

Creativity and Collaboration in the Recording Studio: An Empirical Study

Thesis submitted in accordance with the requirements of the University of Liverpool
for the degree of Doctor in Philosophy by:

Paul Thompson

October 2015.

Abstract

There is increasing evidence that creativity is the result of a dynamic system of interaction where the individual is only one part. Csikszentmihalyi describes a 'creative system' that includes three main elements: the domain, the field and the individual (Csikszentmihalyi: 1988, 1997, 1999 & 2004). During creative work, the individual must draw from the domain in order to select a suitable arrangement of ingredients from this body of knowledge and symbol system. This selection of ingredients is then presented to the field, the social organization that recognises, uses and alters the domain, to decide upon its creativity and inclusion into the domain (Csikszentmihalyi, 1997). In the context of rock music this occurs when the completed record is released to the public and the field of rock record production (TV, radio, popular music press, other musicians, engineers and producers etc.) decides upon the record's novelty and its relevant addition to the domain through an often complex and iterative process. However, little has been written from a creative system's perspective about what happens inside the recording studio before the record is released. Consequently, the interaction of the creative system's main elements during smaller acts of creativity, such as the individual generation of ideas, and the collaborative exchanges that take place during group creativity, have been relatively underexplored.

This thesis explores the creative process of making a rock recording inside the recording studio using the framework of the creative system. Ethnographic methods such as participant-observation, video and sound recording were used to observe the interaction between the performing musicians, the engineer and the record producer as they collaborated during the recording process. This helped to reveal the complex interaction between the participants and the creative system's main elements during the creative tasks of performing, engineering and producing. Importantly, it helped to show for the first time that this interaction occurred on both an individual level and a group level, and highlighted how a creative-systems approach can be used to gain a more detailed and in-depth understanding of musical creativity more generally.

Declaration of Authorship

I, Paul Thompson declare that this thesis and the work presented in it is my own and has been generated by me as the result of my own original research. I confirm that:

1. This work was done wholly while in candidature for a research degree at the University of Liverpool;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. Parts of this work have been published as:

Thompson, P., & Lashua, B. (2014). 'Getting It on Record: Issues and Strategies for Ethnographic Practice in Recording Studios'. *Journal of Contemporary Ethnography*, Vol. 43(3). pp. 746-769.

Thompson, P., & McIntyre, P. (2013). Rethinking Creativity in Record Production Education: Addressing the field. *Journal on the Art of Record Production*, Dec, 2013. Available from:

<http://arpjournal.com/2603/rethinking-creative-practice-inrecord-production-and-studio-recording-education-addressing-the-field/> [Last accessed February 2015]

Acknowledgements

The premise of this study is that creativity is the result of collaboration and this has certainly been the case in the creation of this thesis with the assistance and guidance of numerous people. First and foremost the completion of this thesis would have been inconceivable without the dedicated help and guidance of Phillip McIntyre. I owe a debt of gratitude for your continued support, encouragement, expertise, advice and generosity throughout the entire process and it's an honour to be counted as your friend. Secondly, this study would have also been impossible without the passionate engagement of all of the participants and I would like to thank all of those who took part and offered their time, insight and expertise so freely throughout. Marc, Paul, Chris, Mike, Rory, Nick, Jess, Phil and Darren I thank you.

Huge thanks too to my supervisor Sara Cohen for her unrelenting critique and feedback that has contributed so much to the cohesion of this thesis and thank you too to Rob Strachan. I would also like to thank my fellow colleague and friend Brett Lashua whose critical eye and understanding of the finer points of ethnography were pivotal in bringing the methodology chapter to life. I have also had the pleasure of being a member of the Association for the Art of Record Production and I would like to thank all members, past and present, for their lively debate during conferences, their camaraderie and friendship. It is here that I've found my academic home and an outlet for my research. Thank you too to all of the musicians I have worked with over the years who have helped me to celebrate the joy of making music and making records.

Finally, and most importantly, I would like to thank my family who have nurtured and supported my interest in music my entire life and who continue to inspire and encourage me. One of my earliest memories is listening to Elvis Presley on my Grandad's record player and it is here that my fascination for records began. Without you all, and your encouragement, none of this would have been possible so Mum, Dad, Claire, Martin, Camilla, Milo, Paul, Hannah and John I thank you.

Dedication

This thesis is dedicated to the eternal memory of family members who have passed...you are gone but not forgotten:

Papa, Grandad, Nana, Grandma and Marion

Table of Contents

ABSTRACT	2
DECLARATION OF AUTHORSHIP	3
ACKNOWLEDGEMENTS	4
DEDICATION	5
TABLE OF CONTENTS	6
LIST OF FIGURES	8
<u>INTRODUCTION</u>	9
<u>RESEARCH INTO CREATIVITY</u>	16
INTRODUCTION	16
1.1 THE CREATIVE PERSONALITY	19
1.2 CREATIVITY AND COGNITIVE PSYCHOLOGY	21
1.3 CREATIVITY AND CULTURAL PRODUCTION	24
1.4 CREATIVITY AS A SYSTEM IN ACTION	29
1.6 CREATIVITY AND THE GROUP	35
1.7 STUDIES OF GROUP CREATIVITY	36
1.8 GROUP CREATIVITY AS A SYSTEM	39
CONCLUSION	44
<u>STUDIES INSIDE THE RECORDING STUDIO</u>	46
INTRODUCTION	46
2.1 THE SOUND ENGINEER IN THE RECORDING STUDIO	48
2.2 THE RECORD PRODUCER IN THE RECORDING STUDIO	51
2.3 THE PERFORMER IN THE RECORDING STUDIO	54
2.4 COLLABORATION AND CREATIVITY IN THE RECORDING STUDIO	57
CONCLUSION	61
<u>METHODOLOGY: GETTING THE CREATIVE AND COLLABORATIVE PROCESSES 'ON RECORD'</u>	63
INTRODUCTION	63
3.1 GETTING IN	65
3.2 GETTING ON	72
3.3 GETTING IT DOWN	77
3.4 GETTING IT 'ON RECORD'	85
CONCLUSION	88
<u>THE DOMAIN OF ROCK RECORD PRODUCTION, THE PARTICIPANTS INSIDE THE RECORDING STUDIO & THEIR DOMAIN KNOWLEDGE</u>	90
INTRODUCTION	90
4.1 THE PARTICIPANTS AND THEIR ROLES IN THE RECORDING STUDIO	91
4.2 THE DOMAIN OF ROCK RECORD PRODUCTION	92
4.2.1 MUSICAL ASPECT OF THE DOMAIN	93
4.2.2 TECHNICAL ASPECT OF THE DOMAIN	97
4.2.3 CULTURAL ASPECT OF THE DOMAIN	100
4.3 THE PARTICIPANTS' PROCESS OF DOMAIN ACQUISITION	105
4.3.1 MUSICAL DOMAIN ACQUISITION	107
4.3.2 TECHNICAL DOMAIN ACQUISITION	113
4.3.3 CULTURAL DOMAIN ACQUISITION AND ENCULTURATION	119
4.3.4 INFLUENCES ON DOMAIN ACQUISITION	123
4.4 STAGES OF CREATIVE ACTIVITY: DEVELOPING A 'HABITUS' AND INTUITION	125
CONCLUSION	128

