

The musical graphics performance pipeline has highlighted the complexity of the flow of conceptual and musical information between the performer and the score, particularly in regards to the reflexive nature of the relationships between the stages of the creative processes. There is therefore a danger when mapping out creative transmission flows in being overly reductive in visualising their elements, especially in an area of performance research which has had such limited analysis. However, as I mentioned at the beginning of the chapter, the aim of this map is to indicate the high level creative processes involved in engaging with musical graphics and so it does not seek to be a definitive representation of all of the transmission flows that take place in

performance. Furthermore, the issue with using a pipeline as a model is that it forces a linearity onto the process of engaging with musical graphics. Whilst the decodification stage is linear, the world building and ekphrasis stages are not as procedural as they are depicted on the pipeline. First, world building continues past the narrative ekphrasis stages and is an important element of modal transfer. However, it is not well enough established from these case studies to be able to visualise the development of the text-worlds past the consolidation of the narrative structure. Another potential issue is that deixis is labelled as a one dimensional vertical movement between the text world layers, when the world building propositions have been shown in this chapter to be more sophisticated than that, particularly the use of demonstratives, which can draw attention to specific instances within text worlds. Also, there was not room within the diagram to fit the different types of sub-world and indicate their connections with the referent construction process.

The aim of the musical graphics performance pipeline was to bring together all of the insights gained from the two case studies into a conceptualisation designed to help performers clarify how musical graphics operate. However, the approach here to conceptualising the creative flow is highly theoretical and so lacks practical considerations of how performers interpret the colours and textures of visual elements within scores. Moreover, the conceptualisation throughout this chapter relies on literary methodologies to build the elements of the pipeline. Whilst the bridging of cognitive linguistics and musical performance research reveals findings that would not be possible otherwise, such as the deixis of rehearsal conversations or the layering of conceptual worlds around musical narrative development, there is a danger of overly

focusing on discussion and ignoring musical materials. It is important to bear in mind, though, that the central research question that this study is addressing is how performers engage with musical graphics and so conceptually mapping out that process is a crucial first step, before then interrogating more practical considerations.

Further research will be required to assess how subsequent interpretations of the same musical graphic would impact on the structure on the map of the musical graphics performance conceptualisation pipeline presented in this chapter. Furthermore, Text World Theory analyses of the conversations between performers in the preparation of musical graphics will provide more insight into the creation and manipulation of text-worlds and how those conceptual worlds develop into the rendering of the musical materials. In particular, deeper analysis into the use of world-building propositions and deixis in the performance of musical graphics will shed light on how performers navigate conceptual worlds and project themselves into them.

Chapter 7 - Conclusions on how Performers' Engage with Musical Graphics

7.1 Introduction

This study set out to examine performers' experiences of preparing and performing musical graphics. In this final chapter, I will use the findings of the two case studies and the musical graphics visualisation pipeline to provide answers to the primary and secondary research questions posed at the outset of the thesis. To refresh, the primary research question was: how do performers experience the creative processes involved in preparing and performing musical graphics? While this question is centred around a phenomenological inquiry, it was first necessary to clarify how performers engage with musical graphics before analysing their experiences of those creative processes, which is why the creative processes were mapped out in Chapter Six. The secondary research questions were the following:

1. How do performers experience the creative processes involved in preparing and performing musical graphics?
2. Are there identifiable differences in the experience of performing musical graphics between beginners and experienced performers? If so, what is it that a performer learns as they become more experienced?
3. How do performers recognise whether they are engaging with musical graphics effectively?
4. What is the role of improvisation in the performance of musical graphics?

Each of these research questions will be answered in turn, building a picture of how musical graphics operate, how performers experience the processes of preparing and performing them, the skillsets that are required to perform them effectively and the role

of improvisation. Finally, I identify questions and avenues for future research, which have arisen from this study.

7.2 The Creative Processes Involved in Preparing and Performing Musical Graphics

Before addressing how performers experience the creative processes of preparing and performing musical graphics, it is necessary to briefly address what the creative processes are. The conceptualization pipeline in Chapter Six demonstrated that performers engage with musical graphics as modal transfer operators. What this means is that performers create musical materials to render the visual text in a musical text, transferring the modality from the visual to the auditory. As well as rendering the visual materials in the score directly, performers also create conceptual analogues by filtering the sensory and perceptual information generated by the score, other performers and the performance environment into narratives. The processes of decodification, world-building and ekphrasis all contribute to the formation of the conceptual analogue, which provides the framework for the modal transfer to take place. Performers then engage with the conceptual analogue not as a score but as a hermeneutic game. The musical rendering is incremented by performers playing with the reflexive relationship between the musical materials, the conceptual analogue and the visual material in the musical graphic.

An analogy to explain this modal transfer process is the taking of photographs. As I pointed out in Chapter Six, the signifieds in musical graphics are floating and so the act of decodification involves closing them into referents. The referents are then blended,

during the world building phase, to refine the overall narrative. Musical graphics are also themselves singular representations of a dynamic scene or narrative, which the performer conceptualizes and then forms musical materials from it. Brown exemplifies this in his description of *December 1952* as ‘like a photograph of a certain set of relationships of these various horizontal and vertical elements’.³⁶⁸ In ‘Drastic or Plastic?’, David Gutkin writes that ‘he makes the score itself into an indeterminately kinetic object, simultaneously foregrounding its spatial and temporal being’.³⁶⁹ Furthermore, his plans to create a three-dimensional mobile of the score showed that he saw the score as a physical mobile sculpture and its final incarnation was a snapshot of the sculpture at a single instance.³⁷⁰

Whilst Brown makes the mobility concept clear in *December 1952*, all of the musical graphics in the case studies were approached with a dynamic and mobile interpretative vision, even if the creator provided no instructions for how to perform them, in the cases of *Circle Series* and the *Eye Music Series*. The sensory dimensions of the interpretation and type of deictic movement through the conceptual analogue is then dictated by the ekphrastic stances that the performer selects. Therefore, in a sense, a performance of a musical graphic can be understood as a photograph of a photograph, where the score is a visual fixed representation of a scene or narrative and the performance is a musical representation of the visual representation.

³⁶⁸ Earle Brown, ‘On December 1952’, *American Music*, 26 (1) (Spring 2008), p. 31.

³⁶⁹ David Gutkin, ‘Drastic or Plastic?: Threads from Karlheinz Stockhausen's “Musik und Graphik,” 1959’ *Perspectives of New Music*, 50.1-2 (2012) p. 283

³⁷⁰ Brown, ‘On December 1952’, p. 3

Roland Barthes writes that the photograph exists in a ‘schizophrenic temporal condition’ and the conceptual analogue formed in response to musical graphics exists in a similarly schizophrenic temporal state.³⁷¹ What I mean by this is that there is a superimposition, as Barthes puts it, ‘of reality and of the past’ that occurs in the creative processes of preparing and performing musical graphics.³⁷² The conceptual analogue is prepared and exists as a mental construct, but is also undergoing a constant playful re-assembly, due to interactions with prior creative processes, environmental stimuli and predictions of the future development of the musical materials. This schizophrenic condition is reflected in the reflexive loop and self-referential constructionism within the conceptualisation pipeline in Chapter Six, which show how the stages of the creative processes of engaging with musical graphics inform each other in a non-linear way, incrementing the modal transfer.

Gutkin writes that ‘the positing of fundamental difference between the spatiality of “autonomous” graphics and the temporality of codes is the imposition of a false binary where phenomenologically there is a complex continuum’.³⁷³ Evidence of this false binary can be seen in *Threads*, in the second case study, which contain a mixture of abstract graphics and coded symbols, which cannot be clearly temporally or spatially delineated. Furthermore, the flautist, Molly Barth, reflects a similar position in the following description of her experience of performing Mark Applebaum’s *The Metaphysics of Notation*:

³⁷¹ Roland Barthes, *Camera Lucida: Reflections on Photography* (New York: Hill and Wang), p. 41.

³⁷² Barthes, *Camera Lucida*, p. 41.

³⁷³ Gutkin, *Drastic or Plastic?*, p. 43.

The difference between playing a graphic score and a conventionally notated score is actually not that huge. When something is written with a lot of complexity and we're coming in and out of each other's texture, it almost doesn't matter, in some ways, whether it is written down in a note score or in this sort of way. We just interpret it and play off of one another.³⁷⁴

Both of the case studies were comprised of ensembles, which enabled me to explore how knowledge is incremented between discourse participants to construct the conceptual analogue. In the first case study, the interpretative issues faced by the performers showed how beginning the world building phase before all the referents have been constructed enables interpretative solutions to be found without disrupting the existing referential structures. The second case study showed how larger ensemble preparation sessions are challenging environments for forming conceptual analogues, because there are so many creative perspectives coinciding simultaneously. Performers therefore need to spend more time reaching consensus in consolidating the narrative and clarifying and engaging with their location within the conceptual analogue than in soloistic or small ensemble situations.

The creative processes of preparing and performing musical graphics require the performer to embrace absolute subjectivity. Their relationship with the musical graphic only exists via the mediation of the conceptual analogue they have formed and so cannot be fully reproduced by other performers. This is because, in Barthes' words, 'they only exist for me', whereas 'for you, it would be nothing but an indifferent picture, one of

³⁷⁴ Robert Arnold, *There's no sound in my head*. Lateral Films (2010) [DVD].

the thousand manifestations – the “ordinary”³⁷⁵ In ensemble contexts, the conceptual analogue is constructed collectively, but each performer will have a unique perspective on their contribution. Developing a strong sense of trust and understanding between ensemble members is therefore crucial to ensuring that they are operating in the same conceptual space, which is why Bergstrøm-Nielsen dedicated the first and third workshops to fostering ethical principles. Barthes also writes that ‘absolute subjectivity is achieved only in a state, an effort, of silence (shutting your eyes is to make the image speak in silence)’.³⁷⁶ Performing musical graphics require performers to silence images, because the conceptual analogue exists separately to the musical graphic but reflexively relies on it, in a schizo-autonomous relationship.

7.3 How do performers experience the creative processes involved in preparing and performing musical graphics?

A performer’s first experience of preparing a musical graphic is encountering its visual aspects and then looking for relationships to decodify them. In Chapter Six, I divided the decodification stage into three stages, following McInerney’s model of acknowledgement, identification and analysis, to explain how performers move from the holistic view of the score through to referent construction. Hannah Samburg, a neuroscience researcher, provides useful insights into the experience of this creative process, in an article titled ‘Philosophy of Music: Graphic Scores and the Brain’. She writes that ‘the desire to create meaning from inarticulate symbols by our brain is opposed by the directionless nature of graphic scores’.³⁷⁷ Therefore, because musical

³⁷⁵ Barthes, *Camera Lucida*, p. 43.

³⁷⁶ Barthes, *Camera Lucida*, p. 45.

³⁷⁷ Samburg, ‘Graphic Scores and the Brain’, p. 1.

graphics are not procedural maps, she explains that performers must use their creativity to intuit their own decodification of their visual materials.³⁷⁸

From the performer's perspective, the decodification process is experienced as a projection of bottom up and top down processing systems to impose an interpretative framework on the score. Bottom up processing involves the synthesis of individual components of visual stimuli into a unified whole. Conversely, top down processing involves the breaking up the content of musical graphics into individual components, as mapped out by McInerney. These processing systems are experiential ontologies which coincide to enable performers to filter the large amount of visual information within the score from opposing trajectories. Samburg points out that musical graphics require higher levels of top down processing because they are 'initially seen as an ambiguous image until the musician begins to produce sound from them'.³⁷⁹ However, the ratio of the bottom up and top down processes involved in each preparation of a musical graphic depends on the conditioning of the performer's interpretative approach. Each performers' interpretative conditioning is affected by their experience level and the density and complexity of the visual stimuli they are engaging with. At the beginning of the second workshop, in the second case study, Bergström-Nielsen explained his understanding of the experience of the decodification process to the group:

I said that the brain likes simplicity, order and patterns. But it's also true that the brain likes stream of consciousness and solving problems and being

³⁷⁸ Samburg, 'Graphic Scores and the Brain', p. 1.

³⁷⁹ Samburg, 'Graphic Scores and the Brain', p. 1.

creative. It searches all the time for what's new, what's happening, "What am I to do?" What needs to be solved right now? What's upcoming? Hmm... this adventure of experimental music was an adventure into freedom, it often felt like that. But, total freedom and liberty to do what you want doesn't always exist. And this, I think, works in a very interesting way with the tension between form and content.

A more technical rephrasing of Bergstrøm-Nielsen's explanation is that performers experience a stream of consciousness of interpretative processes to dynamically filter the sensory and perceptual information from the score in real time. In 'Thinking Fast and Slow', Daniel Kahneman explains that all cognitive processes can be placed on a spectrum of ease and strain.³⁸⁰ The degree to which musical graphics move the dial on this spectrum depends on how much they require the performer to 'redirect attention or mobilize effort' to address interpretative challenges.³⁸¹

Christopher Cox argues that the movement towards the 'freeing of materials' by artists has come about due to their realization 'that the material is free and that any definition or condition that is imposed upon it is only an imaginary and momentarily effective illusion'.³⁸² However, Bergstrøm-Nielsen highlights in the above description that although musical graphics give the performer considerable creative freedom, it does not mean that the performer's experience of decodification is unrestrained or, in his words, 'a matter of amorphous feeling'. Musical graphics place performers within a

³⁸⁰ Daniel Kahneman, *Thinking Fast and Slow* (New York: Farrar, Straus and Giroux), p. 140.

³⁸¹ Kahneman, *Thinking Fast and Slow*, p. 141.

³⁸² Christopher Cox, 'Visual Sounds: On Graphic Scores' in *Audio Culture: Readings in Modern Music*, eds. Christoph Cox, Daniel Warner (New York: Continuum), p. 193.

semiotic construction site where they engage with the ‘sensitive surface of reception’ of the musical graphic, which provides an ‘intermedial and intersemiotic space’ for them to inhabit.³⁸³ Furthermore, Samburg argues that although performers are ‘free to construct a set of rules or methodology for interpreting’ musical graphics, they cannot override their intuitions because ‘you still rely on intuition to determine even what rules you want to employ on a general level to the graphic’.³⁸⁴ She thus describes the process of performing musical graphics as ‘making what is indeterminant, determinant’.³⁸⁵

World-building, the next creative process after decodification, involves the creation of mental representations of texts, which discourse participants project themselves into and navigate around. However, unlike literary world building, the discourse involved in the preparation of musical graphics has the ontological orientation of the metamorphosis of visual materials into musical materials. Therefore, from an experiential standpoint, the conceptual worlds performers construct are visualizations of referent synthesis. For example, in the first case study, the intense redness of ‘Red Missale’, its tablet shape and the fragment of plainchant were synthesized to create a conceptual world of the musical graphic as a religious artefact that Rodgers and I were engaging with as a religious experience.

I mentioned above that Cox describes any condition imposed on a musical graphic as ‘only an imaginary and momentarily effective illusion’.³⁸⁶ However, I pointed out in

³⁸³ Frédéric Mathevet, ‘Circumstantial Scores, Graphic Scores, Extended Scores The Work as “Ecopraxic” Rediagrammatisation’ in *The Dark Precursor: Deleuze and Artistic Research*, eds. Paulo de Assis and Paolo Giudici (Belgium: Leuven University Press), p. 148.

³⁸⁴ Samburg, ‘Graphic Scores and the Brain’, p. 3.

³⁸⁵ Samburg, ‘Graphic Scores and the Brain’, p. 3.

³⁸⁶ Cox, ‘Visual Sounds: On Graphic Scores’, p. 193.