<u>THE FIELD OF ROCK RECORD PRODUCTION: ITS MECHANISMS AND CRITERIA FOR SELECTION</u>	<u>131</u>
INTRODUCTION	131
5.1 CULTURAL INTERMEDIARIES WITHIN THE FIELD OF ROCK RECORD PRODUCTION	134
5.2 THE RECORDING INDUSTRY AS PART OF THE FIELD	135
5.3 THE MEDIA AS PART OF THE FIELD	142
5.3.1 THE RADIO	144
5.3.2 TELEVISION AND MUSIC VIDEOS	150
5.3.3 THE POPULAR MUSIC PRESS.....	153
5.4 THE AUDIENCE AS PART OF THE FIELD	156
5.5 PARTICIPANTS INSIDE THE RECORDING STUDIO AS PART OF THE FIELD	159
CONCLUSION	164
<u>PERFORMING IN THE RECORDING STUDIO.....</u>	<u>166</u>
INTRODUCTION	166
6.1 THE ROLE OF THE PERFORMING MUSICIAN	168
6.2 PRE-PRODUCTION.....	169
6.3 PRODUCTION.....	174
CONCLUSION	191
<u>ENGINEERING IN THE RECORDING STUDIO.....</u>	<u>193</u>
INTRODUCTION	193
7.1 THE ROLE OF THE ENGINEER	195
7.2 PRE-PRODUCTION.....	196
7.3 PRODUCTION.....	198
7.4 POST-PRODUCTION	211
7.4.1 MIXING.....	211
7.4.2 MASTERING	214
7.5 DEVELOPING A ‘FEEL’ FOR ENGINEERING	216
CONCLUSION	217
<u>PRODUCING IN THE RECORDING STUDIO.....</u>	<u>219</u>
INTRODUCTION	219
8.1 THE ROLE OF THE RECORD PRODUCER	220
8.2 PRE-PRODUCTION.....	222
8.3 PRODUCTION.....	228
8.4 POST-PRODUCTION.....	236
8.4.1 MIXING.....	236
8.4.2 MASTERING	244
CONCLUSION	244
<u>CREATIVITY AND COLLABORATION IN THE RECORDING STUDIO.....</u>	<u>247</u>
INTRODUCTION	247
9.1 COLLABORATION IN THE RECORDING STUDIO ON AN INDIVIDUAL LEVEL.....	248
9.2 COLLABORATION IN THE RECORDING STUDIO ON A GROUP LEVEL	251
9.3 GROUP PROCESSES DURING COLLABORATION IN THE RECORDING STUDIO	253
9.4 BEYOND THE GROUP LEVEL OF COLLABORATION IN THE RECORDING STUDIO	257
CONCLUSION	259
<u>CONCLUSION.....</u>	<u>260</u>
<u>BIBLIOGRAPHY</u>	<u>268</u>
<u>APPENDICES</u>	<u>291</u>
GLOSSARY.....	291
APPENDIX I – QUESTIONS THAT GUIDED THE FIRST ROUND OF SEMI-STRUCTURED INTERVIEWS	292
APPENDIX 2 – INTERVIEW AND SESSION DETAILS	295
CD TRACK LISTING	299

List of Figures

- Fig. 1: ‘The increasingly large concentric circles in this simplified schematic represent the major levels at which creativity forces operate’ (Hennessy & Amabile, 2010: 571).
- Fig. 2. ‘Componential Model of Creativity’ (Amabile: 1996: 113).
- Fig. 3. Systems Model of Creativity (Csikszentmihalyi, 1999: 315).
- Fig. 4. ‘General Model of Creativity’ (Csikszentmihalyi & Wolfe 2000: 81).
- Fig 5. ‘A Generic Model of Group Creativity’ (Nijstad and Paulus, 2003: 334).
- Fig. 6. ‘Revised Systems Model of Creativity incorporating creative practice’.
(Kerrigan 2013: 114).
- Fig. 7. ‘The field of Commercial Record Production’ (Thompson & McIntyre, 2013).
- Fig. 8. ‘The Interrelated Tasks of Record Production Inside the Recording Studio’.
- Fig. 9. ‘The Four Camera Perspectives inside Elevator Studios’.
- Fig. 10. ‘Musical Networks’ (Leyshon, 2001: 61).
- Fig. 11. ‘Nested Audiences’ (Sawyer, 2012: 218).
- Fig. 12. ‘Model of Flow’ (Csikszentmihalyi, 1997: 74).
- Fig. 13. ‘Group Flow’ (Sawyer, 2003: 168).
- Fig. 14. ‘2D Model of the filtering of Musical Parts by the Immediate Field’.
- Fig. 15. ‘Revised 2D Model of the filtering of Musical Parts by the Immediate Field’.
- Fig. 16. ‘The Systems model scaled to an individual level during microphoning’.
- Fig. 17. ‘The Systems model scaled to a group level during microphoning’.
- Fig. 18. ‘The Sound-box template’ (Moore and Dockwray, 2010a: 184).
- Fig. 19. ‘The Systems Model Scaled to an Individual Level During Mixing’.
- Fig. 20. ‘The Systems Model Scaled to a Group Level During Mixing’.
- Fig. 21. ‘The Systems model scaled to an individual level’.
- Fig. 22. ‘The Systems model of Creativity scaled to a Group Level’.
- Fig. 23. ‘The Systems Model of Creativity at Individual, Group and Systems Level’.
- Fig. 24. ‘Layered Levels of the Systems Model of Creativity’.

INTRODUCTION

In a recording studio, on a side street in Liverpool, record producer Marc is sitting beside sound engineer Darren in front of Elevator studio's spaceship-like mixing desk. They are both listening intently to the group of rock musicians recording their third run-through of their song 'Southpaw Billy' in the room below them. During the final chorus, Marc turns to Darren and smiles, "this is a good one, isn't it?" Darren nods in agreement. This scenario is played out in countless recording studios around the world as musicians, engineers and record producers engage in the record making process. However, despite the primacy of recordings within the sphere of rock music¹ (Gracyk, 1996; Moore, 2001) very little has been written critically about how rock records are actually made. Even after a century of sound recording: 'the process of making records remains at least a partial mystery to the majority of those who listen to them' (Zak, 2001: 26).

Researchers have historically given their attention to audiences, their reception and use of sound recordings, often overlooking the cultural producers, who wrote, performed, recorded or directed them (Berger, 1995:145-146). Where attention is given to cultural producers in the field of rock music and rock record production, it is the musician who is deemed worthy of study and the contributions of engineers and record producers are often overlooked or diminished. Moreover, rock musicians are typically portrayed as the sole creative entities during the recording process (Williams, 2007), endorsing the Romantic ideal of a musical 'genius' whose artistic expressions are connected to the mystical and seen to be free from any constraint (Zolberg 1990, Petrie 1991, Watson 2000, Sawyer 2006). These Romantic images form part of the numerous myths that surround the rock artist in the recording studio, the record production process and creativity more generally. These Romantic ideas are so embedded into the culture of

¹ Defining the term 'rock' is problematic (Moore, 2001) however, it is used here to describe the popular musical style derived from rock 'n' roll from 1967 onwards (Clarke, 1989: 996) in which its central stylistic and cultural practices of: 'creation and dissemination' (Gracyk, 1996: 1) employ recording technologies.

the commercial recording industry that they are considered to be ‘common sense’ (McIntyre, 2012). Consequently, Romanticism is: ‘reflected in the way artists are sold to audiences, the way audiences think about what happens when records are made’ (McIntyre, 2012: 149).

These Romantic images and portrayals of creativity in rock record production are problematic however, particularly when one considers that a record is rarely the result of an individual artist’s sole contribution (Zak, 2001). In the opening scenario, the engineer, the record producer and recording musicians are working together inside the recording studio and therefore making a rock record is intrinsically collaborative and involves: ‘the efforts of a “composition team” whose members interact in various ways’ (Zak, 2001: 63). Romantic ideas of the record-making process however have historically been difficult to disprove because of the private nature of the recording studio where the process often takes place behind closed doors. Moreover, the recording studio has also been relatively neglected in the field of ethno-musicology with only a handful of dedicated studies published in this area (Fitzgerald 1996; Meintjes 2003; Hennion, 2005; Porcello 2004; Bates, 2008; McIntyre, 2008 & 2012).

The opening scenario therefore poses a number of questions related to the creative process of record-making. Firstly, what is involved in making a record? How do the engineer, record producer and recording musicians collaborate whilst making a record? What are their roles and what are the elements that govern their interaction? And, importantly, how can the record producer and engineer judge whether it is a good or a bad take and what are the contributing factors in making this judgement? Some of these questions have been addressed within disciplines such as cognitive psychology and sociology. Sociological studies of creativity have concluded that creative products, such as rock records, are the result of a creative system in action (Csikszentmihalyi, 1997). Mihalyi Csikszentmihalyi argued that creativity isn’t simply the result of an individual’s efforts. Rather, creativity occurs through the interaction between the individual, a knowledge system and their related social context. These aspects make up a creative system, which contains three main elements: a knowledge and symbol

system termed the ‘domain’; a social group that understands and uses the domain termed a ‘field’ and finally the individual. The individual is therefore only one element in a dynamic and interrelated creative system of causality (Csikszentmihalyi, 1997).

The creative system therefore provides a useful starting point to investigate the creative process of making a recording. The system posits that the individual must draw from the domain during creative work in order to select a suitable arrangement of ingredients from this body of knowledge and symbol system. This selection of ingredients is then presented to the field, the social organization that recognises, uses and alters the domain, for evaluation (Csikszentmihalyi, 1997). The function of the field is then: ‘to select promising variations and to incorporate them into the domain’ (Csikszentmihalyi, 1988: 330). If the field accepts the individual’s variation then this variation is considered to be ‘creative’. In the context of commercial rock music this process occurs when the completed record is released to the public and the field of rock record production (TV, radio, popular music press, audiences, social media, other musicians, engineers and producers etc.) decide upon the record’s novelty and its addition to the domain through a complex and non-linear process. For an idea or product to be creative it must therefore use the domain to create something with an element of originality, it must be valued by the social organisation that understands and uses the domain, and it must be included into the domain. In other words, it must be: ‘original, valued and implemented’ (Csikszentmihalyi and Wolfe, 2000: 81).

In relation to the opening scenario in the recording studio above however, this perspective appears to exclude creative ideas or products that do not alter the domain in some way or leave a trace in the cultural matrix. The creative system therefore appears to discount smaller acts of everyday creativity and creative products that are not accepted into the domain. This creates a misleading distinction between the type of creativity that alters the content of a domain, and the type of creativity that does not. Employing a systems approach to the study of creative ideas or products that are not implemented into the domain, such as a rock record that has yet to be judged by the field, therefore appears to be problematic. Further problems arise when considering the

systems model of creativity in a group context because the original model only refers to an individual. As the production of rock records is fundamentally a collaborative process (Hennion, 1990; Wicke, 1990; Zak, 2001), using a systems framework appears to be difficult. Finally, the apparent grandiose scale of the model presents the issue that it does not apply to the individual's generation of creative ideas and their internal evaluative processes as they undertake creative work inside the recording studio because the interaction between the system's main elements is not immediately evident.

Recent revisions to the systems model however have begun to illustrate how the creative system can be applied to both the collaborative context of the recording studio and from a perspective that includes everyday creativity (Boden, 2004; Kerrigan, 2013). Susan Kerrigan's revised model of creativity (2013) demonstrates how the creative system's framework can be applied to a specific creative context, such as making a rock record, by re-contextualizing each of the generic elements of the creative system (Kerrigan, 2013). Furthermore, the 'individual' has also been replaced with 'agent', which allows the systems model to accommodate creative groups as well as individuals. These revisions still endorse the useful definition that creativity is: 'an idea or product that is original, valued and implemented' (Csikszentmihalyi and Wolfe, 2000: 81), and further allows the study of creativity to extend to creative ideas or products that don't (or may not yet) alter the content of the domain² because they are the product of the creative system in action.

There were however still two pertinent issues to address in using a systems approach to creativity. Firstly, exactly how the elements of the creative system interacted on a group level as the recording musicians, engineer and record producer collaborated on the production of the record. And secondly, how the creative system's elements interacted on an individual level in devising and evaluating creative ideas. Having worked on countless records as a recording engineer myself, I had two broad aims for this study. Firstly, to illuminate and explore some of the processes involved in making

² These ideas are explored in more depth in the following chapter.

a record, such as performing, engineering and producing. And secondly to investigate how an engineer, a record producer and recording musicians creatively interact as they collaborate to make the record by using the creative system as a useful way to structure and frame my observations. The principal tasks involved in rock record production typically include songwriting, arranging, performing, engineering and producing (Zak, 2001), however the musicians in this study had already written and arranged the songs and the investigation primarily focuses on the observable tasks of performing, engineering and producing inside the recording studio.

The revised systems model of creativity (Kerrigan, 2013) provided a fundamental framework to investigate the creative and collaborative processes involved in undertaking these tasks. The domain and the field have therefore been contextualised so that they apply to the specific context of rock record production. For example, the domain of rock encompasses various aspects such as the instrumentation of rock, the song, its arrangement, and specific terminology. The contextualised field includes the participants inside the recording studio as the social group that understands and applies the domain in assessing the creativity of each individual's creative contribution. A creative contribution, in the context of this study, includes creative 'actions' as well as 'ideas' that are: 'original, valued and implemented' (Csikszentmihalyi and Wolfe, 2000: 81) because they require the interaction between the system's elements.

In order to explore the creative ideas, actions, processes and practices involved in completing the three main tasks a number of ethnographic approaches were employed. Firstly, participant-observation throughout the entire record-making process was crucial in gaining a first-hand perspective on the interaction between the musicians, engineer and record producer in the often-private setting of the recording studio. Engineering one of the sessions also helped to gain an insider's perspective on the way in which the participants worked together. Multi-angle film cameras were used to create a more permanent visual record of the participants' movements and interactions and provided a useful resource to guide my in-depth interviews with them. Sound recordings too captured conversations and musical utterances between the participants

as they externalised their creative thoughts and ideas. Participant-observation, video and sound recordings, and in-depth interviews allowed the interaction between the three main elements of the creative system to be explored as the participants undertook their creative tasks inside the recording studio. Closer analysis of these interactions led to the development of two scaled system models in order to address some of the previously stated apparent problems of using the creative system to investigate smaller acts of creativity.

This thesis has been structured to first present the re-contextualised elements of the creative system as they apply to rock record production, and then illustrate the interaction of these elements during the three principal tasks of performing, engineering and producing. The first two chapters provide the foundation for this thesis by reviewing research into creativity and then related studies inside the recording studio. Chapter one presents the systems model of creativity in more detail and illustrates its aforementioned revisions (Kerrigan, 2013) within the context of this study inside the recording studio. Furthermore, I make the argument that the creative system is scalable by drawing on the concept of ‘holons’ (Koestler, 1975), or systems within systems, so that the creative system’s framework can be used to investigate creative actions and ideas on an individual level as well as a group level inside the recording studio. The second chapter follows on from research into creativity and explores studies inside the recording studio within the context of the three observable tasks that are investigated in this thesis: performing, engineering and producing. The chapter concludes by defining the aims of this study in relation to previous studies into creativity and collaboration in the recording studio (Fitzgerald, 1996; McIntyre, 2008, 2012).

The third chapter introduces the ethnographic methods that have been used to empirically explore the creative system inside the recording studio. Although the study has a reduced singular cultural and historical focus than in previous studies in this area (Meintjes 2003; Hennion, 1990; Bates, 2008) employing ethnographic methods in the recording studio introduced a multitude of issues that were related to ethnography

more generally. Issues of access to the data, cultivating and maintaining relationships with participants, observing and collecting data in the specialised and unique construction of the recording studio, and the interpretation and representation of the participants' actions and interactions are all discussed.

Chapters four and five begin the contextualisation of the creative system to apply to the specific context of making a rock record inside the recording studio. Chapter four introduces the participants inside the studio and illustrates the domain of rock based record production and the participants' knowledge of it. The fifth chapter introduces the field of rock record production, its institutions and its: 'complex network of experts with varying expertise, status, and power' (Sawyer 2006:124). The participants' knowledge of the field and its selection criteria is presented alongside the discussion.

Chapters six, seven and eight are concerned with performing, engineering and producing inside the recording studio respectively. Each chapter illustrates how, during each task, the participants inside the recording studio interacted with the elements of the creative system to produce creative ideas, actions or practices. Using specific examples within each of the tasks, it is uniquely illustrated how the creative system can be scaled to on an individual level and a group level. The penultimate chapter illustrates how, during collaboration inside the recording studio, the system's three principal elements (agent, field and domain) interact in a complex system of causality at differing times throughout the process of making the record.



RESEARCH INTO CREATIVITY

Introduction

Sound recordings hold a critical place in the popular music industry and specifically within the musical style and culture of rock³ (Gracyk, 1996; Ray, 1992; Zak, 2001). Although a wealth of anecdotal literature on recording and studio practice exists, little has been written critically about the creative and collaborative processes that are necessary for sound recordings to be made and it has been argued that: ‘a critical interrogation of creativity should be central to any understanding of musical production’ (Negus and Pickering in Hesmondhalgh & Negus 2002: 147). Record production is fundamentally a collaborative, creative process (Hennion, 1990; Wicke, 1990; Zak, 2001), and although there is now growing empirical evidence of this (e.g. Davis 2008, McIntyre 2008a & 2012, Moorefield 2005, Howlett 2012), the creative and collaborative processes involved in record production still remain enshrined in mysticism in the popular imagination (Warner, 2003; Williams, 2011). Furthermore, creativity has become an often-misused term because of its broad range of application to all manner of everyday processes, procedures, approaches and notions of inspiration or new ideas (Csikszentmihalyi, 1997; Negus and Pickering, 2004). The general understanding of creativity is often perceived as something ‘inexplicable’ or ‘mysterious’ (Boden, 2004: 11) and this mysteriousness of creativity relates to the often-unchallenged dictionary definition of creativity: ‘to bring into being or form out of nothing’ (Boden, 2004: 11). If this definition is considered literally then creativity

³ Gracyk (1996) makes the central argument that rock is the first major genre where recordings are the ‘initial medium’ and the ‘musical work’ in rock is less typically described as a song, rather it is an arrangement of recorded sound.

appears to be the result of an impossible process because musicians and music-makers cannot make something from nothing (Boden, 2004).