Chapter Six that world building adds conceptual layers of visual, auditory, tactile and symbolic representations of both the musical graphic and the discourse surrounding its interpretation. These representations exist beyond each transitory moment of engaging with the score and the performer experiences them as ongoing conceptualisations, which conflict and merge to form the narrative. As Bergstrøm-Nielsen put it in the third masterclass, ‘one thought and notion will take the other and they like to fly and to move’.

The two case studies demonstrated that the ways in which performers can organize their imaginations in response to musical graphics are very diverse and flexible, with the performers conceptualizing worlds that varied from a religious experience to navigating planets in space. Samburg writes that musical graphics allow the performer to ‘create any reality the musician wishes’.³⁸⁷ There were also situations in the second case study where the performers layered mental representations onto musical materials without discursive or graphic stimuli. For example, during one extract of *Sea Games* in the first workshop of the second case study, the guitarist commented that the musical materials ‘felt like random things in the wind. And very still, just movement, without people behind it’. Bergstrøm-Nielsen described a tactile response to the same moment, expressing that he ‘thought it was very sensual’ and ‘could almost feel the sound on the skin’. To construct narratives, performers experience the synthesis of these kinds of mental representations of discourse, musical materials and visual stimuli.

³⁸⁷ Samburg, ‘Graphic Scores and the Brain’, p. 5.

Every conceptual world that a performer creates has spatial and temporal boundaries, which they form through discourse and their engagement with the musical graphic. As discussed in Chapter Six, performers navigate between these boundaries using deictic terms, which refer to the performers' experiences of moving through conceptual environments. Performers can then share their perspective and orientation of their conceptual experiences within a text-world by using world building terms such as spatial adverbs, demonstratives and locatives, which are discussed in more detail in Chapter Six. Performers can also experience text-worlds which are constructed in advance for them. For example, in the two case studies, the facilitation of the workshops meant that the world building was homodiegetic, which is where a performer both leads the world building and participates in its manipulation. World building can also be heterodiegetic, where the conceptual worlds are constructed by a separate party, such as a conductor or workshop facilitator, or auto-diegetic in soloistic environments.

Oatley writes that 'our autobiographical memories play a significant role in our emotional responses to literary texts' and the same can be said for the discourse in preparing performances of musical graphics.³⁸⁸ This was evidenced in the first case study because the discourses surrounding the preparation of 'Red Missale' and 'Jam Jars in a Window – Grey', were both emotionally heightened by my religious experiences as a choral singer, my previous visits to Boulton's studio and garden and conversations with her about her work and wider artistic practice. In the second case study, Bergstrøm-Nielsen used autobiographical expositions at the start of the first and

³⁸⁸ Keith Oatley, 'A Taxonomy of the Emotions of Literary Response and a Theory of Identification in Fictional Narrative', *Poetics*, 23, p. 53.

third workshops to provide context for his artistic decisions and structuring of events. He and I also used our relationships with the composers of the musical graphics to help the other performers to heighten their emotional engagement with their content. For example, Bergstrøm-Nielsen pointed out that the graphics within Christensen's 'Telephone Pieces' were made 'during telephone conversations and some of them had quite an emotional content and I know one had to do with employment procedures and the drama of getting a new job and similar interesting situations'. The specific context of the phone calls is not mentioned by the composer in the score, but Bergstrøm-Nielsen mentioned it to contextualize how the graphics were created to help the performers heighten their emotional engagement with them.

Alongside autobiographical memories, performers' knowledge bases equally impact on their experiences of world building. Whitely points out that 'participants construct text-worlds from a combination of the linguistic cues in the text and their knowledge-based inferences'.³⁸⁹ Performers make these inferences through a combination of their musical experiences and conceptual experiences of performing other musical graphics. Once the performer has merged conceptual words into a narrative conceptual analogue, the next creative process is the ekphrastic representation of the narrative in musical materials.

As I discussed in Chapter Six, ekphrasis began in the rhetorical schools of Ancient Greece. Lydia Goehr points out that 'sometimes the rhetor was described as a travel

³⁸⁹ Sara Whiteley, 'Text World Theory and the Emotional Experience of Literary Discourse', [PhD Thesis] < <http://etheses.whiterose.ac.uk/15112/1/527271.pdf> > [Accessed: 04/13/2013], p. 35.

guide, leading persons by descriptive hand through foreign places, past times, and absent worlds'.³⁹⁰ The experience of forming ekphrastic responses is similar in that the performer is guiding the listener through the metamorphosis of the conceptual and musical materials they have formed from the musical graphic. In the process of musical ekphrasis, the performer is the mediator of the modal transfer and is reconstructing the narrative conceptual analogue in their mind so that they can source musical materials to map to it. Samburg describes this experience as a 'freely associated stream of consciousness', which she argues is an 'analogue to the neurocognitive condition called synaesthesia'.³⁹¹ She describes synaesthesia, in this context, as the 'bleeding of the senses' and a 'tie between different cognitive and sensory pathways'.³⁹² She also suggests that the parallels between engaging with musical graphics and synaesthesia are that they share cognitive schematic mechanisms and are both hard to define because of the 'wide range of cross modular experiences which can occur'.³⁹³

In an article titled 'How to Do More with Words: Two Views of (Musical) Ekphrasis', Goehr discusses the concept of 'notational ekphrasis', which 'occurs when by means of signs or score alone, a musical work is brought to imaginative but not fully to aesthetic presence'.³⁹⁴ She states that the case of experiencing music through score reading is ekphrastic in an ancient sense, as it makes the unperformed or absent work 'imaginatively present'.³⁹⁵ She then argues that the 'modern condition might be met if

³⁹⁰ Lydia Goehr, 'How to Do More with Words. Two Views of Ekphrasis', *British Journal of Aesthetics* (Columbia University, 2010) 50(4), p. 390.

³⁹¹ Samburg, 'Graphic Scores and the Brain', p. 4.

³⁹² Samburg, 'Graphic Scores and the Brain', p. 5.

³⁹³ Goehr, 'How to Do More with Words', p. 391.

³⁹⁴ Goehr, 'How to Do More with Words', p. 391.

³⁹⁵ Goehr, 'How to Do More with Words', p. 393.

the score became or was produced as a work of visual or graphic art in its own right'.³⁹⁶ Then, the 'visual music would re-present the musical work to the eye separate from the score that was used as a guide for a performance for the ear'.³⁹⁷ She is thus inferring that the conceptual analogue formed from engaging with musical graphics operates in a modern ekphrastic way. However, musical graphics do not contain prescribed musical works or notation systems, so the experience might more accurately be called *conceptual ekphrasis*. In the second case study, Bergström-Nielsen prepared responses to the musical graphics in advance and therefore engaged in conceptual ekphrasis. He described this process in the workshop as 'speculation'.

In Chapter Six, I pointed out that engaging with musical graphics requires two ekphrastic processes, notional ekphrasis and actual ekphrasis. Performers experience notional ekphrasis as an imagining of the musical graphic and the contextual, spatial and temporal manipulations that are formed during the world building process. From an experiential standpoint, notional ekphrasis is a fluid extension of conceptual ekphrasis, because the creative processes lie at either end of a journey of conceptual engagement with the musical graphic.

The last creative process I identified in Chapter Six is hermeneutic playfulness. At this final stage of engaging with musical graphics, once the conceptual narrative has been formed and musical materials have been identified, performers play with the conceptual and musical materials, which have been formed in the prior creative

³⁹⁶ Goehr, 'How to Do More with Words', p. 394.

³⁹⁷ Goehr, 'How to Do More with Words', p. 395.

processes, to develop the response to the musical graphic. It is important to clarify that ‘play’, in this context, refers to the nature of the creative process and not the internal experiences of the performer. Gadamer writes that ‘when we speak of play in reference to the experience of art, this means neither the orientation nor even the state of mind of the creator or of those enjoying the work of art, nor the freedom of a subjectivity engaged in play, but the mode of being of the work of art’.³⁹⁸ In contrast to Chapter Six, the focus here is therefore on the experience of the player rather than the nature of play itself.

The experience of hermeneutic playfulness is not framed by a defined ontology. As Gadamer writes, ‘the movement of playing has no goal that brings it to an end; rather, it renews itself in constant repetition’.³⁹⁹ His description maps to the conceptualisation pipeline in Chapter Six, where the decodification, world building and ekphrastic processes inform the development of the conceptual and musical materials in an endlessly repeating loop. He also makes it clear that play does not reside in the player’s consciousness, but exists externally to them, which the player experiences as ‘a reality that surpasses him’.⁴⁰⁰ Play is a transformative act, which causes the player to lose his identity and adopt a disguise of being subsumed by the game they are playing. The loss of identity also means a loss of subjectivity, because the game has autonomy and dominion over the player.⁴⁰¹

³⁹⁸ Hans Georg Gadamer, *Truth and Method* (New York: Continuum), p. 102.

³⁹⁹ Gadamer, *Truth and Method*, p. 104.

⁴⁰⁰ Gadamer, *Truth and Method*, p. 109.

⁴⁰¹ Gadamer, *Truth and Method*, p. 109.

All of the cognitive processes involved in engaging with musical graphics lie on a spectrum of ease and strain and Gadamer explains that the to-ing and fro-ing nature of play gives it an inherent ease.⁴⁰² However, he adds the caveat that does this experience of ease not mean that play requires little or no cognitive effort. Rather, it refers, phenomenologically, to the ‘absence of strain’ which is ‘experienced subjectively as relaxation’.⁴⁰³ Therefore, the performer’s experience of playing with the musical and conceptual materials is that they get absorbed into their structures, which ‘frees him from the burden of taking the initiative’, as the previous creative processes have set the boundaries of the game for them to play within.⁴⁰⁴

One last area that needs to be addressed to answer the primary research question is how performers experience the construction of the musical materials internally, through the creative processes. The clarinettist in the second case study said that they deliberately avoid considerations of the theoretical underpinnings of musical materials, because that would focus his attention on the structure of the musical materials and away from responding to the musical graphic. When I interviewed Bergstrøm-Nielsen, he stated that when he performs musical graphics he thinks of sound, structure and time and likes to be ‘in the sound’. For him, the performer is an observer of internal and external processes, balancing staying loyal to the concrete conceptualization of the score they have formed, whilst also extending it creatively.

⁴⁰² Gadamer, *Truth and Method*, p. 104.

⁴⁰³ Gadamer, *Truth and Method*, p. 105.

⁴⁰⁴ Gadamer, *Truth and Method*, p. 105.

7.4 Are there identifiable differences in the experience of performing musical graphics between beginners and experienced performers?

The structures of the creative processes, and ratios of time spent on each process, were wildly different between the two case studies. In the first case study, the decodification of the graphics took place almost immediately and the communication between Rodgers and I was fast paced, quickly moving from decodification to ekphrasis. As a consequence, the majority of the preparatory work was spent engaging in ekphrasis and then playing with the musical materials. In the second case study, decodification took up a much larger proportion of the preparatory work and the workshops, particularly the first three, were split equally into sections of decodification, world-building, ekphrasis and modal transfer. However, as the workshops in the second case study progressed, their structure began to more closely resemble the first case study, as the performers became more accustomed to engaging with musical graphics and with each other.

The reason for the structural differences between the workshops in the case studies is that the second case study involved much less discussion than the first and performers were more inhibited in sharing conceptual and music ideas, due to their lack of experience of engaging with musical graphics. Bergstrøm-Nielsen regularly questioned the performers about their experiences, to encourage more communication, but there were still interpretative issues which arose due to the lack of overall communication.

The creative processes involved in engaging with musical graphics require a different set of skills to performing staff notated works, because the performer has to

conceptualize, communicate and render their response to the visual material. Bergstrøm-Nielsen emphasizes this difference by pointing out that ‘it’s not a matter of how much you are a traditional virtuoso, it’s a matter of how sensitively and how cleverly you use what you can’. He goes on to explain that this means ‘even beginners can do a marvellous job’, because ‘they have their ears really out and they are really aware of what they are doing’. The skills that performers learn through engaging with musical graphics are therefore centred around self-awareness and communication, more than they are about developing pure technical musical ability.

7.5 What is it that a performer learns as they become more experienced?

The learning trajectories of engaging with musical graphics are orientated towards confronting the metaphysical reality of the transitory present moment, due to the creative demands of simultaneously dealing with decodification, conceptualization and modal transfer. Bergstrøm-Nielsen refers to it as ‘dealing with a psychological process of adjustment’, as performers learn to take responsibility for their creative freedoms. A central tenet of his approach to teaching the workshop participants was viewing themselves as ‘the most important instrument’, because the performer can make and transform any sound using their imagination. He points out that one of the main things performers learn from engaging with musical graphics is how to be disciplined with the creation and presentation of their musical and conceptual materials. Developing discipline is important so that performers can contain their response to only the visual materials in front of them and avoid overshadowing other performers’ contributions. Furthermore, Bergstrøm-Nielsen made it clear to the group how important it is for them

to learn how to make every part audible because each performer's contribution is unique and therefore equally valuable.

Learning to engage with musical graphics involves building up a knowledge base of musical and conceptual materials, which performers can use as a toolkit to help them quickly form referents and narratives. As performers become more experienced, they therefore learn how to create and engage with conceptual structures and map them to musical materials. However, part of the learning process also involves avoiding relying on habitual elements of one's performance practice. During the chaired discussion session, Bergstrøm-Nielsen pointed out that 'improvisers have habits and often carry out strategies to evade these habits and to develop on into something new'. He also stated that his favourite approach to evading musical habits is 'making different pieces, so each new piece could open a new door, open a new direction', like he did in the first and third workshops, so that performers can develop their 'enquiring nature'.

Cardew famously wrote that he had his most rewarding experiences with *Treatise* with 'musical innocents', which he referred to as 'people who by some fluke have (a) acquired a visual education, (b) escaped a musical education and (c) have nevertheless become musicians, i.e. play music to the full capacity of their being'.⁴⁰⁵ Bergstrøm-Nielsen reflected Cardew's viewpoint when suggesting, in the first workshop session, that 'it seems that when you throw away old systems and work with sounds, you have to cultivate some social virtues'. Andrew Ingamells argues that the virtuosity in playing

⁴⁰⁵ Cornelius Cardew, 'Towards an Ethic of Improvisation', in *Treatise Handbook* (London: Edition Peters, 1971), p. 3.

musical graphics lies in ‘tracing this middle ground of being sincere and spontaneous’ and the learning process for performers is finding central balancing point.

Cornelius Dufallo's Doctoral Thesis, entitled ‘The Indeterminate Violin: A Pedagogical approach Studies for the Indeterminate Violin’, sets out seven études, which provide a useful pedagogical structure to help performers with developing the creative processes of preparing and performing musical graphics.⁴⁰⁶ The études range from fixed pieces with indeterminate aspects, open form works, graphic notation and extreme indeterminacy. Études 6 and 7 are the only ones that abandon staff notation entirely. The sixth étude consists of a set of symbols, made up of Greek letters, each of which represents a musical event; either instructing a specific pitch class, instructing movement relating to previous pitches, or repeating material. The symbols can either be memorized, or they can be used as a blueprint for one’s own traditionally notated part.

Etude 7 is titled ‘Extreme Indeterminacy’, and is the most directly applicable to musical graphics as it is the only study that requires the creative processes laid out in this study. The graphic is extremely simple, consisting of a single curved line with two angled lines, one sitting above and one sitting below it. The elements are defined as pitch, amplitude, timbre and density. The basic arc represents one morphology and the angled lines represent another. Dufallo states that the etude should only be approached in a predetermined way and each performer should write out their own part, based on their decisions as to how to assign the elements to the morphologies. This means that the

⁴⁰⁶ Cornelius Dufallo. *The Indeterminate Violin: A Pedagogical Approach to Indeterminacy in the Violin Repertoire*. Juilliard School of Music. [Unpublished Thesis], 2002, p. 53.

ekphrasis is fixed as a composition and is therefore technically a graphic analogue. However, it is still a useful tool for learning how to engage with musical graphics, because the creative processes of decodification, referent construction and musical rendering are largely the same. The creation of more study materials like Dufallo's will help performers to refine these creative processes and their improvisatory abilities.

7.6 How do Performers Recognise Whether They Are Engaging with Musical Graphics Effectively?

In the chaired discussion, Andrew Ingamells stated that he has seen 'many performances of graphic scores where it is just free-improvisation in front of a picture or, on the other hand, composing something and working out what they are going to do beforehand', both of which, he argues, go 'against the point of the graphic score'. These performance situations he describes map to the boundaries of sincerity and spontaneity, as I discussed above. When I questioned Bergstrøm-Nielsen about how he judges effective performances of his own works, he provided the following answer:

Oh, it's about the mysteries of aesthetics. There are obvious ways in which one could fail, but, for me, it's all to do with audio, sound and time and what happens there. Sometimes, it really feels as if something succeeds when we play, and sometimes the audience feel this too. If we have done nothing 'wrong', then what can be done to uplift the performance? That can be a very difficult thing to arrive at.

He highlights an important point here, which is that a big challenge in recognizing effective performances of musical graphics is identifying their aesthetic ontology. Brian Ferneyhough highlights a similar issue when describing Mark Applebaum's *The Metaphysics of Notation* as a 'risky enterprise', because the composer may view a performance as a disaster yet it might be perfectly valid theoretically.⁴⁰⁷ However, Adam De La Cour explains that there have also been concerts he has attended 'where the performers are probably the wrong choice, because they did not quite understand what it was they were supposed to be doing and so started playing repertoire material'. He therefore points out that although there is no rule book for judging effective performances, there are unwritten aesthetic norms, which performers are sympathetic to. More research is required to identify them and clarify if they are universalizable.

7.7 What is the Role of Improvisation in the Performance of Musical Graphics?

Addressing the role of improvisation in the performance of musical graphics requires a multi-fold answer. In regards to the score, the role of improvisation depends on either how prescriptive the instructions within the score are, or how fixed the performer wishes to make the musical materials. There is therefore a wide spectrum of possible roles for improvisation, from musical graphics functioning as graphic analogues, and no improvisation being involved in the performance, through to fully improvised responses, where musical graphics function as an improvisatory prompt. The scores addressed in the case studies cover a wide spectrum from the *Eye Music Series* and *Circle Series* scores not providing any instructions, through to *Threads* guiding the

⁴⁰⁷ Robert Arnold, *There's no sound in my head*. Lateral Films (2010) [DVD].

performer with a relatively prescriptive framework.

The role of improvisation also depends on the degree to which the performers fix the musical response during the preparation stages. For example, the performances of Boulton's *Eye Music Series* were highly improvisatory because the preparatory conceptualisation work was relatively loose and undefined. On the other hand, Bergstrøm-Nielsen's considerable preparatory work prior to Sauer's *Circle Series*, meant that the musical and conceptual materials had a firm structure and were more defined. The conceptualisation pipeline in Chapter Six showed that the creative processes involved in performing musical graphics require both bounded and unbounded improvisation. Decodification and ekphrasis both require bounded improvisation, because they involve direct engagement with the visual materials, which is why Bergstrøm-Nielsen told the workshop participants that they cannot just play anything and 'must play what's there' within each musical graphic. World building and hermeneutic playfulness require unbounded improvisation, because performers' imaginations are potentially limitless and so their conceptualisations are unrestrained.

7.8 Towards Praxis

This study is an initial foray into a fertile area of musical practice research and therefore raises new questions, as well as new research avenues to be explored. First, the two case studies were intentionally setup to consist of one preparatory session and one performance event for each musical graphic, so that I could examine how preparatory processes manifest into the performance, to build the conceptualisation pipeline. However, adopting this structure also meant that I was unable to assess how conceptual

and musical materials might evolved across multiple workshop sessions and performances. Therefore, the question that arises is how do the creative processes involved in preparing and performing musical graphics develop over time? One way to answer this question would be to track how conceptual analogues and musical materials develop over successive performances of the same musical graphics, by interviewing performers before and after each performance event and combining their perspectives with analysis of recordings of the performances. Higher level stylistic development could then be explored, to provide both micro and macro perspectives on how musical materials and conceptual analogues both develop over time.

A related two part question, which arises from considering the development of the creative processes across separate performance environments, is how do performers remember the creative output of their experiences? And how can their memories be stored more effectively or manipulated for artistic effect? Hannah Samberg has done some of the legwork in answering this question, in her article, 'Graphic Scores and the Brain' (2015). She explores how memories are integrated into performers' perception of musical graphics and the musical materials they create in response to them. Her research has laid the groundwork for active interview based research into how performers' minds are flooded with associative memories whilst engaging with musical graphics.

Paul Werth stated that his aim for Text World Theory was to address 'all the furniture of the earth and heavens' and yet, within his lifetime, the theory was utilised exclusively

to analyse literature.⁴⁰⁸ This thesis joins a number of recent studies, including Laura Hidalgo Downing's, who has applied Text World Theory to analysing pictorial advertisements, in extending the usage of the theory to non-literary domains.⁴⁰⁹ More examples of world-building analysis of the discourse in the preparation of musical graphics and wider preparatory musical discourse would help to shed light on how performers conceptualise musical dialogue and how each layer of their conceptual worlds impacts on the creation and production of musical materials. Further research on the role of musical ekphrasis in musical graphics will also help to reveal more about how musical graphics operate and which ekphrastic stances performers take. In the second workshop of the second case study, I questioned the jazz students on whether they felt their training and background gave them advantages in performing musical graphics, or whether their knowledge base provided idiomatic constraints, limiting their interpretative avenues. More in depth research in this area, interviewing a cross section of musicians from a wide variety of backgrounds and comparing the musical materials in their performances, would help to isolate specific experiential variables and how they impact on how performers prepare and perform musical graphics.

In the process of putting together the *Notations 21* compendium, Theresa Sauer writes that 'I have found myself faced with not only what influences composition, but humanity itself'.⁴¹⁰ I have found myself in a similar position in this research project, as I have found that performers' creative experiences of performing musical graphics

⁴⁰⁸ Paul Werth, *Text Worlds: Representing Conceptual Space in Discourse* (London: Longman, 1999), p. 17.

⁴⁰⁹ Laura Hidalgo Downing, 'Text World Creation in Advertising Discourse', Universidad Autónoma de Madrid (2003) <<http://pendientedemigracion.ucm.es/info/circulo/no13/hidalgo.htm>> [accessed 13 May 2014].

⁴¹⁰ Theresa Sauer, *Notations 21* (New York: Mark Batty), p. 11.

cannot be separated from their wider human experience. Sauer quotes the ethnomusicologist, Stephen Feld, who eloquently sums up the experience as follows:

We jump off that cliff to study how human experiential patterns and practices construct habits, systems of belief, knowledge and action we call culture. And we study it everywhere and anywhere we can. Our ultimate concern is with people with adequately and evocatively representing their experiential worlds, their voices. their humanity.⁴¹¹

As Feld describes, it is only by jumping into the cultural phenomenon of musical graphic performance that one can gain a full picture of the beliefs and knowledge structures that inform performers' praxes. Moreover, Sauer writes that 'as neither the individual nor the environment is a static entity, music and art become also fluid, changing under different circumstances, developing organically in new ways, both visual and aural'.⁴¹² It is therefore only by analysing the creative processes involved in these new developments, and performers' experiences of them, that we can gain a deep understanding of them and their artistic potential.

⁴¹¹ Stephen Feld, 'From Ethnomusicology to Echo-Muse-Ecology: Reading R. Murray Schafer in the Papua New Guinea Rainforest' in Sauer, *Notations 21*, p. 11.

⁴¹² Sauer, *Notations 21*, p. 11.

Appendices

Appendix 1 – Case Study One Transcript

Case Study 1: Written Transcript of the preparation of ‘Red Missale’ and ‘Jam Jars in a Window’ workshop with Samuel Rodgers (Track 1 on the supplied Memory Stick)

JS: What does it give over to you?

SR: It’s actually very different in that it’s... well they’re quite similar in their composition.

JS: Yes.

SR: But the materials and the colour come across much differently to me. There’s something much more diffuse. I mean, obviously the shapes are less clearly delineated. Some of the shapes, which are in both the pieces. Less hard edges.

JS: And there’s less of a sense of anything belonging anywhere. You sort of feel like, “okay, it is there, but it doesn’t have any rationale for being there”.

SR: *nods in acknowledgement*

JS: I also feel that there is a sort of strange schematic nature to it, in that it’s quite sort of blocky and like a frame. But then it’s not, is it? Because the colours and the actual content on top of that frame doesn’t relate to it at all. So, yes, okay, it is a square with rectangular boxes running through it, almost like stave lines. But actually the content doesn’t pay attention to that at all.

SR: No, not at all.

JS: It’s not constrained by that at all. So there’s an interesting relationship there. So I wonder whether the structure of what we do maybe should, in some way, reflect that?

SR: Well yes, like you say, it’s almost a sense. It’s like an afterthought. You don’t see that immediately. It could almost be a reflection in the glass.

JS: Yes, exactly! It’s funny...

SR: How do we get that across though? Because it’s a very rigid structure that’s almost not there. Haha!

JS: Well we can do the same, can’t we? Have a rigid structure that’s almost not there!

SR: Well, it isn’t constrained by that, is it? I don’t feel as though you could break the piece into sections.

JS: No... it is a holistic entity in that sense. So... I sort of feel like what we should do should be an inverted relationship to each other. So, with this (Points at blue jam jars in a glass window), the more the frame tries to constrain itself in different sections, the more the content fights against that. Because it’s not a dispute between the two. It’s not like you’ve got a framework and it’s resisting that. It’s more that, the more the framework tries to present itself, the more the actual content doesn’t fit according to that. So I wonder whether, in a sense, when one of us is being sparse, the other should be more constant.

SR: Yes, something more linear and less complex.

JS: It reminds me of something I read recently. It might have come from John Tilbury but it was about Cardew said. That one day he and Howard Skempton both wrote a text score and Cardew’s text score said, ‘Play one note at a time’. They hadn’t spoken about it, but Howard’s score said, ‘Play two notes at once’, haha!

SR: Haha!

JS: And I feel like we should do something like that. Where there should always be an inverse relationship between what we're doing. Because then it will always feel like

there is a framework but it's a non-existent framework. Because it's not actually a structural guide to what we're doing. It's more of an ensemble behaviour that. And also inverse is nice and vague because inverse in what way? There's a number of ways that you can be inverse to each other. I kind of like that, what do you think?

SR: I think it's something we should try? haha!

JS: Haha! Yes, I like the idea of that.

SR: But that relationship swaps. We swap between those roles, or should we keep one of them?

JS: Yes, well, either?

SR: Yes

JS: I think that you can say that for either (points at both scores) it defies pinning down.

SR: Well, those lines are part of the structure.

JS: What structure?

SR: Well... I mean the material structure. So even the parts that we're seeing as more prominent than that are part of the same material. It's all meshed together. Those colours actually pass over those lines, or are part of those lines. But, visually, that's structure does jump out occasionally, as part as the lines...

JS: Yes, that's a good point. That is something I was thinking initially when I first saw it, which is that we're so used to the colour being part of what that thing is. So this wire [points at wire] is blue, and then when it comes to the end of the wire the blueness ends, so this wire is blue. Whereas, in this sense, it's not like the structure ends and the colour ends, it sort of blurs between that. And I sort of want what we do to have the same thing. I think it's particularly easy to do with the bassoon, because I can make something that sounds like a bassoon note, but, actually, there are characteristics of that which will carry on into something that's not a note. So it's sort of that same boundary. So there's not that definite tonal colour and there's not a definite colour in the work either. I suppose we're not going to see it as starting somewhere and moving somewhere, because it's not really that sort of work, is it?

SR: No

JS: It's too holistic. It's almost like we're giving the impression of it through the sound, all the time.

SR: So, almost, that we should be in the piece as soon as we start it, if that makes sense?

JS: Yes, I've always felt like that, I don't think I could just start in the top left and move across.

SR: Well, no.

JS: It feels like I'd be missing the point and the potential. Because there's something about it that defies seeing it in a linear way.

SR: Yes!

JS: It reminds me of works that have really captured me in art galleries. That I just can't help but just stand back. You want to stand back. Because if you engage too closely with one part of it then you're not engaging with the rest of the text. And I sort of want what we do to be the same. You couldn't just take out 10 seconds of it and

use that as representative. You almost need the whole lot. You need to engage with the whole material in one go. It needs to be an entity. There's something about this, and I hate that cliché word 'organic' (and I don't mean this to say that it has natural resonances), I mean that it has an earth like quality to it. Whereas some of these other works are more jewel like. There's a dispersion of light through them. With this it's very organic, in that sort of carbon, part of the earth type way. I think that works well with the cymbal and everything you're doing has that sort of nature to it. Whereas the bassoon was created to have that sort of jewel like thing. It's a sort of sculpting, in the same way that a diamond is a sculpting of nature of something that does a certain parameter of things that we find beautiful. Well, the bassoon is doing that. Whereas, in a way, you've taken an assortment of things that defy that, but are perhaps are bringing some aspects of tha

We were young people who got to it. And I think I'm trying to do the opposite. I'm taking the diamond and am taking it back to its earth like qualities. Whereas you're taking earth like things and are trying to make a diamond out of it. Would you agree?

SR: Yes, kind of! [Laughs]

JS: [Laughs]

JS: How long do you want to play for? I only ask that because that will stop me being self-indulgent.

SR: 6 minutes?

JS: 6 minutes [laughs]

Appendix 2 - Case Study 2 Transcripts

Written Transcript of Carl Bergstøm-Nielsen 1st Workshop – Exercises

Well, thank you very much for inviting me, Joe. It certainly is great to be involved in such an interesting programme. I'm Carl Bergstrøm-Nielsen and I come from Denmark. I was born there and studied there. Back in the 70s, where the youth movement was similar to the Scratch Orchestra. We were young people who liked to do our own thing and put on our own concerts. We were music students from the both the conservatory and the university and I was really caught by improvising. I started composing at that point and then I discovered "Wow! So much can happen in such a short time when improvising!" So I followed that track. Now... Later, I came to be employed at the music therapy department at Aalborg University and I've trained music therapists to be improvisers ever since. Making improvisation workshops. And I've done that, travelling to various places in Denmark also.

And composing is very important to me, discovering how to compose for improvisers. And improvising is very important to me. Composers wishing to do this should understand about improvisation and, of course, you will understand very well if you do the job yourself. I also think maybe you will agree that there a lot of good reasons that composers should take interest in these compositions. But that's quite another matter, because, well... it pushes ideas forward and updates ideas. These could be ideas about collaboration.

Now, the playing side. In order to play, well... I like to say that the musician, himself or herself, is the most important instrument. "Know thyself and you will play perfectly". That means, if you use your fantasy, you can make any sound, you can transform any sound. It's not a matter of how much you are a traditional virtuoso, it's a matter of how sensitively and how cleverly you use what you can. So even beginners can do a marvellous job in improvisation and they often do so. Because they have their ears really out and they are really aware of what they are doing. This awareness is very important and improvisors have liked to often invent ways of keeping ears fresh. Derek Bailey, you know that name? Derek Bailey? He was known for liking to improvise with different people all the time, and he put this idea into system with his 'Company Week', making people meet.

Now, we'll have a more fixed ensemble. We are six people here. Six people is a fair number. So, it's already a big group. But we can try. Now, this is an old game of mine, Sea game. Inspired from sea maps, what they do they call them? Nautical Maps. This is the explanation of the symbols. I also have a laser pen. We'll soon get practical and do some exercises.