The modern Western-notion of the term creativity has its etymological origins in Judeo-Christian tradition, in which the celestial creation of the earth is central to both Jewish and Christian faiths (Boorstin, 1992). Expressions of a divine nature of creativity were evident in the philosophical writings of both Socrates and Plato in which they describe the voice of God speaking through the poets (Barfield, 2011). The etymological origin and the paradoxical nature of creativity have therefore implicitly influenced popular beliefs about creativity in which there are two general views: 'inspirational' and 'Romantic' (Boden, 2004). These views assume that creativity cannot be systematically explored or reduced to its constituent parts and, importantly, these popular views are: 'believed by many to be literally true but they are rarely critically examined' (Boden, 2004: 14). These mythical ideas of creativity typically function to: 'express the values, assuage the fears, and endorse the practices of the community that celebrates them' (Ibid). The celebration and praise of these practices however: 'doesn't necessarily mean that exceptional or highly innovative creative acts are simply equivalent to them' (Negus and Pickering, 2004: 200).

The unchallenged historic and cultural ideas connected to creativity often place the individual at the centre of creativity and the creative process. However more recent research has determined that the individual is only one part of the creative process and there is growing evidence that creativity occurs through a convergence of multiple factors within a dynamic system of interactions (Csikszentmihalyi: 1988, 1997, 1999 & 2004). In parallel with research into creativity, the definition of creativity has moved beyond the inexplicable and a limited focus beyond the individual to acknowledge these broader interactions. There are then complex influences placed on individuals as they undertake creative work, which include: 'a variety of interrelated forces operating at multiple levels' (Hennessy & Amabile, 2010: 569). These interrelated forces include an individual's neurological processes, their social environment, their position within a

social group, the group's culture and the broader influence of society as shown in Figure 1 below:

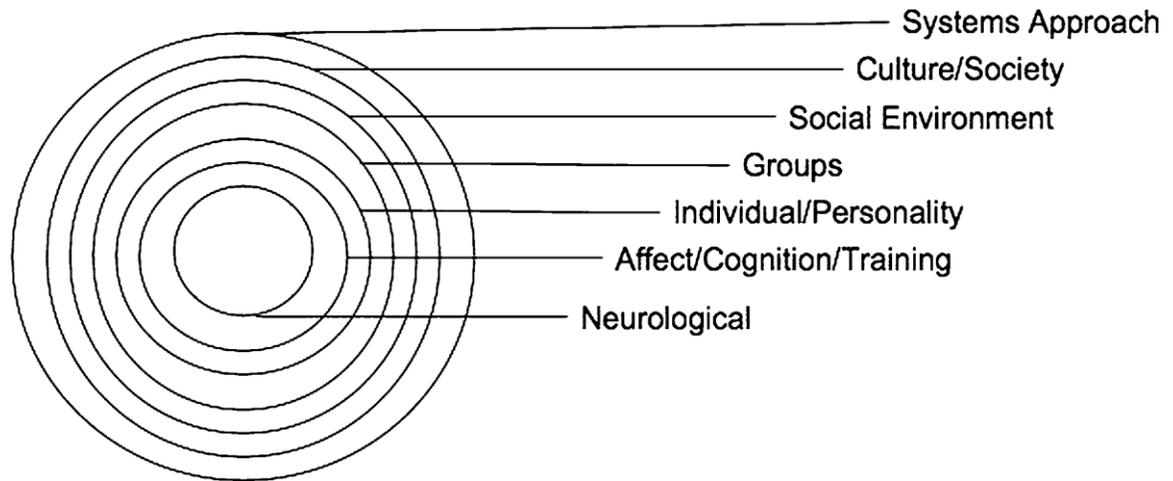


Fig. 1: ‘The increasingly large concentric circles in this simplified schematic represent the major levels at which creativity forces operate’ (Hennessy & Amabile, 2010: 571).

The following chapter reviews research into creativity that draws upon a range of disciplines including psychology (in several of its variants), philosophy, sociology, and literary and cultural theory. It has been argued that an interdisciplinary approach to the study of creativity is necessary in order to appreciate the: ‘variety of interrelated forces operating at multiple levels’ (Hennessy & Amabile, 2010: 569) within a creative system.

Each section of the chapter therefore explores the literature on creativity according to its discipline and, where possible, in chronological order to illustrate both the historical trends of creativity research and the various perspectives afforded by each discipline. The first section reviews research that broadly relates to creativity and the individual, which includes the creative personality, cognitive psychology and creativity, and finally creativity from a sociological perspective. The subsequent section reviews studies on group creativity and identifies approaches to studying groups, group behaviour and group processes. The chapter concludes by defining the adopted approach in studying creativity and collaboration inside the recording studio.

1.1 The Creative Personality

Early studies into creativity focused primarily on the individual and their biological makeup. For example, Sir Francis Galton (1869) undertook the earliest known study into creativity concentrating on the notion of ‘hereditary genius’ by investigating its systems and consequences through historical analysis. Although in later editions of his work Galton expressed the wish to substitute the word ‘genius’ with ‘ability’, his introductory statement outlined his central argument that: ‘a man's natural abilities are derived by inheritance, under exactly the same limitations as are the form and physical features of the whole organic world’ (1869: 1). The investigation into hereditary genius focused on a number of different categories of historically prominent individuals such as judges, statesmen, kings, commanders, writers, scientists, poets, painters, musicians, scholars, oarsmen and wrestlers, and attempted to illustrate their inherited ability simply through the depiction of family lineage. Even within his own results Galton found anomalies and irregularities, and creativity research subsequently progressed beyond a focus on basic genetic legacy, concentrating more on the ‘creative’ individual with an emphasis on the creative personality.

The creative ‘personality’ has been investigated by studying a creative individual’s personality traits and their personality type. Personality traits are defined as: ‘the smallest units of individual variation that are consistent, reliable and valid (Sawyer, 2012: 63). Personality types are a finite set of personality characteristics that can be used to classify creative individuals. The study of creative personality traits began with the foundation of the Institute for Personality Assessment and Research (IPAR) at the University of California in the United States in 1949. Studies involved the invitation of a peer-reviewed selection of creative people from a particular field who were subjected to a series of tests to determine their personality traits. After 20 years of research at the Institute, and profiling a number of creative personality traits, it was found that the initial model of an ‘egghead...longhair...withdrawn’ (MacKinnon, 1978 as cited in Sawyer, 2012) personality was almost entirely inaccurate. Rather, the personality traits identified by the researchers (independence, high energy, willingness to take risks,

attraction to complexity, independence of judgement and flexible decision making) were traits of content and productive individuals.

Creative personality research continued into the 1970s studying personality types as well as traits, in which numerous personality theorists developed their own personality type models. The most widely-used personality type model is the 'five factor model' (Furnham, 2008), commonly termed the OCEAN model, an acronym derived from the five factors of Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism (Costa & McCrae, 1992). Of all of the five traits, openness to experience has been shown to be the most closely connected to creativity:

Openness to fantasy (a good imagination); aesthetics (being artistic); feelings (experiencing and valuing feelings); actions (trying new things and having many interests); ideas (being curious and smart, and welcoming challenges); and values (unconventional and liberal) (Sawyer, 2012: 66).

Research into creative personalities (Barron & Harrington, 1981; Feist, 1998; Tardif & Sternberg, 1988) found that one of the most prominent features of creative people is a distinct ability to identify a relevant problem in their domain and pose the most pertinent questions and, importantly: 'why highly creative people tend to be creative in one specific domain: it takes a lot of experience, knowledge and training to be able to identify good problems' (Sawyer, 2012: 65). However, this attribute cannot be ascribed to an innate biological predisposition alone. Rather, it is suggested that individuals develop this ability through their immersion into a particular field, through the exploration of knowledge, the accumulation of experience and the undertaking of domain-specific training (Sawyer, 2012). This particular point highlights the complex interaction between the creative individual's biology, personality and their social environment. It also demonstrates how the ability to be creative only partially depends on the creative individual's personality; rather it is the combination of interactions between the individual and their social environment (Csikszentmihalyi 1997). A more considered focus on how individuals engage with their particular social and cultural

worlds have therefore demonstrated how creativity emerges as a social process, and as something learned, rather than as something that is biologically inherent (Csikszentmihalyi, 1997).