We have very high register and very middle and extremely deep. Oh well it could depend on instruments, but we could have three different levels of situation. Oh, very easy indeed. As you can see, it works really well with the expanded material of new music. Instead of harmonic and other systems, we have sound. So that's, in one way,

wonderfully simple. There's some clever guy who wrote that, concerning this new material, it's like operating trains. In a tonal system, there had to be strict regulations so that the trains wouldn't bump into each other. But, if you make trains of soft rubber then everything can be combined, so to speak, and there's no such danger. Sounds are combinable. How do sounds make meaning? Well, we musicians know that. We will experience that. We know it from inside that sound formations are meaningful.

So yes, let's take our chairs. We won't be needing music stands, unless you can take advantage of your smartphones. If you'd like to sit down so that we can see each other and see the screen.

JS: If you don't have an instrument, then you're very welcome to use your voice.

CBN: I'm a multi-instrumentalist, I like having several instruments. 1, 2, 3, 4, 5, 6, 7, 8, 9 – Oh! We will be 9 musicians! Maybe we will have to divide them at some point. Do you need a chair? (To me)

JS: No, I always kneel, it's okay.

CBN: I like to think in parameters, in a classic serialist way. Sound has frequencies, which are often called pitches in our music field. And what is the very deepest sound we can make?

CBN talks to melodion player: Is this an alto or a soprano?

Melodion player: A soprano.

CBN: Okay, what's the deepest?

Melodion player plays lowest note

CBN: Okay!

CBN speaks to vocalist: And you are a singer?

Vocalist: Yes

CBN: So what's the deepest you can sing?

Female vocalist: *Laughs* I don't know! *Sings a low note* I don't know. I've not warmed up.

CBN: And you with the electronics, can you make a very deep sound?

JS: We could plug it into the PA.

CBN: Please take care and avoid bangs and so forth.

CBN: When will all the Sauer performers be present?

JS: We will do Sauer's performance at 11am.

CBN: So we've fixed this, great. And you've fixed a very deep sound? *talking to the performer on live electronics*

Live electronics: Yep! *Plays sound*

Hmm, it's all very commercial and sold out sounds.

Guitarist: What about a sine wave?

No!

Melodion player: Sine waves are good!

Live electronics performer: I know! But I can't!

JS: They're very pure.

CBN: Okay, let's try and make sustained sounds, the deepest sound we can. So we will make the first try, yep.

Deep sounds at 19:34

CBN Interrupts at 20:15

CBN: Yep! The piano might need to use tremelo and inside playing, in order to give more sustain. It's already interesting. And why not try to make it even more interesting. We could make a little improvisation with that. Make differences in the dynamics and make pauses in between them, so that everyone will eventually hear all the others, so that no one disappears completely.

Okay, let's do it again in this way!

Deep sounds with dynamic improvisation and pauses at 21:15

CBN Interrupts at 22:00

CBN: Yep! It's not bad to listen to. I think for as a theatre piece it would serve perfectly.

Laughter

And it's full of atmosphere. This demonstrates how the elementary forces of sound itself is interesting. I feel now like the painter looking at his palette and looking at his colours and thinking "Oh how interesting! I'm going to make a great work out of this!" And we too are. There's still work to do. And we've thrown away old systems and have just worked with sound. Well, in a way, free playing starts where, say, accomplished ensemble players have arrived at. They listen a lot to each other, they can balance the sound, so that if you just start playing there will naturally be some differences of dynamics, but they can counteract that - Let's say a classical wind quartet. Try again, make more pauses, and listen to what happens so that everything could be important. Also, soft passages... Let there be holes, pauses, soft passages. Maybe soft passages arising just from a pause by yourself. Maybe you could also think about operating the dynamic button and controlling it in this way. We wind players operate it with our breath and there are other ways still.

Guitarist points to palm muting technique

Yes! Oh so many ways. But this *pointing to electronics* is a kind of strange instrument. You don't feel the force, it's just like pressing the gas pedal!

Live electronics performer: Yes, that's true!

CBN: Okay let's try that. Let's make an infinitely interesting piece out of this simple recipe by paying attention to these things.

Deep sounds at 25:00 – with CBN using his voice

CBN Interrupts at 27:35

Yes! That's so interesting! What about making twice as many pauses? And I think you could make your sound much more even. *talking to melodion player*

Melodion player: Oh?!

CBN: Didn't you make a lot of attacks? And then some soft continuations.

Melodion player nods

Could you imagine something being sustained, like a cello or contrabass playing?

Affirmative consensus from group

Yes, in this way we still take sound as a very simple starting point. But we need to do very sophisticated things with sound, in order to really use it.

Some performers have to temporarily leave

Okay, even if we now have less performers, let's try it again with twice as many pauses.

Deep sounds at 29:52 – with twice as many pauses

CBN Interrupts at 31:41

CBN: Yeh, it's getting increasingly varied. You could go on and on. It seems that when you throw away old systems and work with sounds, you have to cultivate some

social virtues. Also, it seems we are rediscovering the art of polyphony in a very new way, I think. Back before 1600 something... then they really did not think in terms of harmonic systems and bass and upper melodies. They had this intertwining of many melodies at the same time, in the old church music of Western Culture. And we are re-discovering that in our way. The communication is about dialogue and about a multitude of people, of course, but we have to discover such virtues to play well. Cornelius Cardew wrote a very nice essay about the virtues and the ethics involved in improvisation. Maybe we should go on...

This was just one little part of it [sea maps game], and maybe it even went outside the piece.

Okay... what would extremely high be? Not necessarily breaking the windows... but in a very controlled way, what would very high pitched sounds be?

High sounds start at 29:52 – with twice as many pauses

CBN Interrupts at 34:22

CBN: Yep! There we encounter the difficulty of making everything imaginable with our instruments. We have to extend techniques. Well, this... *pointing to melodion* kind of deals with itself, but with reeds you have to move sensitively. There are many saxophonists who do many things with that. And female singers should have a chance with that. Enough about that right now.

Okay... These were long tones.

What about practicing staccato, short tones in the mid register? And do an interesting staccato pattern, pointillistic. Try that!

Staccato mid sounds start at 35:35

CBN Interrupts at 37:30

Yes, that was very, very fun! The electronics were kind of playing by themselves! This was really polyphonic. A multitude of communicating parts. Well, we really did a composite thing together. And thus rediscovering what Boulez, Stockhausen, Castiglioni, Pousseur, Nono did in the fifties. This very new conception of sound which was so light and so freed from the mechanics of dogmas. Later, people like Paul Rutherford and John Stevens also rediscovered that, independently of free improvisation, that's very interesting. Paul Rutherford was an English soldier in Darmstadt at that time. I think there was a large military settlement there. But he said he just heard jazz on the radio all the time; they were not really aware of the experimental classical composers working at the same time. But, strangely, this was discovered from two very different historical sides – from those experimental composers with a classical background and then people like Rutherford and Stevens, who, rather, had a jazz background. Did you hear about John Stevens? And Paul Rutherford? Maybe they are too old, but they existed back in history. But anyway, Stevens was a founder, or co-founder, or involved with community music in London and I think it may still exist.

JS: Yes, I think it does.

CBN: And both of them have a lot of recordings out, which belong to the improv classics people.

Can we maybe play the piece now? *Brings up score on projector*

Yeh, I am going to do some explaining. Because I know what's there beforehand, I can read it, but I don't know if you can all perfectly read it.

This means middle register and this means long. And this means very long, if I'm not mistaken. Yeh. There's only a slight difference between these two.

So we have middle register, very short and then also middle durations. We have three of those there. If you decide to move towards this, then the transition must be slow. If you go the other way then the transitions should be fast. That's, of course, due to the winds at sea.

Here, you could go directly or indirectly as you like, but it's bit up to interpretation. So I think we have everything we need to do the piece. Are you ready? There's no saying where you start and how long you stay in one place. But I urge you to take the material very seriously so that we have a very sharp perception of this very characteristic selection of sound. So maybe I've thrown away old systems, but am trying to resurrect the system just for this piece.

Okay, a five minute version, we try!

Performance of Sea Game starts at 44:15

Long silence after performance

CBN: This is a nice silence, which is really part of the musician's ritual. And which shows that we have been doing something *together* and we know we are now intimate. But it's also a real art to end a piece like that. There's nothing exactly prescribed.

I originally said it would be 5 minutes. But it went so well that I just enjoyed what was happening. Oh it's a great joy to be a composer sometimes! But wow the ideas become clear and it's so full of atmosphere. And it just occurred to me, I think maybe Cardew could have added that to his article on ethics, the reason why it's so important that everybody be heard, in ensemble playing of this kind, is that everyone is unique. We act as individual people in a kind of rhythm. That's a very radical thought, indeed! We act as individual people. Parts are individual. Parts are identical to the musician playing in that moment.

JS: Is that not addressed in the Treatise Handbook by Cardew? This idea of silence and of communication and concentration. In the section on integrity, I think mentions this. This idea that what brings integrity to the music is sincere communication and respect of silence.

CBN: It could well be connected to that! Well, what did you think? *Addressed to the whole group* Anyone who thought it was horrible? You can have different opinions.

Guitarist: I completely agreed with it, when you said it. People are instruments in themselves.

CBN: But I cannot know everything you did, or how you interpreted transitions and stuff. But I did not hear a mess, in terms of the piece, I just heard parts interacting which were clear to me all the time.

Live electronics performer: Sometimes I found it difficult, because your piece requires slow change towards different states. But sometimes you really like what other people are playing and you're like, "Oh God! I have to go to this state! Oh no, now it's going to sound bad, but..."

CBN: Yep! You have restrictions. Unfortunately you cannot just do what you like all the time. But if we never had this frustration and can always do exactly what we like then maybe it's wrong too. There must be some restraints. I think he is called Tim Hodgkinson, he's an English improviser who said that 'Improvisation is always a waste of possibilities'. He didn't say it like that literally, but there are always possibilities that occur all the time and you can only choose some of them. It's like all of life, we have crossroads and we choose and that's it. And choices have consequences, don't they?

Any more comments?

Silence

I'm having fun. But we're doing this masterclass for you.

Guitarist: Can we play another piece?

CBN: Yes, the goal from here is to do even more playing of even more pieces. Right, time to make you play another one of my pieces. This is a special piece in my production. It occurred to me, one could detail out the pauses in composition, but not the sounds. Pauses are really important.

JS: Carl there was just something I wanted to mention, which was that I felt, for the first time in a long while, liberated from any contract. Everything is always verbally discussed before we play, in some way. People say, "Oh, so what do you think about this?" Or, "Shall we do this here?" and I feel like there is some sort of verbal contract. Whereas I felt here that there was already some guidance, so we didn't need some sort of contract to tell us how we should respond to those instructions.

CBN: Ahah! So you were not crushed by the strict discipline. We've done a lot of exercise and tuning in to approach this contract and restrict the material.

Guitarist: That's a very practical approach to performing notes. You know, like the instructions you gave, instead of talking through them, we just kind of went practically through them. That's why I think it was easier for us to play them.

CBN: It's good to do preparatory exercises. Well, there's no saying what you play, now you can enjoy the total freedom. But please take very good care of the pauses, and make pauses frequently. Have you looked around enough in this sheet or do you need more time to prepare? We could easily take a minute or two, just in order to wait around and then you tune in to caring very much about pauses.

Male vocalist: Can I just go to the piano?

CBN: Oh you can go to the piano, of course, yes!

JS: Carl, it says here in the score to do a "pause long enough for the perfect moment for coming in again".

So that idea of perfection, is it a subjective perfection or is that something that you want to prescribe.

CBN: Oh I can't tell you for sure what is the perfect timing to approach pauses in my piece, it must be subjective. You take the risk!

JS: Oh okay, I was just wondering why you chose 'perfect', rather than a 'good' moment.

CBN: Do your best, haha!

JS: Oh okay, so it's the upmost?

CBN: Yes! The ideal is that wonderful music results, and that's your aim all the time.

JS: Yes, of course.

CBN: There's a German critic, whom I recently translated into English, who said that we are very much responsible for the whole. We must take such responsibility.

JS: And that responsibility comes with a great burden, I think.

CBN: A great burden?

JS: Yes.

CBN: Maybe from being very conscious about what we are doing about higher aspirations, or whatever. We wish to have fun, maybe also, and to enjoy ourselves.

JS: Yes, exactly.

Performers return

CBN: Hi! Please take a minute to consider these different kinds of pauses. It's very important how you do the pauses. I have tried to show that in the piece. Else, there are no restrictions, but pauses reign.

JS: **Pointing to the spiral in the score** What is the meaning behind this shape? Is there a philosophical basis for it?

CBN: Well, the spiral is taking up the space and is continuing on and on, just like philosophy continues on and on. **Laughs** Are we getting ready for the pauses? Now, we are 8 people, a large group. But we will make everything perfect because of the pauses. Let's do it in the same good way as before. Let's try and end together as we did before. Okay!

Pauses exercise begins at 1:09:19

CBN interrupts at 1:20:32

CBN: Yes... you can get easily absorbed by looking at the screen.

Live electronics performer: I just want to be able to make another sound!

CBN: Oh... sorry if it was frustrating. But we are really now forming collective decisions, isn't that true? Once again, I think this was so good it could have been a concert. You are doing a very good job. Wow... I think, as a musician, I once again experienced that pauses are so important. And there can be a tension between pausing and making sound. This tension is very important and very productive. And also there could be a continuity of complex thinking involving pauses. I try to describe that there... **points to the score** that pauses are inserted into an activity. So I'm not just making a sound and then a pause and then I think from scratch, "okay, what could I do next?" But maybe I'm doing this activity for some time and putting pauses into it, in various ways. Each time the pauses occur, my awareness shifts. Something really changes inside me. Then I come back to the chosen activity with new insights. I think that's very interesting! Playing improvised music is such a complex process. It's not just a matter of amorphous feeling. Your whole person is aware. Isn't that right? And, afterwards, I think it is a sign that you can get really tired, which then shows that you have been really working. That you've been using all of your being in order to have this awareness to create music. As a composer, I think this is a wonderful thing. It's a very deliberate act to say, "Now, this is the nature of the piece" and it cuts through whatever we are doing. This is a pause piece. I think it was, once again, like looking at the other side of the music; music is not just the sound, music is what is between the sounds. It's so true. Maybe, since the beginning of the masterclass, we've thrown away the general basis, where musical phrases were the thing to do. Musical phrases are like speaking. You have to finish a sentence using various rules and that takes some time. Forming those sentences takes some time. They are large units of meaning. And so, whilst speaking the sentence, the others have to be silent as to hear the whole sentence. But music doesn't have to be like that. You could have not just dialogue but multilogue. A polyphony of parts. As was very apparent, wasn't it? One more great demonstration about new music and ways to do it... Oh! **talking to melodion player** You look very aware and I wonder what's happening inside.

Melodion player laughs

JS: I think there were some moments where the pauses that attracted my eye were not the ones that I wanted to do at that moment, which was frustrating.

CBN: Yes, we have the discipline and we encounter so many close thoughts and things which do not happen. Like cross roads, "And I would like to go there and now it's not the time, oh..."

JS: Yes, and it's the same with some of the pauses require you to prepare before you've begun. And sometimes the thought that, I'd go back and think, "Cor, that was a rubbish thought I had! Why did I think that? That was terrible! And I'd already committed myself to think that, that's what I was going to do.

CBN: You've got to show initiative and take risks. Okay, if something is really horrible then it's a waste of time. Are we doing well? *addressing the group*

Laughter

JS: Would you like to prepare another piece or shall we prepare for Theresa's work? Which would you like to do?

CBN: It is becoming time for Theresa's work?

JS: Yes, soon.

CBN: It is very soon, we said Eleven?

JS: Yes.

Guitarist: That's another piece?

CBN: That's another piece and it presents great challenges. Could I dare to suggest that all the performers who are involved in preparing Theresa's work stay to play this piece? And the remaining ones will be audience members, if they like. After that, if we get onto it, depending on how the process goes, we can get on to my other musical graphics.

JS: Something I'd been meaning to ask you was that, in the exhibition, we only had the blue score, but in the full score there are the golden circles and the red circles. So shall we prepare all 3?

CBN: Yes.

JS: Okay, well I have them but I will need to go and prepare them and so will be 5 minutes.

Appendix 3

Written Transcript of Carl Bergstøm-Nielsen 2nd Workshop

Theresa Sauer's *Circle Series*

Starts with Red Circle

JS: There are your scores, they're supposed to go that way up *points to correct orientation*

Live electronics performer: Is that a tomato?

JS: No, it's a planet.

Live electronics performer: Okay, I thought it was a tomato!

JS: Ah no! *Laughs*

Pianist: By the way, that's just been caught on camera.

Live electronics performer: Oh, sorry!

JS: Brilliant, I think that's a great start!

Live electronics: It's just that we were discussing what it might be, and I suggested I thought it might be a tomato.

JS: It's a Tychonian map. It's a medieval map, of when people believed that the earth was at the centre of the universe. But anyway, Carl...

CBN: Yeh, there's a note that's included with it, that states that the score has no beginning and no end. So it goes on in a cyclic way. Yes, and there's a circle which could be a psychological symbol *pointing outside the circle* and that's the outerworld, I think - *commenting on the circle again* the Jungian self.. But practically what to do - I've been speculating and I've come up with one interpretation which I will tell you about. I think we need to have some contrast between small movements and large ones, and they could be interconnected. Look at the red one, oh it looks like you are. Without specification, can we all try to make a mixture of small movements and very, very large movements of a circular kind, freely interpreted, if this is possible to make a such a combination, to represent the big circle. Let's try. Play the big circle with all those little small ones.

Clarinetist: Sorry, does the musical notation down the side of the page have any correlation with them?

CBN: Oh, I also speculated about that, and my answer would be - let's imagine these are alterations of single events. Like accidentals valid for a whole measure, or maybe more. Maybe we could shift the timbre. Maybe we could shift the dynamics. Maybe even dramatically. Yes, maybe we could even shift the figures.

Playing to represent circular figures starts at 6:02

CBN interrupts at 9:14

Yeh... Maybe it's not so impossible. I think it's got a lot of atmosphere and is looking very good. I wonder if everybody got the very long movements, the very slow movements. Let's try once more and stress the very slow movements. And, else, I think it's not so difficult to imagine different places in the universe. Different, what are they called... these balls that wonder around?

JS: Satellites?

CBN: Yes...

JS: Or moons, perhaps?

CBN: Yes, moons, and satellites like Mars and Venus.

Clarinetist: Planets?

CBN: Yes, planets... Oh, yeh... They each have their own way of being and it's not exactly like expressive speech, but it's like a more impersonal nature. Okay... stressing the very long sounds...

Second Playing to represent circular figures starts at 10:51

CBN interrupts at 11:30

CBN: Yep, it's there. We could go back to the mixed thing and now try to think especially about these accidentals. And let accidentals, in our own way, try to influence the events that we play. Not just slight alterations of pitch but maybe much, much more than that. Yeh... Let's try that!

Third playing to represent circular figures starts at 12:14

CBN interrupts at 13:31

CBN: Yeh! Wow... it's doing well, isn't it? Now to the more serious thing...

Moves on to Blue Circles.

What on earth do we do with this multiplicity? *Points at score* We have two of the blue ones. And I thought, okay, as musicians we have to make things really audible, and not just some notion that is not at all expressed in music. It must be audible.

JS: And something Theresa told me was that this particular score, the Blue Circles, she wanted to have a fractal quality, so that there is always nuance at whatever scale that you look at. There is textural interest from the micro to the macro scale.

CBN: Yeh, I think we've already worked with that, at least in a stylised way. The tension between big and small, that's very effective, I think.

Multiple ensemble members: Fractal.

JS: Fractal means... you can get these fractal drawings that, however far you move in, there's always more and more and more, so they go on infinitely. It's a mathematical equation so that there's always more material... So she wants it to have that, whatever scale you look at it, there's always more detail. So, I suppose, in the sense that, whether you're playing loudly or playing quietly, everyone's playing at the same time, or there's just one person playing, there's always a sense of nuanced, textural detail in there.

Guitarist: Why does she choose not to use the symbols down the side of the page?

JS: Because, in this score in particular, she wanted to give it that fractal texture.

Because the other ones don't have that textural surface to the planets, She felt that, with those, they needed more, which is why she put those codes down the side, or across the planets.

CBS: There's so many reasons why artists do what they do. And so many ways that we, also, can be inspired. When we, or the audience, listens to this polyphonic music, sure there will be big variety of big and small, and fractal quality. Now, why are there are more circles here? I think it could suggest that we have a larger space and this could be a dynamic space. So, we could imagine an imaginary space coming from this dynamic difference. After all, distances in the universe are enormous. It's a very large distance between the planets. So when we have three ellipses, it's beginning to look a bit alive. Then we are dealing with a very potent space. Extremely potent. And when we have two, it's certainly also a good space. If we have one, then it could be more flat. It could be mezzo forte. That would make an effective contrast. So the blue could

be first, and then the yellow circles next and then the red circle last. It's asymmetric thinking, isn't it?

Group response: Yes.

CBN: To these big spaces, regarding dynamics, we just need to do it subjectively. We just did that several times with very good playing and listening to each other. And seeing to it that we'll have real contrasts and a big mixture. So if someone makes a very loud sound then the rest don't have to follow. Inspirations of all kinds can occur. But let's imagine this is an extremely powerful depiction of space and let's show that in the dynamics of dynamics, from forte to piano. From loud to very faint, and in between. Let's try!

Pianist: Right, so we're doing the yellow?

CBN: Yes, yellow, the golden ones!

Attempt at playing Yellow Circles starts at 19:31

CBN interrupts at 22:21

CBN: Yep! I think, for this idea to work, there needs to be something really majestic and loud... ARGHH! (loud exclamation to represent desired sound) Yeh... in this movement. Maybe colours also influence us.

JS: In the performance, do you want us to stop between each page?

CBN: Yes.

JS: Right.

CBN: Yes, I think of three movements. And I think it might be good to aim at maybe 3 times 3, or maybe 4, minutes. And try to use the inner clock and try to aim for it together. I think it could be a good idea to have a stop watch. You don't have to do it exactly on time, but between 3 and 4 minutes, I think, is a good time to perform. But I don't think it's good to go over 15 minutes in the performance. That's what I was told, so...

JS: Well, there is more time, and you can go on longer than that. I've been told now. Because the performance which was going to involve balloons is now happening at the weekend instead, so we have the time. So there are no real constraints, in that sense. But I think after 15-20 minutes would be a good time to end. Okay, let's say 4-5 minutes if you really think so, or if we think so, we can end before that time. Sometimes in performance we can get a little frightened and then it can shrink too much. Ten minutes of playing should be fine.

Pianist: Could the number of planets maybe refer to the structure of time? Because there's 3 planets in this one, 2 in this 1 and 1 in the other.

CBN: I was suggesting 2, then 1 and then 3.

Pianist: Okay.

CBN: And we could make a try of it. So if we have to go out precisely, it will be a short version.

JS: Yes, I'm not sure if there is someone coming now to use this room so...

CBN: And we also have to have lunch etc. and everybody has been told the concert is at 12pm.

So let's take 2-3 minutes of each, so we're not overdoing it either. We're refreshed for the performance. And then we'll just gather at the performance and, oh... unfold the piece!

JS: I want to ask about silence. Do you want periods of silence?

CBN: Silence is, as ever, important. We will probably not have very long general pauses. But even general pauses are perfectly okay. Unless the audience starts to go away... suppose they don't. But I suppose we can do whatever we want. There's a lot of nothing in the universe too... So first we have middle space, then we have flat, mezzo forte, adjusting to each other, and then we have very big space. Okay! Short version, then very short version. Let's try it!

Full response to circle series starts at 26:26

CBN interrupts at 33:30

CBN: This was a great ending. It is a great art to be aware of probable endings and some ending like this would be very convincing, like magic! This is very good. Please have even more of that in the performance.

JS: Thanks so much for coming to do this. And please give a big round of applause to Carl for coming.

Right, so shall we see you around about 3pm in the Library and then we can assemble and do it.

Soprano vocalist: Do we need to keep hold of the scores?

JS: Yes please, keep them and I will make sure that I bring stands across.

Thanks Carl, that was very, very good. You speak very eloquently.

CBN: Thank you, there's so much of interest in the score and in their playing, they've been very engaged.

JS: Yes and you've been great working with them.

Appendix 4

Case Study 2: Written Transcript of Carl Bergstøm-Nielsen 3rd Workshop – Exercises 2

CBN: I have, for a long time, been inspired by those repetitive structures so frequent with Penderecki and other Polish composers, do you know them? *Group members shake heads*

Do we have a pen?

JS: Oh, yes I've got one, I'll just go and get it.

CBN: Well maybe you haven't seen them, so a hint is maybe not so helpful. But these are repetitive and use special signs. They have a fast sequence of aleatoric nature. This became very well known, amongst other places, in this piece called 'Threnos' by Penderecki. You will see, typically, structures like this *points at score* etc. to be repeated very fast. And then there was some... *mimics sounds with his mouth* Some sound like that. So very finely chopped and for orchestra. And I thought about that and asked myself, why is it that it has to go so fast? Why is it that they play so mechanically? Why don't they take it slow and make more variation and make it more into a piece? So, that was my discovery of repetitive structure, in my own way. But the point is to vary, and I try to really write that out. This is a very short note *points at score* for any pitch. And it could be a staccato, it could be... what would this be called?

Group: Tenuto.

CBN: Oh! Tenuto, yes... *points at the score* That's a fermata, maybe molto tenuto, but a very long short note! *laughs* Well, three kinds of pauses and, in the middle, you have this very low dynamic, long, long, long, long, long sound, and this is a melody that jumps. And it should be taken quite literally. *Sings melody* To preserve that structure. And here comes my instruction: In the pauses, could you listen very intently to the others. *laughs* That was really my discovery, then, from free improvisation, that it's really a different kind of music we make. This is our group, we are communicating. And this process is a very adventurous one. I remember there was one writer who said about Indian Classical Music, "Our music is the song of a lonely individual, but of a universal one". This may well be, it's very soloistic [music] and so is our harmonically based music. If I think of the operas of Giuseppe Verdi, then it's really about bel canto melody and inventing interesting melodies and they are connected to words and to poetry. This is a grand tradition. But, something else is also possible. To make a music which consists of a collective stream of consciousness, consisting of non-verbal reactions. And this is what I am trying to depict and maybe have tried ever since. Improvisation was so exciting to me. So, I have stuffed a lot of instruction into this. *Points at score* "You should vary tempo, rhythm, dynamics, attack and timbre" and then you should try to make others comment on your part. Oh, it sounds like you're really pushing yourself forward! In any case, taking initiative. And make your part a comment on the activities, so you're responsible for accepting what is happening, also. It's a give and take combination. Let's try to do the first one. One individual short sound, pause, and then one more individual short sound. You might do a glissando sometimes. If you do a glissando then dynamics should vary. Let's try!

Play through of first fermata starts at 6:46

CBN Interrupts at 7:58

Yes, I noticed that the beginning was, in fact, very demanding. It took time to get started. This initiative to make a sound and throw it out into the community is really a very demanding thing to do. Let's try to do it, not so regularly and accept a very random situation. Like popcorns popping or even less regular.

Second Play through of first fermata starts at 8:44*

CBN Interrupts at 10:40

CBN: Yes, I think this is good. It's true that our brain likes structures and it likes simplicity. But it's certainly also true that it likes complexity and stream of consciousness. The way we get inspired, that's really by stirring up emotions and notions inside us and one thought and notion will take the other and they like to fly and to move. Our inner life is really also so. I feel like taking a tour de force. What emerged for you? What was your perception of what we did?

Clarinetist: I was trying to think of the popcorn all the time. That's a good way of thinking about it. And we probably got faster than that, eventually...

CBN: Yes. Anything more?

Melodion player: I was trying to react. I was trying to listen to what everybody was doing.

CBN: Strange to listen?

Melodion player: I was trying to listen, more than before.

CBN: What did you hear then?

Melodion player: I heard relationships *laughs*

CBN: Anything else? *Melodion player shakes head* I was ever so slightly beginning to think about pointillistic pictures. That I was beginning to listen into larger entities, in the whole, and looking at that. Which became quite captivating.

JS: It definitely had a polyphonic texture. The polyphony was very elegant. I could almost see it vertically.

CBN: I think everyone was making himself or herself heard. I am going to take my papers now and move over to the playing position, anyway, and am able to notate just a little bit. Imagine what it would be like to do this for half an hour. This would be a tour de force. I am not sure we should do it necessarily *group laughs* but would you like to?

Group: Yes, absolutely!

CBN: But what would happen if we would do it for half an hour? Would we get exhausted? It's just so little sound. Half an hour's playing is just half an hour's playing.

JS: I found it exhausting yesterday with the creative ensemble, doing that piece for so long, where we all had to try and play at the same time with no visual cues.

CBN: Which piece? Unanimity?

JS: Yes.

CBN: Okay, I admit that we are active with our consciousness and our being. Let's just do it for, let's say, 3 and a half minutes *group laughs*

First Play through of third fermata starts at 15:56

CBN Interjects at 19:41

CBN: Yeh! Okay... This was 3 and ½ minutes of being completely experimental!

group laughs Yeh, I think of David Tudor who said, about a piece of Cage, that it was liberating. He got the freedom to do anything. And then he learned to be free for one hour at a time. A whole hour! *Laughs* But it takes some very conscious

focusing of attention. Did something new occur to you about what happened in this music?

Saxophonist: We were all very in time in one bit. We were all playing a crochet each at one point.

JS: Yes, but it was all rhythmic, I felt it was like a loop that was going on.

Guitarist: I felt that, that one had a sort of spring in its step.

CBN: What did you say? A loop?

Saxophonist: There was a bit where we were all playing the same rhythmic divisions.

JS: It was sort of like *sings rhythm* for a while.

CBN: Yes, there could be some simplistic patterns that it fell into, but it did not persist! *Sings monotonous rhythm* so it was much freer, much more flowing.

JS: Something else I just wanted to say was to ask about was freedom. I've never trained as a jazz musician, I don't have a jazz background at all. Do you find it easier or harder to be free having a jazz background, because it's an improvisational language?

Guitarist: I don't know really any other way. Because I only know my experience, so I can't say whether I find it easier than you. But some things about jazz you learn, and sometimes it makes you less free, but then other things, after a while, makes you more.

JS: Okay, right, yes I just wonder whether you always have it there about using certain scales or using certain modes, or rhythms.

Guitarist: I think, in the first couple of years, I was more intensely trying to get that stuff down. Whereas now I'm more thinking about playing. I think the idea is that when you're playing in a context where you have to play that you don't think about that either. It's something you feel rather than thinking.

JS: I suppose you get to an extent of getting it down that can you feel rather than having to think about it.

Guitarist: I think that's the aim.

JS: Yes, right, I'm just curious because I've never had that background and I've only learned about modes and things from a classical perspective and, when I improvise, I never think of it in a context of jazz scales or rhythms.