Research into the creative personality has been beneficial in identifying personality traits that some creative individuals exhibit (independence, high energy, willingness to take risks, attraction to complexity, independence of judgement, flexible decision making) and rebutting the common myth of the solitary, tormented genius. A common attribute of creative people highlighted by the research is the individual's capacity to identify a pertinent problem in their chosen field and the development of related questions to solve it. However, these traits on their own do not determine creativity, rather they signify how personality traits are part of a broader system of contributing factors since: 'creativity is the property of a complex system, and none of its components alone can explain it' (Csikszentmihalyi, 1997: 56). Consequently, a psychological approach to creativity can only provide limited insight into the creative process inside the recording studio. Viewing creativity from a perspective that allows us to view the cognitive processes that are common to all individuals can help to give a more inclusive overview of the creative process.

1.2 Creativity and Cognitive Psychology

Cognitive psychology has further explored some of the elements that have been highlighted by creative personality research, and this has been advantageous in gaining new insights into creativity by investigating the mental processes and cognitive capacity that the majority of people share. According to Sawyer, cognitive psychology research into creativity can be broadly divided into two contending theories: Idealist theory and Action theory (Sawyer, 2000). Idealist theories consider the end product of the creative process to be a creative 'idea' that doesn't have to be shared, implemented or explained in order for it to be considered creative. Idealist theory, commonly termed the Croce-Collingwood theory (Sawyer, 2000), has several flaws however not least the connection with the Romantic notion of creativity in which the emergence of

an idea simply arrives fully formed from the unconscious psyche of the inventor or artist. In addition, and fundamentally, Idealist theories make it difficult to perceive and describe the creative process due to their subjective and internal nature (Csikszentmihalyi, 1997). Creativity research has found Action theory more valuable in explaining the creative process from a cognitive perspective because it views the process as practically driven. In addition, the creative idea has to be realised in order for the creation to be evaluated, improved, altered or discarded. The realisation of the creative idea allows these processes to take place and helps to explain why the final outcome may be entirely different than the one that was first implemented.

A number of psychological frameworks have been developed from the principles of Action theory (Wallas, 1976; Gordon, 1961; Bransford & Stein, 1984; Isaksen, Dorval & Treffinger, 2000; Kelley, 2001; Scott et al, 2004; Sternberg, 2006; Sawyer, 2012) and describe the cognitive creative process as a series of discreet stages. Graham Wallas for instance describes a four-stage process: ‘preparation, incubation, illumination and verification’ (1976: 69-73). Whilst there is experimental evidence to support the stages of preparation, illumination and verification, there is a distinct issue with the stage of incubation because there is extremely limited evidence to advocate that it is a vital stage in the process (Weisberg 1993). Furthermore, considering the creative process as a series of discreet stages that appear in a linear fashion distorts the actual view of the creative process because creative individuals rarely struggle through the final stage of elaboration (Csikszentmihalyi, 1997). Rather, this specific part of the process is frequently interrupted by insights, which lead to further insight into the original idea. The creative process is therefore: ‘less linear than recursive. How many iterations it goes through, how many loops are involved, how many insights are needed, depends on the depth and breadth of the issues dealt with’ (Csikszentmihalyi, 1997:80-1).

The idea that the creative process is recursive, rather than linear, helps to demonstrate how some of the creative stages proposed by Wallas (1926/76) can often appear as a single stage. This is not a supernatural or mystical phenomenon, but a cognitive

process that may be shared by all humans. Tony Bastick labels this process ‘intuition’ (Bastick, 1982), which he describes as the: ‘non-linear parallel processing of global multicategorised information’ (1982: 215). He argues that Wallas’ first three stages (preparation, incubation and illumination) can be integrated into the term intuition and that the creative process can therefore: ‘be thought of as just two stages...intuition, as a form of global processing of multicategorised information, followed by verification’ (1982:310-311). These assertions are useful in illustrating how more experienced individuals can appear to make an imperceptible leap from preparation to illumination almost instantaneously. Rather than viewing creativity as a staged process, ‘intuition’ points towards a more systemic process in which individuals, through experience, develop specific strategies, ways of thinking, acting and doing (Bastick, 1982).

Studying creativity from the perspective of cognitive psychology is useful in highlighting the cognitive stages that an individual may go through during the creative process inside the recording studio. Rather than a single stage, or flash of inspiration, cognitive psychology studies have shown that the process is significantly more complex with non-linear, overlapping stages that may take days, months or years to coalesce into a complete idea. Furthermore, it has been shown that through experience, individuals develop the ability to internalise the creative stages of preparation, incubation and illumination, which is labeled ‘intuition’ (Bastick, 1982). These ideas begin to usefully illustrate the complexity involved in studying an individual’s creative process inside the recording studio. However, a cognitive perspective is limited in its ability to identify how these internal processes of the creative individual interact with their broader social and political structures. Therefore, the socio-cultural conditions of the individual must also be considered in the study of creativity inside the recording studio.

I.3 Creativity and Cultural Production

Studies of psychological and cognitive processes have been useful in illuminating some elements of creative activity, however all of these processes occur within a social context and studies into cultural production have emphasised the collective process of art making. Within this collective and collaborative process there is often a division of labour (Becker, 1982), which takes place within an ‘art world’. In this division of labour artists and supporting personnel develop a customary series of tasks and it is this series of tasks that characterise an ‘art world’ (Becker, 1982: 9). Although these divisions of labour are often viewed as straightforward they aren’t necessarily ‘natural’ (Ibid: 9-10), particularly when one considers the social, political or industrial context of art-making. For instance, the main tasks involved in record production are ‘songwriting, arranging, performing, engineering and producing’ (Zak, 2001: 164) and initially, in commercial record production, a separate individual or group of individuals would undertake each of these specific tasks. In contemporary record production:

The process, however, is fluid and tasks often merge or overlap. A vocalist may re-shape the work of a songwriter through improvised embellishments. A mixing engineer can affect a track’s arrangement simply by manipulating the equalization and loudness controls of the mixing console. Producers may act as arrangers, performers, songwriters or engineers. In short...distinctions among the roles need not be definitive (Ibid).

The highly collaborative process of record making and the merging of roles and overlapping ‘bundle of tasks’ (Becker, 1982) highlights an important aspect of commercial rock record production because it is typically the recording artist who receives ‘top billing’ (Zak, 2001: 178). However, the status of particular activities within an art world can change, for instance: ‘sound mixing, once a mere technical speciality, had become integral to the art process and recognized as such’ (Kealy, 1979: 25). This change occurred because in the division of labour within the art world of record production there was a change in the distinctions made between ‘core

activities', such as singing on a record, and other activities that support the core activities, such as engineering (Becker, 1979).

Although this distinction depends upon the nature of the art world, they are generally related to the amount of perceived expertise required to perform particular tasks in which core activities are those which possess the distinguishing feature of 'art' and have the related connotation of 'genius' (McIntyre, 2012). In relation to record production, the core tasks that are considered to be 'art' or have qualities of 'genius' are those performed by the recording artist and more recently the record producer. The supporting or related tasks are considered to be craft-like activities that have closer connotations to the everyday and in the context of record production include the task of engineering. Importantly, in order for the supporting tasks to effectively support the core tasks, cooperation is necessary, which further requires a shared framework since: 'people who cooperate to produce a work of art usually do not decide things afresh...they rely on earlier agreements...that have become part of the conventional way of doing things in art' (Becker, 1982: 28-29).

The ability for an artist to make particular choices, or their agency, is therefore constrained by the institutional boundaries of the cultural field in which they work. These boundaries include current technology, practices that implement that technology and the limits that the current institution can assimilate (Becker, 1982). This final point highlights the problematic nature of considering only the individual in the creation of art works because it ignores the influence of technologies, their accompanying cultural practices and the additional personnel who contribute to what is often a collective process. The collective nature of creativity therefore points towards a process that is more social and collegiate than has been traditionally or Romantically presented. It can then be concluded that the creation of artworks has never been separate from the social and political situation of the artist, and that: 'the idea of the artist as sole originator of a work obscures the fact that art has continued to be a collective product' (Wolff, 1981:27). The work of art, or in Wolff's terms cultural product, should be viewed as the complex result of economic and conceptual

influences, which have been: ‘mediated through the formal structures of the text (literary or other), and owing its existence to the particular practice of the located individual’ (Ibid: 139).

In bringing together the perspectives that all art is socially produced and that creativity is a collective process, it becomes evident that creativity cannot simply be considered the work of sole individuals. Taking this idea one step further, Roland Barthes presented an argument that further de-emphasised a focus on the individual and the author or sole creator, by exclaiming that the author was dead (1977). Rather than denying that there is a producer or author Barthes’ central intention was to challenge the idea of authorship and acknowledge the receiver (the audience who interprets the work), as the creator rather than the producer. This perspective argues against the simplistic modernist idea that there is one relationship: that of the author and the work. Rather, Barthes argued that a more complex relationship exists between the work and the field, one that is: ‘active, creative, and practical’ (Seidman, 1994: 266). The work or ‘text’ therefore undergoes ‘an endless process of meaning production’ (McIntyre, 2012: 58), and the idea that: ‘the author as fixed, uniform and unconstituted creative source has indeed died. (Wolff, 1981:136). It may be more realistic therefore to consider the creative process of meaning making as an on-going interchange between the creator, the creative product and the interpreters of the creative product, which involves a continual alternating power relationship between all of these elements (McIntyre, 2012: 68).

Although not studying creativity as such, French sociologist Pierre Bourdieu addressed some of these issues in his writings on theories of practice (1977, 1990, 1993 and 1996). These studies acknowledged the dynamic relationship between the social structure of the field and the individual. Fields are identified as specialist areas of practice such as music, painting or cinematography, and through experience individuals operating in these fields develop a ‘strategy’ that is performed within ‘a space of positions’ (Bourdieu, 1993: 137). For Bourdieu, creativity, or in his terms ‘cultural production’, takes place at the intersection between habitus and field.

Included in the field is the 'field of works', which contain both the accumulation of established cultural work or knowledge, and conventional codes and methods of practice. The agent must negotiate these conventional codes, methods of practice and field of works in order to be presented with particular possibilities or creative choices. As Bourdieu explains:

The heritage accumulated by collective work presents itself to each agent as a space of possibles, that is as an ensemble of probable constraints which are the condition and the counterpart of a set of possible uses (1996: 235).

In other words, an agent's ability to perform a particular action depends upon the interaction of their knowledge of previous works and their 'disposition' (Bourdieu, 1996), which is the interrelationship between an agent's gender, race, education or social class. All of these inform the agent's subjectivity and eventually their creative actions. These elements are combined within the term 'Habitus' (Bourdieu, 1984, 1990 and 1993), which is a:

Mediator between social relations – class, race, gender, education and so on – and what people think and do – their 'practice' ...it disposes musician-agents to play, write, record or perform in a particular way (Toynbee, 2000: 36).

Therefore, the likelihood of selecting certain possibilities over another will depend upon the agent's disposition and the association of their work within a particular field. With experience of creating in a given field agents develop a:

'Feel for the game', a 'practical sense' (*sens pratique*) that inclines agents to act and react in specific situations in a manner that is not always calculated and that is not simply a question of conscious obedience to rules. Rather it is a set of dispositions which generates practices and perceptions (Johnson in Bourdieu 1993: 5).

These ideas have been explored in the context of popular music and its institutions and in acknowledging that creative agents, in this instance musicians, make a difference to a musical tradition and add to the field of works. However, it is important to acknowledge that: ‘the musical creator is restricted in how much difference s/he can make at any given moment. In other words the unit of creativity is a small one’ (Toynbee, 2000: 35). The restrictions placed on musicians therefore refer to the broader sociological aspects of agency and its complex relationship with structure, in which there can be: ‘no possibility without constraint’ (Toynbee, 2000:39). This fundamental point illustrates how the agency of the musician is directly connected to the structures they work within. The negation between these two aspects has been explained by using the term ‘likelihood’ (Toynbee, 2000), which describes the process by which some possibles are more likely to be selected than others due to the culture, the domain and the structures that a musician operates within at a given point in time. Previous descriptions of constraint (Bourdieu, 1996) can be divided into two distinct areas: likelihood and unlikelihood (Toynbee, 2000) and represented as a ‘radius of creativity’ in which:

The selection and combination of possibles is their distance from the dispositive centre of the musician’s habitus. Instead of congruence the operative principle here is divergence which makes certain possibles in the field of works ‘hard to hear’ ...part of the skill in selecting unlikely combinations of possibles is to demonstrate their possibility by providing some associative link back, as it were, to existing convention (Toynbee, 2000: 40).

In other words the ‘radius of creativity’ (Toynbee, 2000) can be pictured as the individual at the centre of a circle and the range of possibilities extending towards to the circumference of the circle. The individual then selects their possibles based upon their habitus within a given framework of convention. The more closely related a possible is to an individual’s habitus, the closer it will appear within the individual’s radius of creativity. However, by placing the creative individual at the centre of the

radius of creativity Toynbee has inadvertently privileged the individual within the creative process. By doing so, some of the other complex relationships that exist between the individual, their environment and their socio-economic context have been overlooked. Therefore, to study the creative processes inside the recording studio, it is necessary to consider the creative process beyond a focus on the individual and acknowledge the broader sociological and cultural factors that influence creative activity.

1.4 Creativity as a System in Action

Studies of psychological and cognitive processes have been useful in illuminating some elements of creative activity, and sociological studies have underlined the dynamic relationship between broader social, political, economic and institutional structures of a cultural domain and the agency of a creative individual who operates within it. Focussing solely on the individual therefore ignores these interrelated cultural and social factors so much so that: ‘to study creativity by focusing on the individual alone is like trying to understand how an apple tree produces fruit by looking only at the tree and ignoring the sun and the soil that support its life’ (Csikszentmihalyi quoted in McIntyre 2008a). In other words, to usefully study creativity it is important to also consider the other elements that interact with the individual during creative work.

Because of the interrelated complex factors that govern creativity, contemporary research in this area is increasingly directed towards models of confluence (Sternberg 1999) in which the convoluted socio-cultural exchanges between the individual and their milieu are acknowledged (Hennessy & Amabile 2010). A number of confluence models of creativity have been proposed (Amabile 1983 & 1996, Gruber 1988, Dacey & Lennon 1998, Simonton 2003, Feldman, Csikszentmihalyi & Gardner 1994, Csikszentmihalyi 1988, 1997 & 1999, Weisberg 1993 and Sternberg & Lubart 1991 & 1992). The earliest of these models is Teresa Amabile’s ‘Componential Model of Creativity’ (1983 & 1996), which acknowledges the interaction of personal traits,

cognitive processes and social influence on the creative process. Figure 2 below demonstrates the 5 interrelated stages of the creative process: 1. Problem/Task identification, 2. Preparation, 3. Response Generation, 4. Response Validation and Communication and 5. Outcome.