Clarinetist: Yes, I never think about modes or anything, when we're doing this. I'm almost trying to deliberately avoid it in my head, because then you're thinking of a thing, aren't you? It kind of defeats the point of it. I feel like it makes me more sensitive, because I get time to learn the instrument. Well, this isn't really my instrument, but I feel more free to do this kind of stuff. Because I did do a lot of classical before and I learned the notes, but I didn't really get to know what I was playing as much. So, I feel like, more so with jazz, better prepared for this.

JS: Yes, that's interesting. Sorry, Carl, I just thought I would ask.

CBN: Okay, any more comments?

Group members shake heads

I think it's, as far as I understand it, you are dealing with a psychological process of adjustment and, eventually, you are talking about how it feels to improvise. Yes, "air from different planets", in some cases *Group laughs* like Schoenberg said, and feeling at home at the other end, coming to oneself, as it once occurred to David Tudor.

Okay, this was only short notes. Time is peculiar; we have both very quick changes and, certainly, also have a sense of continuity. So the next one is very fun, let's try it. Very long, very soft tones.

JS: Are we doing the pppp, very soft?

CBN: Yes. Well maybe we will use it, well we will have to see what it's like when we're in the café, but right now, we're sitting in this room. You may vary tempo and you may make small crescendos and diminuendos. We may also omit it, but right now we will train it. *Laughs*

JS: Is it one sound alone?

CBN: Yes, a very long one.

JS: One very long sound, okay.

CBN: You may make another very long one after a pause from the first one. Let's try!

First Play through of fourth fermata starts at 26:48

CBN Interjects at 30:25

CBN: Yeh! Well how would you describe it? Your personal perception of this?

Guitarist: I was quite happy. It just felt like random things in the wind. And very still, just movement, without people behind it.

JS: Yes, in that way, it was like meditation and it had that sort of flow to it. It's like one of Eliane Radigue's pieces. That sense of sort of meditative flow.

CBN: Still other views?

Clarinetist: I didn't really have a visual thing. But it was quite hypnotising doing it. Like a bed of sound.

CBN: A bed of sound? Yes.

Guitarist: Yes, it was nice.

CBN: I thought it was very sensual. I could almost feel the sound on the skin.

JS: It was like smoked salmon! *Group laughs*

CBN: No, not exactly like smoked salmon! There's some music that reminds me of smoked salmon. But maybe not so different. Well, third element, the jumping melody. Let's make a whole world of versions of that.

First Play through of fourth fermata starts at 32:43

CBN Interjects at 35:55

CBN: Yes, very enjoyable! *speaking to soprano vocalist* As a singer, can you cope with all these instruments?

Soprano vocalist: No. *Group laughs* Kind of...

CBN: Is it hard work?

Soprano vocalist: Yes! *laughs*

CBN: Yes, maybe we should listen even better to each other.

Soprano vocalist: I can go and get some kind of amplification, if you want me to? I can go and get an amp or something, as I often do. I've got a microphone.

CBN: Yes, it's almost a pity. Let's try for just a little time yet and remember this. I think it's perfectly possible to make something loud as long as it's not persisting most of the time. It's perfectly possible to have really big contrasts, but then there should be some compensation somewhere else, when this loudness has been. Yes, that was a fairly dense sound, and yet very varied. It's not even necessary to do it again because we've started to make them different I think. Yes, very good! So, you probably have already perceived the pauses are really different. There are fairly short and middle and long pauses and the last one is, of course, to be a long one. So we have three levels on a scale, from short to long, of pauses and something similar for the sounds. Oh! This

is what they call serialist design. You know, having continua. Analysing material into continua and then working out from these continua. This was one of Stockhausen's definitions of serial method. And, obviously, and very sensibly, he did not mean that this is departing from Webern and using the 12 tones and these ways. It may not be 12 tones, it may be any analysis of material. He beautifully demonstrated this in *Kontakte* where he has one parameter called 'density of events'. Okay and, to me this is connected to the vision, you have everything! You have a beautifully structured universal version, structured into big and small, you have everything. Let's try and do the piece, simply. And each element, only once, then comes the pause. That's the restriction. So it's a kind of canonical procedure, someone once said. But I did not even think of that word. I think he's right... We repeat, but in a varied form. So our brain has both patterns and stream of consciousness. We know what we are doing at all times! *Laughs* Yep!

First Play through of Postcard Music in full starts at 40:47

CBN Interjects at 41:11

CBN: Hey! I think something is not quite understood. We are only to make the short sounds once, each of us. And then comes, necessarily, the pause. Then we may omit the long one and may omit the next one, because they are in brackets.

JS: Sorry, what's the symbol for, next to the fermata? The line with the dot next to it?

CBN: Oh that is a staccato.

JS: Oh, sorry, I see – it's a staccato or a pause.

CBN: Staccato or molto tenuto.

Melodion player: So we don't stay together?

CBN: No!

Melodion player: So I think we were already on the long note, when he still needs to do the short one.

CBN: It's a great start. Every starts with a short one and then it spreads out.

Melodion player: Okay.

First Play through of Postcard Music in full starts at 42:45

CBN Interjects at 42:58

CBN: Hey! I think there is still something happening. This first pause is supposed to be rather short. So, well I think that's what's wrong. Yes, I notice it's not easy to begin. Still, there is jumping out. Pauses are, on one side, windows of great adventure, and the door to great adventure of possibilities, as John Cage had it. But, on the other hand, pauses can be really frightening. Pauses can be withholding – think about it. I still don't think pauses are unproblematic. When I think about it, it kind of shows me where I am when I'm making a pause and I don't know what's really happening with me, but they are part of the process in some way. So just pay attention and see. Okay, let's try once more.

Guitarist: Just explain it through again. So we just do one short note. Then we pause (personal pause), one long note (but we could omit that) and, then when we get to the next bit, is that repeated?

CBN: It's not repeated.

Guitarist: Or do we just play the figure once?

CBN: You follow the repetition sign.

Clarinetist: So it just goes round and round, where the big repeat sign is.

Guitarist: Ah, OK, I see.. And we're just doing it once through for now?

CBN: Yes, and then one more repetition and one more repetition, individually!

Group laughs

First Play through of Postcard Music in full starts at 44:59

CBN: It sounded good! Shall we do even more? *Laughs* If you are not, absolutely, too tired then... Well, if you need a break then you need it. But we could take one more piece.

JS: Yes, shall we take a break and then do another piece?

CBN: Right, let's have a break!

JS: Well, bearing in mind that we're doing the Christensen at just after 11am, shall we just say between 5-10 minutes?

CBN: Yes. Okay, let's just extend it a few minutes. I have a similar piece, it could be fun to try, if it's okay? *Gets out 'Fire Music'* Now you know the terminology, so. *Pointing to the score* Does it need explanation?

Saxophonist: I think it probably does need some explanation. *Group laughs*

CBN: Well, there's a Sforzando, Piano, Crescendo, attack. A very classic thing. I think Beethoven liked it, or something similar. And then the melodic figure is different and has an accelerando and can surely be very much varied. And then we have something long again. And now the instructions are saying vary tempo, or dynamics. Then we have the pause. Now, fire may be more persistent than anything else, so therefore the pause could be omitted. But let's try to not make it too loud so that the singer will also be very present.

JS: Does that also mean that you can't vary the timbre and the dynamics at the same time?

CBN: Yes, it's a doppler. Okay, we try.

Full Play through of Fire Music in full starts at 53:17

CBN Interjects at 55:04

CBN: Okay, the fire brigade arrived! *Group laughs* Nice! Yes, there's this temptation for strong instruments to go together and maybe make a club *Group laughs* Yep, break! Thank you very much.

Group disbands for a short break

Appendix 5

Case Study 2: Written Transcript of Carl Bergstrøm-Nielsen 4th Workshop– Erik Christensen's *Graphic Pieces*

Starts at 20:00

CBN: Previously, some of us discussed the adventure of experimental music, pioneers like Brown and David Tudor. And I talked about complexity. I said that the brain likes simplicity, order and patterns. But it's also true that the brain likes stream of consciousness and solving problems and being creative.

It searches all the time for what's new, what's happening, "What am I to do?" What needs to be solved right now? What's upcoming? Hmm... this adventure of experimental music was an adventure into freedom, it often felt like that. But, total freedom and liberty to do what you want doesn't always exist. And this, I think, works in a very interesting way with the tension between form and content.

Reads from the score 'For performers: Consciously strive to provide a conscious overall form, so that the chaos of the content suggested by the title is kept under control'.

Yes, this is really something to be done under force, to keep this chaos under control. And then, at any new performance, a new set of playing rules are to be agreed on. Yes, this is a bit like life. You don't know the programme until it's going to happen, sometimes...

Well, as you know, these doodles were made during telephone conversations and some of them had quite an emotional content and I know one had to do with employment procedures and the drama of getting a new job and similar interesting situations. So the content has somewhat erupted, at least speaking about this piece. So I thought it would be a good idea to train and rehearse some of all those figures you can see here. And then to work with strict overall form. in the performance, you will get a different structure for the overall form. But not the same as the one employed here. This is in accordance with what the instructions say. And I think it's a very interesting idea. To have this strictness, but also changing instructions.

So, we are setting up this amplification for the vocalist, and it will be probably be ready in a minute and we can start with this figure *points to the score* but try it Piano and see what that sounds like. And what the clocks are for, I'll come back to that later. Is it [this amplification] about to be there?

Soprano vocalist: Yes, sorry!

CBN: Clearly this amplification would be useful for the library or café.

Soprano vocalist: Yes.

JS: Are you taking segments like this and separating them out into all the different elements?

CBN: That's what I thought.

JS: Okay, because what I was seeing it as, in the same way as the Brün pieces, as an overall gesture. But I think perhaps this method could be good.

CBN: Yes, I'm not saying that when playing finally, we should divide everything.

Not at all. Then the eye can jump around freely. That's an interesting thing, if you remember from yesterday's score, that Theresa said that the circles have no beginning

and no end. And what happens when you read a picture with your eye? It's not just left to right like text, it's something different. And maybe we dwell on different things and may be travel one way or another. Okay. Shall we try this figure in Piano? Please, how does that sound?

First piano figure starts at 26:52

CBN Interrupts at 27:27

CBN: Okay! I'm not going into details about how it should be interpreted. I'm just taking another figure. What this does sound like? *Points to score*

Second figure starts at 27:44

CBN Interrupts at 30:21

CBN: Oh, that was a very classic experience, playing from a picture. Maybe you're all familiar with it in some way. Or are you?

JS: Well, done some stuff in the library.

Guitarist: Yeh, that was the first.

JS: Yes, that was their first experience, so some experience, but new to this.

CBN: So yes, Theresa's work, but... Yes, it's amazing what pictures do to us, isn't it? They say, in a way, more than many words. Some figures seem rather strongly intertwined. But what about this? *Points out score* If we take that as one region. And again Piano. I think this Piano [Dynamic] could be a trick to make it more possible to hear what's happening. Let's try!

Third figure starts at 31:46

CBN Interrupts at 32:56

CBN: Yeh... So many shades of sound emerged. I think you could even make it about louder *talking to soprano vocalist* don't you think? And by both serving similarity and contrast, you could ask: "What is this like? Or maybe even this? Oh it's a whole sub picture! How is this in piano?"

Fourth figure starts at 33:42

CBN Interrupts at 34:28

CBN: Yes, it can really go on and on... Just one more, if we take this region here.

points at score What's this like?

Fifth figure starts at 34:58

CBN Interrupts at 35:37

CBN: Yep! Now, despite certain efforts to make it piano, we are having rather a dense sound. Even in Piano it would be a dense sound. And maybe, if I'm not wrong, there's some tension to it, having to do with the content and this join *points at the score* And this tension is making itself heard very okay. It's really becoming clear. And I was thinking of this great flexibility we had at the beginning. We were doing this texture consisting of only short, staccato tones. Very sparse indeed, but also very, very able to flex, to adapt, to change, to develop and to become an overall picture and there was a lot of communication in it. And right now it's a big guy in a gym, a heavy guy doing gymnastics *group laughs* And, in a way, it's some force to be used. But what if we did just the same figure again and listened more to each other, tried to interact, tried to make pauses and push forwards the best possible collective creative result that would require to make pauses. Even if we mimic horrible intensions, eruptions and frustrations! *Group laughs* Okay, same region again.

Second attempt at Fifth figure starts at 37:45

CBN Interrupts at 38:40

CBN: Yes, right! We are deepening the plot, going into more details. Let's say just one more time, just with this region *points to score*

Pianist: Carl, you said you wanted pauses there, but I see it as one extreme constant gesture.

CBN: You think it's difficult to make this pause?

Pianist: Yes, kind of.

Clarinetist: If you can find a collective stream then you can pause within it.

Guitarist: Yes, within the overall sound.

JS: Yes, for me, there's almost like a ghosting on the sides of them and I used that as a pause, because I'd jump off onto those and then I used them as pauses and then jumped back onto the lines again.

CBN: Right, it should be possible to have eruptions and then pause! *Group laughs* Maybe you have to whilst the authority are talking to you, "Oh yes, sir, yes!" *Group laughs* Okay, same region!

Second attempt at Fifth figure starts at 39:55

CBN Interrupts at 38:40

CBN: Oh, I think it's great! *Laughs* Now, we could attempt a realisation of the piece. Hmm we use the clocks! And okay, let's say, *divides the group into 1s and 2s* the 1s play for the first half minute and then silent for the next half minute, and the 2s will play during the second half minutes and then will be silent during the first half minutes. Can you imagine? We alternate. Very mechanical. But, by the clocks, we will know when we are to do what. Please observe the clocks, as next time it will be more difficult. Okay, now we know who are 1s and 2s, don't we? I will give you an upbeat sign when we start the stop clocks. Are you ready for that?

Guitarist: Are we playing any piece, any bit of this?

CBN: Yes, now there is total freedom, but listen and have fun. I hope it works like this. Do you all have your clocks?

Full play through starts at 43:13

CBN Interrupts at 48:13

CBN: Ok, that was five minutes. I think we can do this! Oh it sounds very much like experimental music. Wow, life is like that sometimes. I think I feel like I am going to explain the next playing rule which we are not going to try now. Okay, so about the duration?

JS: I think two times 5 minutes.

CBN: And this piece has no relevant pre-history and is to be played without preparation. And we strictly keep that to five minutes, actually we keep both strictly to five minutes. So that's it! Now we are really almost done with questions and preparation, but now I tell you the playing rule for the concert and *Constantly On The Edge of a Breakdown*, think of your birthday date. if this is less than ten, please add ten.

JS: What do you mean exactly by that?

CBN: If I was born on the second of a certain month then I would say 2+10, thus adding ten, but if I was born on the 11th, I would say that the final figure is 11. Think of that so you will have a variety of numbers and they indicate time to play and time to pause, according to the 1 and 2 numbers and so on. So the 1 and 2 people start for as long as their number tells them and now you will have a rather mixed situation, individually. So the 1 people start with playing and the 2 people starting with pausing,

but the pauses will have individual length, and soon you will have a very mixed situation and then everyone will have to ensure they are observing the clock.

Guitarist: So do we play and stop for the same amount of time?

CBN: Yes.

Pianist: Oh, can I lie? I was born on the 27th?

Guitarist: Can we write it down before we write it down? I'm not too hot on my 17th time table!

JS: What's the most you can go up to? As long as you don't end up with 13x14x15x16!

I just want to say to everyone, thank you so much for coming to these sessions, both time and attention, and it's been wonderful working with you. And also thank you Carl, these Masterclasses have been great and I've certainly learned a lot from you and from you guys and it's really helped me with my research, so please give him a round of applause to both you and to Carl.

And I'm looking forward to this afternoon's performance, it should be great!

CBN: Thank you very much and you've been wonderful participants. It's really been wonderful to work with such great musicians. Very creative working atmosphere. We will continue at the concert.