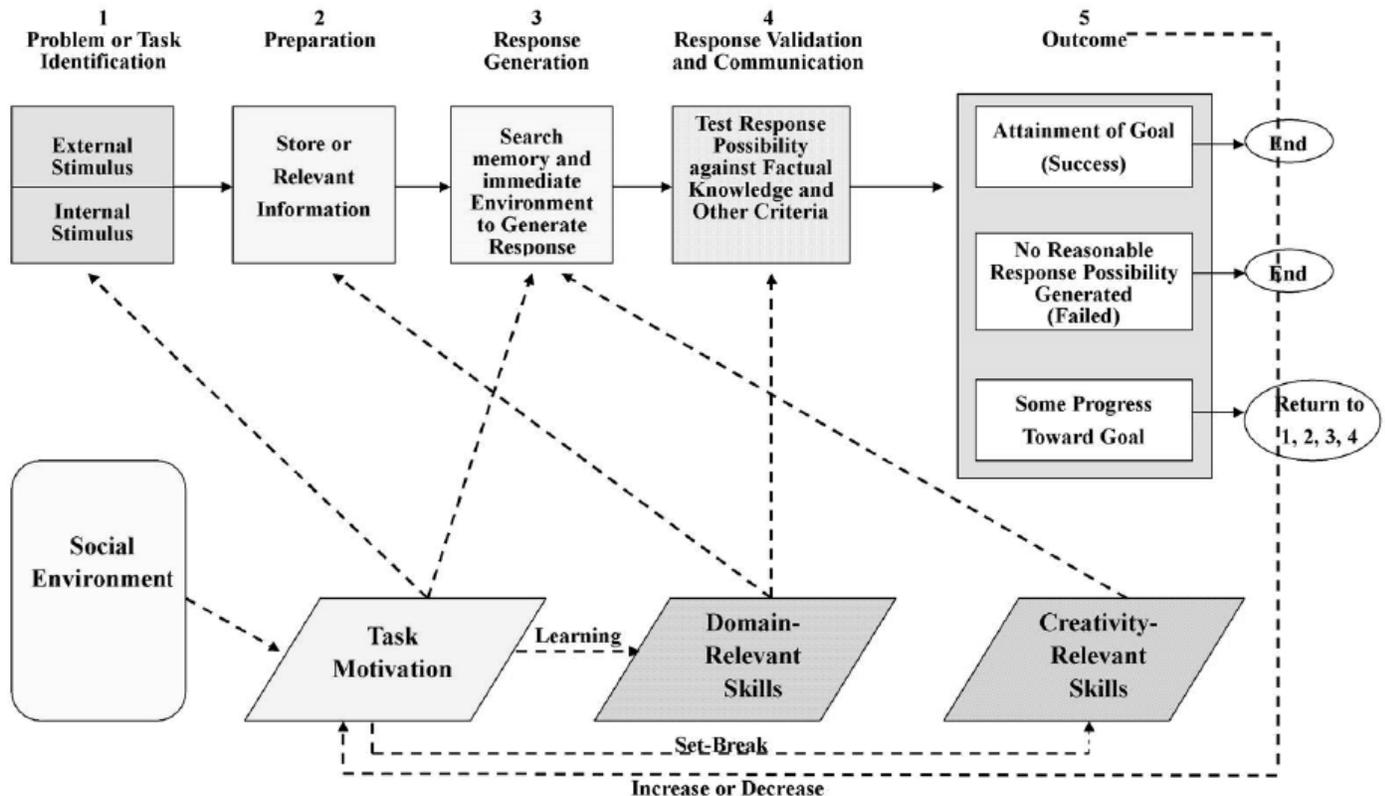


Fig. 2. 'Componential Model of Creativity' (Amabile: 1996: 113).

In addition, the model illustrates how each of the interrelated stages interact with the relative skills of the individual, that of Task Motivation, Domain-Relevant Skills and Creativity Relevant Skills. Although useful in acknowledging the interrelated factors of the individual, the social environment and the individual's disposition, the model ignores the complex non-linearity of the creative process by displaying five serial stages that may (or may not) necessarily be discreet or occur in order. The limitations of the model begin to usefully demonstrate the complexities of the interrelated elements involved in the creative process and the requirement to view the creative

process as non-linear. The ‘systems model of creativity’ proposed by Csikszentmihalyi (1988, 1997 & 1999) addresses this issue of non-linearity through the introduction and integration of dynamic causality. The model demonstrates that creativity is the result of an on-going dynamic process that contains three parts: a set of symbolic rules, practices and guidelines called a ‘domain’, an ‘individual’ who brings something unique into that domain and a ‘field’ of specialists or experts who recognise and substantiate that novelty (Csikszentmihalyi 1996: 6). The systems model of creativity is illustrated in Figure 3 below:

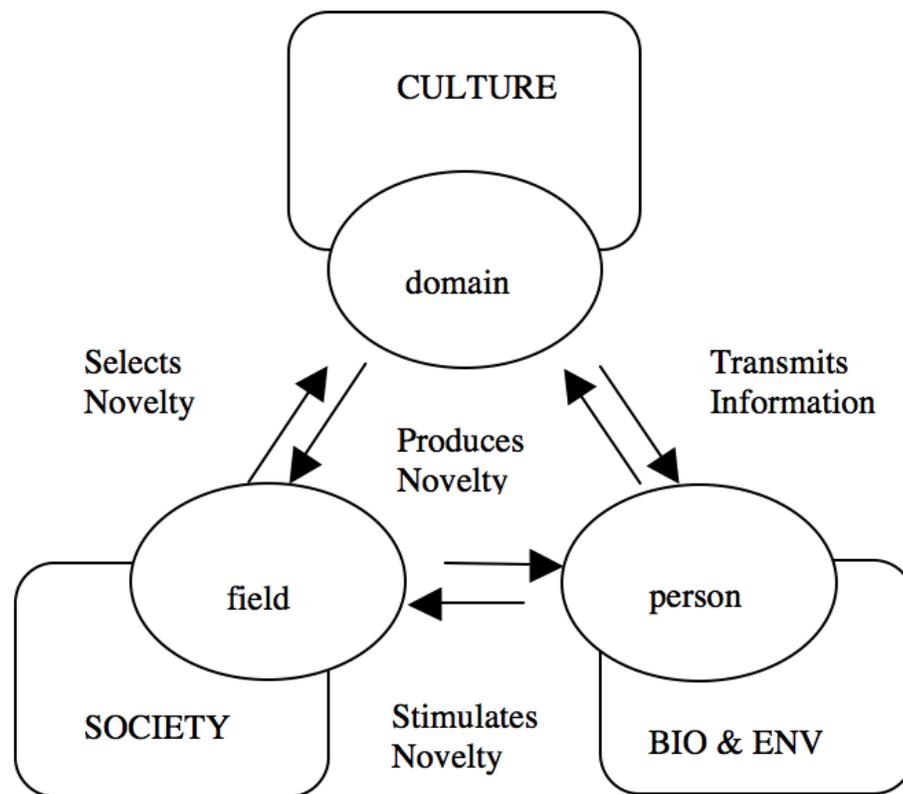


Fig. 3. ‘Systems Model of Creativity’ (Csikszentmihalyi, 1999: 315).

Unlike previous componential models of creativity (Amabile, 1996), the illustration of the systems model in Figure 3 displays the on-going interactions that occur between the domain, the field and the individual, which do not have distinct stages or a specific start or end. This is because the relationships between each of the elements are:

‘dynamic links of circular causality’ (Csikszentmihalyi, 1988: 329). In other words, the principal elements of domain, field and person both influence, and are influenced, by each other. From this perspective it is argued that for creativity to occur there must exist a domain, which contains a set of symbol systems, a body of knowledge and culture of practice. An individual must acquire a comprehension of that domain and produce something that has an element of novelty. This novelty is then evaluated and validated, by the field.

A domain is made up of a: ‘set of symbolic rules and procedures’ (Csikszentmihalyi, 1996: 27-8) and domains are embedded within the culture or symbolic knowledge of a particular group, institution, society or humanity more broadly. In order for individuals to be creative, a working knowledge of the domain is essential, particularly because: ‘creative products are firmly based on what came before. True originality evolves as the individual goes beyond what others had done before’ (Weisberg in Sternberg, 1988: 173). This idea is in opposition to the Romantic notion of creativity, in which it is the creator’s genius and inherent knowledge that produces great works. Rather, this idea reinforces the notion that in order to produce something new, the creative individual must first gain knowledge and understanding of previous creative works. This domain-specific knowledge: ‘serves to provide the background so that the individual can begin to work in an area and also serves to provide ways in which to modify early products that are not satisfactory’ (Ibid).

As well as internalising knowledge of the domain, the individual must also learn the rules that govern selection of creative work by the field (Csikszentmihalyi, 1996: 47). Therefore the individual and their knowledge of the domain are important but not sufficient on their own. For creativity to occur, the field must provide the right conditions for creative contributions and include: ‘training, expectations, resources, recognition, hope, opportunity and reward. Some of these are direct responsibilities of the field, others depend on the broader social system’ (Csikszentmihalyi, 1997: 330). In addition to providing the right conditions for creativity to occur, it is also the function of the field to judge the creativity of an idea or product. However it is

important to note that: ‘no judgment ever occurs in a vacuum...those who hold the knowledge are also important contributors to the system as they have the background to make those necessary judgments’ (McIntyre, 2012:151). The field is therefore not a socially isolated group, the field is both a contributor to, and user of, the domain and it is the field that decides whether or not an idea or product should be valued or implemented into the domain (Csikszentmihalyi & Wolfe, 2000: 81). Figure 4 demonstrates this relationship:

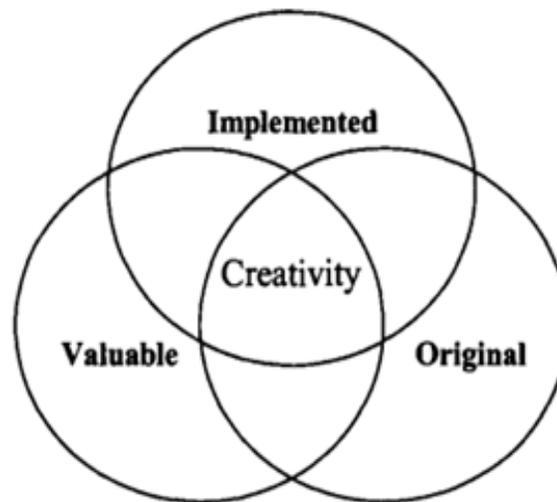


Fig. 4. ‘General Model of Creativity’ (Csikszentmihalyi & Wolfe 2000: 81).