JS: Thank you guys!

Appendix 6

Case Study 2: Written Transcript of Carl Bergström-Nielsen's 5th Workshop – Rasmussen's *Threads*

Full run through from beginning until 8:48

CBN: I think that the bassoon should go on for this long time *Points to score*

JS: No, I was seeing as silence, that line!

CBN: A line as a silence?

JS: Yes.

CBN: Okay, if you insist! Who am I to say that it cannot be a silence? *Laughter*

JS: Yes, because there's that circle. And that circle, for me, is a BAP and then the line is the waiting for that BAP to dissipate.

CBN: Yes, it could be like that. A note on a line.

JS: Perhaps I was unintentionally focusing it, comically.

CBN: If you're sure!

JS: I was sure at the time, but am not sure now.

CBN: Okay, you should just follow your eyes. Go with your highest belief.

JS: Yes, exactly! But I thought that it was, overall, excellent. Sorry if that did not work.

CBN: It goes well with that sort of stylistic continuous breathing.

JS: Yes, that was really nice and contrasted well with the sort of squeakier stuff too. It was kind of like Kenny Wheeler. *Group laughs*

CBN: Yes, but I think that's good as you kind of have a clear orientation of up and down. Yes, you've now had a taste of overall serial forms. Christensen worked with the tension between form and content. Here, Rasmussen works, as he typically does, with tensions between the elements of the piece. So how are we doing guys?

JS: That's all great, thanks very much!

*Recording ends abruptly, due to technical issues.

Appendix 7

Chaired Interview Discussion Transcript

Discussion Participants

JS – Joe Scarffe

JB- Janet Boulton

ADC – Adam De La Cour

AI - Andrew Ingamells

CBN – Carl Bergstrøm-Nielsen

The ethical research consent form information was read out to the discussion participants and so individual forms were not required.

JS: The first subject I wanted to talk about, as we've just heard about your backgrounds, is about the kind of background one needs to write graphic scores. On the one hand, Janet, you've learnt about space and sound and music and their relationship through your work. Do you feel as though it has been a disadvantage to have such an advanced skill set, artistically?

JB: No, because you've told me that it is not a disadvantage. Because it's your idea that I'm hearing, if you see what I'm saying. When I first started to paint these pictures, I knew this man called Simon Walley, who runs the music at Keble College, who is himself a composer and runs the choir as well and he came to see me. And I just thought he would probably say "Yeah, it's a load of rubbish, actually, but thanks", but started to sing the stuff, humming it. I have been entirely in the musicians hands. If you think you can do something with it then I am delighted. It has been a huge learning curve for me, because they are paintings in their own right and you could just hang them there and just put 'Eye Music Piece - Blue' and they could stand as a painting in their own right. If I was going to have an art exhibition, I would edit out a lot of them. I wouldn't show the paper relief that you saw at the beginning, because I don't think it is good enough. But it was the idea that mattered and because I have had people like you embracing them (I have already had five people ask to perform to them) then that's it, that's fine, I'm anybody's. I am learning, I definitely am learning, and that's wonderful.

JS: Yes, and I feel like I have learnt from you, in terms of our discussions about space and about perspective and how that can apply sonically. Carl, what I wanted to ask you about is your relationship between music and art Which is a spiral colour work.

Do you feel, working in that way, that it has helped you to understand visual Art or do you see yourself as separate from that discipline.

CBN: I think it stimulates my relationship to visual art. It is always good to be active yourself. You engage your being with that. Maybe you think a bit more consciously about that. Well, still, I am a musician and I use those visual aesthetic elements for my own purposes. I like notations to look interesting, to be sure. That could certainly be important. Please repeat the question.

JS: Do you feel, working in that way, that it has helped you to understand visual art or do you see yourself as separate from that discipline.

CBN: I allow myself to lean back at art exhibitions and partly be just a private person and if I experience something I can use then I will notice that. So we are ourselves, just like Janet suggested. But that could definitely be a very nice collaboration sometimes.

JS: Yes, and Andy, with your experiences, you've studied both art and music so you must feel this particularly strongly.

AI: Yes, well I am a bit biased I suppose. I studied art foundation at Chesterfield College then I came to Birmingham then I did my masters in artistic research in Holland at the Royal Academy and now I am back doing Music. Seeing both worlds, I think it is useful to have a visual art's education no matter what field you go into, because it teaches you to do a lot with a little and compromise and to work very hard towards your own vision. Like all my teachers before me, I would suggest that anyone should do the art's foundation that you can do when you are 18, because it is really good for focusing your mind and focusing your ideas and making practical decisions. This education led me to the work of Alan Capran, "*Education of the Unartist*" and *How to make a Happening*, which have been very important texts to me because the trajectory of his research trying to find something new and he was noticing that the Avant-Garde was very concerned with trying to find something new and he said well, if everyone is trying to find something new, then why don't I just try and be the best at trying to find something new and getting rid of any kind of history? So he pursued this idea of how to make something new in art very single mindedly and came up with quite a few rules of how to make things that don't necessarily look good or aren't executed well. And if you are going to make something new then you have to get rid of any preconceived notions such as that. But, I have gone back to music, so perhaps I chickened out of the proper art education.

JS: Or perhaps there is more convergence.

AI: Yes, perhaps, indeed. It's a difficult area to situate yourself in, because you feel like you aren't welcome at either party, which is quite funny!

JS: Yes, and Adam do you feel with cartoons that there has always been this interesting relationship with cartoons and visual art and where that sits. Do you feel as though you have found a convergence with visual art, or do you feel like you are working purely linguistically?

ADC: Well, initially I wanted to study art, all the way through school and secondary school and my mum's an artist, she's a painter, so I was brought up around art and around painting. But, at a certain age I got into rock music and started guitar, so went down that route. I don't think it was a conscious decision to think 'Right, now I am doing music, I want to combine the two'. It just happens that way, where I was interested in both areas and I was fortunate to find someone in Michael Finissy who showed me that they didn't have to be two separate worlds and you can combine those things. So, I suppose I lucked out in that way so, as a skill set, I suppose it was already there. Also, in general, there are so many different types of graphic score and not all notated music sounds the same, which is exactly the same with graphic scores. I think anyone can write a graphic score, but it really depends on what type of graphic score you want to write. I think that it is such a broad term and such a broad world that anyone can find their way in, from multiple different backgrounds or crafts. It doesn't have to be art or music, actually. So, I think it depends on what your concept is, what you want to create, and you find, hopefully, the most practical way of doing that and that might be visual, it might be music, it might be film. Then, hopefully, you will find work that demonstrates those collaborations and it's out there, and then you can start pulling ideas from anywhere. So they don't have to be separate or even put into two camps and it can be spread far and wide, I think.

JS: Yes, I think that feeds in nicely into two other things that I wanted to talk about. Firstly, whether very abstract graphics are extremely virtuosic or naïve. There are two different studies that I have been examining, one by Carl and one by Cornelius Dufalo. Dufalo's PhD is on indeterminate studies for the violin. Stage One consists of extemporizations on American folk tunes, which has very few realisations, all the way up to stage seven, which is this *draws* the outline of the score on a piece of paper, which has many pages of possible realisations. So, what I wanted to ask you was (I know you said that there are so many different types of graphic score) whether you think these are virtuosic texts or naïve texts.

ADC: I think they can be and I think there is a difference between the composer's relationship with the score and the performer doing something with it and I think you can look at it from both angles actually. There is a certain complexity and virtuosity in just improvising in general and when you have a score that is completely abstract, you are really allowing the performer quite a lot of space and I think the virtuosity really depends on the individual, the personality of the performer. Of course, there might be graphics that indicate virtuosity. However, I think it is all pretty ambiguous. Of course, it depends on the score, but I am thinking of a very abstract score that

doesn't have any symbols or icons that resemble music in anyway and you are not giving instructions. There are pros and cons to that type of writing because it does then come down to your relationship with the performer and who the performer is. I have discovered, from talks with other graphic score performers, that there is a case for, especially free improvisers, to come and look at graphic score and actually you hear very much their playing and it sounds very similar to when they are free improvising. This is because there are certain elements and techniques that they look to use and we all have party tricks, within our playing repertoire, that tend to emerge when you are working with abstract graphics, I have found from my experience. There are then stages beyond that where you can build relationships with certain players, or experience performances of your very abstract work and then think 'is that the way I wanted it to come out? Do I now have to put some restrictions on that? So, I think it is probably constantly evolving.

JS: Yes, exactly. Carl, I am interested by the fact that you don't have many abstract pieces, Like Christensen's *Telephone Pieces*. Your works have some linearity and teleology. Is that because you don't like working in very abstract ways? Do you think working concretely achieves more effective results?

CBN: Yes, it's very true that improvisers have habits and often carry out strategies to evade these habits and to develop on into something new. I love the good old way of making different pieces, so each new piece could open a new door, open a new direction. I like what you call an enquiring nature. I like being more specific, as you could see they have both text and graphic elements and I try to do this in the interest of making a certain framework, formula or algorithm. That could produce a certain result that my ambition is trying to seek, without a too firm determination of what musicians do. We live in the age of co-operation and teamwork and we really need to discover that. What was done by Beethoven must develop on.

JS: Yes, and that leads on to the second theme, that of social music. I think graphic scores allow for a real social element in the music making. When I asked Carl why it was that he plays the French horn, he said that he originally wanted to play the piano, but discovered that French horn is a much more social instrument, which I thought was a really nice description. Janet, you have said that your works are autonomous as visual art, so do you have particular requirements for the expertise of the players approaching your work? After a concert, would you go and express your judgments about the music, or would you suspend that, as it is out of your hands?

JB: No, I don't think I am entitled to do that, because if anyone chooses to respond to what I have done then that is their affair. If I put myself out there, any kind of response to it and any criticism or positive remarks, then I just have to take that. It's the same as if you exhibit the painting anywhere, you've got to be able to take the flack. If they think it's a crap painting then that is what they think. I am defenseless

and don't want to defend my work, I'm not interesting in defending my work. I am too old for that now. I am not fighting any corner. I must admit though that I have, in the process of painting them and having people respond to them as a kind of possible music, I have begun to have ideas about how I would like people to see them, but I have tried not to have them and tried not to talk about it and to say it. I think I had better not say it, I won't say it.

CBN: Would you like to respond when you do your next work, silently, inside yourself?

JB: Yes, perhaps.

JS: Andy, I wanted to ask you about your piece 'Petanque' that you showed us at the beginning of this session, because it seems to me that you have taken graphics and and I wanted to ask you what it is like to traverse that and what it means.

AI: There are two points in that question. The first is that I have always thought that graphic scores should be more than just a curiosity and shouldn't just look nice on paper and then you see people reading off a score in a concert hall with music stand in front of them and it blocks the view, so they could just be playing notated music. So I wanted to make graphics part of the theatre. The question of virtuosity came up by an interesting comment that was made by Jeremiah, who was the commentator in that piece, because I was having a graphic score being performed by two percussionists who weren't used to playing this kind of thing and they were having difficulty conceptualizing what they were supposed to do, because they thought that I hadn't put any effort in and should be making serious music because they were serious musicians. Jeremiah said that best way to convince them to do it is to tell them that playing indeterminate and graphic music is like telling somebody that you love them, or that you want to marry them or something important. You can't pre-prepare what you are going to say or write a speech, because it would lack any kind of spontaneity and you would lose the effect of saying it. On the other hand, you can't just say anything, you can't just say whatever you want, because you have to be very sincere when you are doing it. Communicating that to them really worked and they played fantastically and I think it is a really good point for giving you that mental virtuosity for playing graphic scores, because you have to be sincere and really follow it. I have seen many performances of graphic scores where it is just free-improvisation in front of a picture or, on the other hand, composing something and working out what they are going to do beforehand, which, again, goes against the point of the graphic score. So it is about tracing this middle ground of being sincere and spontaneous. So, I suppose that is where the virtuosity lies.

JS: Yes, that nicely links with the X-Factor scenario you were telling me about before this session started, Adam. Could you tell us more about that?

ADC: Yes, about two months ago I was in Bruges at the Concertgebouw Concert Hall and I was performing a piece by Schlobovich. I don't know if you have heard of him, but there is an American composer called Mark Applebaum, who has written this piece called *The Metaphysics of Notation* and the concert organisers had asked whether anyone wanted to come and perform this piece, which is totally abstract and in two parts. The setting was that we would perform them and the audience would judge who's was the best performance. Most of the musicians that weekend said that there was no way they would do that, but for me it was like the X-Factor for graphic scores and I just had to be part of it!

AI: They didn't have the swively chairs like on the Voice, did they?

ADC: Sadly not! But I think we should re-do it and do that!

JS: With a Simon Cowell figure, that could give negative feedback.

ADC: Yes, exactly! There were four of us, I think, we lined up and each had five minutes. They even dimmed the lights for each one of us! It even split the opinion of the organisers because the majority of them were questioning why they were doing it. A couple of them had decided that it was a good idea. So we performed the pieces and even some of the audience protested, saying, 'I'm not going to vote because this music is not about competition. To cut a long story short, I won that round (which was the only round!), which meant that I was allowed to perform it again on the main stage as the first performance on the final concert of the weekend. It was just so bizarre, it really was just so strange. I did really enjoy it though, because the theatricality that Andy mentioned means that it really suits an event like that. I would like to do it again and make it more X-Factor like, because you are commenting on that.

AI: In that sense, X-Factor is almost like a total art work. They try to get you to invest in this story that lasts several weeks and it all comes together, the characters, supporting characters, the narrative, the place. It's a musical in itself.

ADC: There is room for New Music to have a role in there somewhere.

JS: Yes, I think this leads nicely to the next topic I wanted to discuss, which was how to judge effective performances. Carl, how do you judge whether a performance of one of your works, such as *Towards an Unbearable Lightness*, *Fire Music*, or *Postcard Music* is effective?

CBN: Oh, it's about the mysteries of aesthetics. There are obvious ways in which one could fail, but, for me, it's all to do with audio, sound and time and what happens there. Sometimes, it really feels as if something succeeds when we play, and sometimes the audience feel this too. If we have done nothing 'wrong', then what can be done to uplift the performance? That can be a very difficult thing to arrive at.

ADC: I think there is a certain element of responsibility you have to take on as a composer of especially very abstract stuff, because it's your kid and you're letting go. You've got to let it be what it is. There are a lot of big name composers who have brought pieces out, only to then want to change things about them, and so you've got to let it go. On the other extreme, there have been performances I have been in where the performers are probably the wrong choice, because they didn't quite understand what it was they were supposed to be doing and so started playing repertoire material. The first thing about playing graphic scores was *December 1952* and Michael Finissy said that either it doesn't tell you very much or it tells you everything, but the bottom line is, he said that, 'Dorothy, you're not in Kansas anymore'. That really clicked with me, because this does mean that you don't do certain things. It's not written down and there isn't a rule book, which is great, but there are certain things which I think most players that are sympathetic to that type of notation are aware of and so they approach it with that in mind. But I think some players don't understand that and that's fine, but I think they shouldn't perform them if they feel uncomfortable, as the last thing anyone would want to do is humiliate them.

AI: Well, at least it's not actively subverting the music. There is this story about Feldman's *Intersections III* where there are these three boxes and you can play a certain number of tones in each register and it turned out that players in the New York Philharmonic were playing *Yankee Doodle*, because they knew it would fit. I heard this from Christian Wolff when he was visiting the Hague and demonstrated the hypocrisy of some composers because he said 'I was so angry because they were playing *Yankee Doodle* in this piece and had no respect for it, but when were in Darmstadt and Stockhausen brought his ridiculously pretentious *Zyklus* score then of course we messed about because Stockhausen thinks he's amazing. So even then you have hypocrisy over when is it right to subvert a score and when it isn't.

JS: Yes, that brings up a really interesting issue, because a lot of the literature says that if you give someone too much responsibility then you end up with chaos, but I think that is a total delusion, because your background and experiences lead you down a very narrow path and there are only a certain limited number of things you can do in a certain space and in a certain context. This is the next topic that I wanted to discuss. How much you've surprised yourselves by things you've done that you weren't expecting when you have been given total creative responsibility.

CBN: Oh, this is a wonderful aspect about open composition, I think. I have been performing very old pieces during this festival, some dating back to the 1970s, and it is so amazing what others can do with them. I have had performances of *PostCard Music* performed in the 1990s which perhaps no one could have imagined the sound of during the 1970s. If I had fixed the notes, then it would have been the same and much more predictable and much less interesting.

ADC: So the piece has evolved, because the performers have.

CBN: Yes, there are certain moments where I fear that it is just too far out but I just have to take such risks.

JS: Janet, have you been surprised by what you have produced on the canvas?

JB: Yes, oh yes.

JS: Do you think that has mapped itself in terms of possibilities for performers.

JB: Yes, but that always happens when you are making a painting, because you have all kinds of plans (I plan my paintings quite carefully) but there is always a stage of the painting when the painting starts telling you what to do (I don't know if it is the same experience when you are writing music). It is a very decisive moment when you go in the studio and are about to do something to the work and it says 'oh no, I don't want that done to me at all, this is what needs to happen. There is a kind of little fight that goes on about what you thought you were going to do and what you are being told you can't do, because it's not a good idea. Being a watercolourist, water colour is a very unforgiving medium. The way I get out of that is that I am completely extravagant with paper. If the painting is looking as though it is dying on me, I scrap it and start again. The only thing that justifies this extravagance is that the paintings do actually get a tiny bit better each time. Otherwise, it would be maddening beyond belief. The only thing I have to say in addition to that, as an answer to your question, is that in the process of painting those pictures, I began to be very strongly conscious that I was making something abstract in a real space. In basic terms, there is the real still life, the jam jars, the garden, the glass shelves etc. Then there is the notation, the idea of the music, which is the most abstract of the arts, surely! The idea that I was doing something where there were two ideas going on, combining abstract ideas with real ideas, means you are in grave trouble with regards to space and I love that aspect of the painting. That is really what interests me. If you put music into the equation, you are upping the abstract quality. I would have liked to have done better in these paintings in getting these two things together and I think it is going to hold my interest, because if I can make the abstract work with the real and disciplines and conventions of abstract painting with representational painting, that's what I'm trying to do. Of course, I won't succeed but I don't care! The search is enough!

CBN: You should really strive for the adventure.

JS: And I think this brings up issues of extravagance. Andy, do you feel that by using real actors and real life scenarios, your works are necessarily more extravagant?

AI: I suppose a lot of my work is quite extravagant and quite wasteful. I have an example of one of my pieces here. These graphics were taken when I took a day saver around Birmingham. I was sort of performing Lamonte Young's *Draw a Straight Line*

and Follow It. So I had these big pads of A4 paper and I would try to draw a straight line but the bus would naturally move my hand around and I would just let it go limp.

CBN: Oh, a creative use of bus rides, how interesting!

AI: Yes, and wherever the ink congealed I would put a sticker. I said to my teacher, Joe Cutler, at the time maybe I should make a video of it scrolling and make some kind of score. He said ‘well, the score is a physical object, so why don’t you make that part of the theatre?’ So what I do when I perform this piece is that I photocopy each page and attach it to a canvas and then I trace the line with a paint roller.

Appendix 8: Written Transcript of Interview with Carl Bergstrøm-Nielsen

JS: The first thing I want to talk to you about is this idea of universes and perhaps multi-versus that are created in the cognitive experience between different musicians. Rzewsky talks about this idea of constant cognitive universes appearing between musicians which are like bubbles and they burst and then another idea emerges, which then fades away... And they are constantly being blown up between you.

CBN: And those are the "Little Bangs". In this way it is a good article, but it is not just like that.

JS: No, and something I wanted to ask you about is, for you is the concreteness of these cognitive universes. Peter Werth manage all of the cognitive linguistic worlds that exist in life. The

CBN: The receiver or the creator's cognitive world?

JS: Both. Because the person creating the text wants to create a certain composite world and the receiver receives this composite world and they want them to match as closely as possible. And I wonder, when you are both improvising and interpreting graphics of various kinds, how strong is this cognitive image of what's going on, in your mind? Is there something very concrete in the way you play, do you imagine certain characters or involvement, or do you see it purely as sounds, timbre?

CBN: I don't think I translate much into theatre, with roles and people and characters. When I'm interpreting graphic scores, I think of structure, I think of sound, I think of time. I like being in the sound.

JS: Does that position of being in the sound not have its own agency? If we take the Rasmussen piece 'Threads', the bubbles are characters that have movement, they have personality. Do you picture bubbles bursting when you see those, or do you disassociate the imagined world and just focus on what bubbles might sound like?

CBN: Whether I Picture the bubbles very directly, or whether I detach myself and go to the notion of the sound?

JS: Exactly.

CBN: Yesterday, I kept looking at the bubbles and in trying to play what was there in a loyal way, but I also try to extend it. I was having a very slight conflict... I was thinking "there are some long notes are nice here but I can't do too many really long notes, because there are not so many of those very light big bubbles, so I have to have a fair number of short notes of a different kind. Maybe it's the same as what I write in "Towards an Unbearable Lightness" : Keep interpreting the graphic symbols. I could imagine that this is very much my way.

JS: Right, so when we were performing Theresa's Circle Pieces, you mentioned in the masterclass that there is this sense of space and subliminal feeling, a sense of awe at

the grandness and majesty of space. Was that a purely philosophical approach, or did you actually have a very concrete imagined narrative?

CBN: I think I had something concrete. This notion of the universe is not so foreign to music, it is encountered in many places, from very old music to Stockhausen and the text pieces. I've also worked very concretely with that. There's a whole little literature about that. I think there was someone else looking at it in the same way that I do, saying that you must play what is there in the notes, but in your own way, but I can't remember who said that.

JS: You must play the notes in your own way?

CBN: Yes, you must play what is there in graphic notation, don't play anything. You must play what's there. Yes, a bit humorously, like traditionally, but then again it's not at all traditional as interpretation is a very personal point. Okay, this seems to be my way but I'm aware, not least for music therapy, that you can choose focus for your attention differently. For music therapy improvisations, the aim is not so much to aim at aesthetically satisfying and beautiful music but to explore important personal issues. That's the classic Mary Priestly way, rather than the Nordoff Robbins way. For the Priestly way, it involves grown ups who are capable of reflecting and talking about what is going inside them etc. But this focussing on rather emotional and personal matters is different.

JS: Yes, I would hate for my thesis to come across as a guide for how to experience graphics. I more wanted to give examples of other people's interactions.

CBN: Yes, and I think what I describe here is not the only possible view. You can have different views of the freedom of graphic notation. It's so broad a field. I hope it's obvious for many of my pieces that I want this and this and it's a framework and this and this way and I suppose it's the same for Rasmussen too. But if we just give a graphic piece with no explanation, then we can't blame those playing it for having their own way, and they will have.

JS: Of course, yes, and that's an exciting conflict, how much instruction to provide.

CBN: It may not be a conflict, if it's open then it's open.

JS: Oh yes, but the amount of text a composer should put into the score is an interesting conflict.

CBN: It may be a conflict for the composer. It's a choice to be made. You do what you do.

JS: Yes, that's true. And I suppose that's what I wanted to talk about in terms of improvisation. But also the distinction that can be made between that and interpreting graphic scores, because, as Rzewski talks about, there is this idea is supported by many composers, that improvisation doesn't allow you any reflection time. There is this famous anecdote that Rzewski talks about...

CBN: It's limited, yes.

JS: Yes, where Steve Lacey says that in composition you have all the time you want to think about what to do in 15 seconds, whereas in improvisation you only have 15 seconds.

CBN: Yes but I think that an important point is that 15 seconds is also a lot and thoughts and choices do occur. I also make free improvisation, so I know that there are many ways to do open Music, and I love free improvisation too.

JS: what do you think about the term 'free' in that sense? Rzewski suggests that it's no more free than making a pot of coffee.

CBN: No, but you have a free time compared to whatever... But I just take it pragmatically, the label functions, I think. I know we could apply philosophy to it, but I don't usually. I'm not against philosophy not at all, but I think these mental processes are very interesting to look at. We have choices. This is not at all some amorphous thing. On the contrary, our brain is very active, and it's true that is very much about being in the moment and it's interesting how Stockhausen puts a sharp focus on exactly this process that there are choices and there are shifts inside us when we improvise. In this piece "Es", he puts "As soon as you start to think, stop playing", and that means of course you think and of course you stop playing from time to time. My old group did practice this piece in front of Stockhausen in the old days, and he emphasised that there is nothing wrong with leaving pauses and thinking, of course you do. Of course we do that. And then I might think, "okay now I'm critical", now I think about what I did, taken an instrument, could I do something different on the horn, oh what's going on now, Oh what's going on now, there is this reflecting and there is this noticing what is there in the moment. Pauline Olivero's loves so much this word observe. Observe what happens. Observe the sound. Maybe that's a nice word. We should observe what happens and be present in the moment. It's funny, it's essential, it's captivating, the moment, a part of it too it's certainly not just thinking thinking and choosing is maybe reduced in contrast to writing articles and PhD's and whatever. Playing music is more playful, maybe the form is a bit bounded and disciplined as interpreting a graphic section of a Rasmussen piece, or what disciplined as in interpreting this Es piece by Stockhausen, where you constantly endeavour to stop thinking and feel and be very in the present.

JS: That's interesting, because my research is all about deciphering this observance.

CBN: Oh! Yes, yes! Whether you are freely improvising and you have all the liberty in the world, to be completely at liberty with what you do.

JS: Not so much that, I don't think, as that comes with a whole host of philosophy and politics, I think.

CBN: But anyway let's say pragmatically, I might meet with some people that I have never seen before and we think it's very interesting to meet, it is very interesting to be

together and improvise without any rules. That's a very normal thing for improvisers to do. So we sit down, probably there is some joyful expectation. Probably then we make sound, we listen to it and we can choose our attitude freely. I hope we have fun, I hope something meaningful happens. And more times than being frustrated, it's meaningful. I think that's why I like to do it again, it's often meaningful to go into that and not having told each other what we have to do. I have to accept that the others might make strange things.

JS: Yes, and I think what I am interested in, as part of that experience, is how the brain is dealing with these tasks. Particularly Daniel Kahneman's division between fast and slow thinking which forms the basis of many Stuart Smith's compositions. Interesting that so many other musicologists and critics talk about this in other terminology other than fast and slow thinking

CBN: Oh, they don't really understand these processes. But the American improviser Ed Sarath does, in his very important and wonderful article "A New look at improvisation".

JS: Oh right, I will make sure that I take a look at it. I find it fascinating how answering a question such as $2+2$ is for everyone split second and intuitive, whereas working out 17×54 will take them a while due to the extent of the cognitive load. Yet, for some very able mathematicians, 17×54 is something they can work out in a split second. It seems so counterintuitive!

CBN: And maybe some musicians have astonishing abilities in their specialisations.

JS: Yes, exactly. Something else that I wanted to speak about is something else that Rzewski talks about (although he is not the first or the only one, as it was first discussed in detail by Pascal) is the Paradise of the present moment.

CBN: Yes, this is an old wisdom and of course it's true. Fritz Perls very beautifully propagated that. I have a very funny example that demonstrates this teaching very well. I was standing in front of some students and was saying that we have our senses and they inform us about the present, we also have our emotions and they inform us about where we are right now, then we have models of the world which are intellectual constructions and they are maps that we carry around with us. I used the example that I know that there is a wall dividing Berlin, although I can't see it right now. And then somebody said "yes and this wall was taken down yesterday". I did not know this news of the wall had been taken down, and so my mental map had not been updated yet. So I thought I knew there was a wall which no longer existed,

JS: Yes, therefore navigating through life is navigating a terrain. And what fascinates me about that terrain, in improvisation, is how that terrain constantly undulates and there are new discoveries within that terrain all the time. When I am having these, my intuitive response was more creative than my later composed thought, because I have introduced a pressure and a framing so I am divorced from the moment because I am living in the past remembering the preparation session, and not responding to the current environment.

CBN: But agreements and rehearsal also belong to life. There was one improviser who said that life needs a reasonable mixture between spontaneity and planning.

JS: I was thinking this morning about Rzewski's comment about. Nobody ever reads a recipe to make a coffee.

CBN: He also mentions elsewhere that art dissolves into life.

Performing Musical Graphics: An Autoethnographic Analysis

Research Participant Information Sheet

Dear Samuel,

I would like to ask you to participate in the data collection for a PhD on how performers engage with musical graphics, being undertaken at Birmingham Conservatoire (part of Birmingham City University).

I am hoping to discover more about the following issues:

- How do performers engage with musical graphics?
- How do performers experience the creative processes involved in preparing and performing musical graphics?
- Are there identifiable differences in the experience of performing musical graphics between beginners and experienced performers? If so, what is it that a performer learns as they become more experienced?
- How do performers recognise whether they are engaging with musical graphics effectively?
- What is the role of improvisation in the performance of musical graphics?

Participation in these performances is entirely voluntary. The research project will involve a performance at the studio of the visual artist Janet Boulton and a performance at the Library of Birmingham to take place by arrangement. Audio recordings will be made of the rehearsals and the performances.

You may decide not to be involved in either the preparatory dialogue or the performances if you wish. You may also decide to withdraw from this study at any time by advising me at the time of the performance by emailing me at joe.scarffe@bcu.ac.uk or using the contact detail at the end of this document.

I may ask for clarification of issues raised in the rehearsals and performances sometime after it has taken place, but you will not be obliged in any way to clarify or participate further.

The information you provide is not confidential, and you will be identified with any

material quoted, unless you specifically request anonymity. I will send you a transcript of any material from the interview that I intend to use, and you will be able to make changes and clarifications, and request anonymity at this point.

The findings of this study will be written up in a PhD thesis, an academic document of c70 000 words and study findings may be published in international conferences and journals, only the research team will have access to the interview data itself, which will be stored in digital form (audio recording or in transcription) only on password-protected devices. There are no known or anticipated risks to you as a participant in this study.

The information gained from these performances will only be used for the above objectives, and will not be used for any other purpose. If the material is reused or repurposed (for example, to make a radio documentary or a book) I will request your permission for each specific use.

If you have any questions regarding this study or would like additional information please ask me at any time.

Yours sincerely,

Joe Scarffe

PhD Student

Birmingham Conservatoire

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Performing Musical Graphics: An Autoethnographic Analysis**Researcher: Joe Scarffe****Supervisor: Christopher Dingle, Professor of Music**

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that information gained during the study may be published, and I will be identified, unless I specifically request anonymity, either entirely or on specific points, before, during or after the interview.
- I understand that I will be audio recorded during the interview.
- I understand that material will be stored digitally, in both audio form and in transcription on password-protected devices. The researcher and his supervisors will have access to this material.
- I understand that I may contact the researcher or supervisor if I require further information about the research, and that I may contact the Research Ethics Coordinator of the Faculty of Arts, Design and Media, Birmingham City University, if I wish to make a complaint relating to my involvement in the research.

Print name:**Signed:****Date:****Contact details:**Researcher: Joe Scarffe, joe.scarffe@bcu.ac.uk, +44 7944442348Supervisor: Christopher Dingle christopher.dingle@bcu.ac.ukBirmingham Conservatoire Research Ethics Coordinator: Jamie Savan
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