Creativity therefore occurs at the intersection of these interacting elements (Csikszentmihalyi & Wolfe 2000: 81), and for an idea or product to be creative it must be valuable to a particular group of people (the field), original and implemented into the cultural matrix or symbol system (the domain).

This conclusion however creates an apparent distinction between creativity that alters the domain in some way and smaller acts of creativity, such as making a creative contribution during the making of a rock record. However, this apparent distinction is addressed by considering creativity in two senses: psychological (P-creative), and historical (H-creative) in which: ‘the psychological sense concerns ideas that are surprising, or perhaps even fundamentally novel, with respect to *the individual mind*

which had the idea. The historical sense applies to ideas that are novel with respect to *the whole of human history*' (Boden, 2004: 43). The connection between P-creativity and H-creativity is made when one considers that in order to be H-creative, the idea or product must first be P-creative. This fundamental connection between the two seemingly opposed distinctions of creativity supports the: 'mutually constitutive relation between ordinariness and exceptionality of creativity' (Negus & Pickering, 2004: 159)'.

This perspective on creativity connects the reified and the everyday and further explains how the extraordinary and the ordinary can exist together. Therefore: 'The ordinary is not at odds with the exceptional, but continually open to the possibility of becoming exceptional' (Negus & Pickering, 2004: 158). Consequently, there are: 'a number of circumstances that must be in place for anyone to perform H-creativity. These circumstances depend on temporal, spatial, psychological, biological, social and cultural circumstances coinciding for this to occur' (McIntyre, 2012: 198). There are then several dynamic, interrelated and uncontrollable factors involved in H-creativity, which explains why some rock records are considered to be creative at different points in history. This is because they are subject to different historical and political conditions that exist within the broader sociological sphere of creativity and the changing criteria for selection of the field. Rock records that are currently considered to be H-creative by the field of rock record production, that is records that altered the content of the domain, began as P-creative. It is from this perspective that this study considers the creative process inside the recording studio. Time and circumstance will dictate whether or not the P-creative recording in this study will become H-creative.

I.6 Creativity and the Group

To this point, research into creativity has only applied broadly to the individual. Studies within personality research, cognitive psychology and sociology have all emphasised that creativity involves the complex interaction between the individual, the social, political and economic situation and the established cultural work, knowledge, conventional codes and methods of practice within a given field. Moving beyond a focus on the individual reinforces the idea that creation is never *ex-nihilo* but built on the shoulders of predecessors' (Sarimento and Stahl, 2008:1). It is therefore important to acknowledge that creativity is: 'a group-cognitive achievement' (Ibid), particularly in the instance of collaborating on the production of a record.

Psychologists in the 1980s, concerned with socio-cultural phenomena, studied individuals in a variety of cultural and social situations with a particular focus on aspects of planning, thinking, learning and remembering (Sawyer, 2003). They discovered however that individual cognitive processes were not easily attributable to the individual because of the 'deeply embedded group processes' (Ibid: 21) that operate during collaboration. Studying group creativity, rather than the creativity of individuals, is therefore a more challenging process because the creative contributions of individuals must be considered in equal terms to the: 'complex relations between them, [and] the communication patterns leading to unique emergent group properties' (Glăveanu, 2010: 2). Therefore, creativity as it relates to both the individual and the group must be considered when studying group creativity inside the recording studio. The following section explores creativity as a collective and collaborative practice, beginning first with studies into group creativity.

I.7 Studies of Group Creativity

Studies of group creativity have been predominantly conducted in the areas of social psychology and management studies using two wide-ranging approaches: the input-output (IO) approach and the process approach (Sawyer, 2012). The IO approach is typically conducted under laboratory-style conditions and is concerned with the analysis of a group's output in relation to their input. For example, a group may be given a series of objects and asked to make something specific from those objects. The IO approach has historically been concerned with two fundamental variables: 'the effect of group composition on group performance, and the effect of different process instructions' (Ibid: 93). Research using the IO approach has been useful in determining that in some instances groups made up of diverse individuals, with contrasting educational and social backgrounds, can be more creative than groups that are more homogenous (Bantel and Jackson, 1989; Hambrick, Cho and Chen, 1996; Keck, 1997). There are however contrasting studies that demonstrate the opposite: that creativity can be adversely affected by the diversity of the group (ie Ancona and Caldwell, 1992; Knight et al, 1999; Pelled, Eisenhardt and Xin, 1999).

In contrast to the IO study method, the process approach is generally more concerned with qualitative data through the analyses of the interactions that occur between the individuals in the group across the duration of a particular task (Sawyer, 2012). Process studies have been conducted on group interaction and idea generation (Nijstad & Stroebe, 2006; Paulus & Brown, 2003) and intrinsic and extrinsic motivation (Collins and Amabile, 1999; Hennessey, 2003). Process studies have also identified some of the ways in which groups develop over time, categorising some of the phases experienced by a group and producing a number of staged models to illustrate these (For a summary of 'Classic' Group and Team Developmental Models see Weiner, I., Schmitt, N., Highhouse, S., 2013: 426). However, there are a number of issues with viewing group creativity as a staged process in the study of group creativity because the staged models have not considered the context of the group and their cultural knowledge and experience. Importantly though: 'the focus on unstructured task situations means that

the models do not consider the development of task-relevant patterns of interaction and exchange among members that is dictated by workflow structure' (Kozlowski and Bell, 2013: 427). In other words, the models often overlook the accumulated knowledge of the individuals and the social context in which collaboration is taking place. Both of these aspects have been shown to remove ambiguity during role formation and influence social interaction between group members because of their cultural knowledge of the context (Sawyer, 2012).

These reproaches to the process approach and the way in which it has viewed group creativity as a series of stages has been useful in identifying some of the often ignored fundamentals for studying group creativity such as, the cultural and social context of the group and the social interaction and exchanges that occur during the creative process. In addition, studying group creativity using the IO approach has demonstrated that the constitution of the group can have an effect on group creativity, whether this is made up of socially diverse or homogenous individuals. However, a comprehensive investigation of how all of these separate variables can relate to other variables within the systems or processes that occur in groups is decidedly lacking (Cartwright and Zander, 1989; Rietzschel et al, 2010). For instance, studies that focus solely on 'idea generation' do not acknowledge that idea generation is only a part of the creative process and is rarely the sole objective. Group creativity research is currently deficient in explaining how: 'the production of ideas contributes to creative solutions or innovations *after* the idea generation stage (Rietzschel et al, 2010: 4). It is therefore vital that idea generation and its subsequent stages are explored inside the recording studio and that the cultural context of the group's interaction is considered in relation to these ideas.

These particular aspects of group creativity have been studied in the context of improvised jazz music (Sawyer, 2003b). By studying a group of jazz musicians during an improvised performance, it was concluded that group creativity couldn't be explained through the use of structured or staged models because group creativity is: 'unpredictable, collective and emergent' (Sawyer, 2003b: 79). In other words, it is

impossible to determine what will happen next because each of the individual performing musicians influence each other and create something that emerges from a collective process. The improvising musicians are able to interact using commonly understood symbols and signs, or in Sawyer's words, their interaction is 'semiotically mediated' (Sawyer, 2003b). This important aspect acknowledges the cultural context of the group and illustrates how their previous knowledge influences their interaction during improvisation.

Sawyer's study illustrates how each group member contributes something towards the creative output of the group by using the shared symbol system and within the defined parameters of the cultural and social context of jazz performance. This individual contribution then further constrains what others are able to contribute next to the emergent performance. In much the same way as the systems model of creativity, these notions outline a system in action, particularly because there is a necessity for creative individuals to have prior knowledge of the underlying structures in order to make sense of prior performance acts and to contribute new ones. For example, the musical style of jazz crudely constrains the operation of the performers and each performance contribution further constrains the next performance act. In this way, two distinct systems can be viewed in operation. The musical style of jazz is the broader system that holds the related symbol system and dictates such aspects as the type of instrumentation etc. The collaborating participants must have an intimate knowledge of this symbol system (or the domain) in order to meaningfully interact with the other participants, which offers an amount of affordance and constraint (or agency and structure). This aspect of constraint relates to previous broader assertions that an agent selects from a limited number of possibles presented to them by the conditions of the field, the genre in which they work and their previous experience (Bourdieu 1996; Toynebee, 2000). The musician therefore: 'identifies (hears) possibles according to a) the perceptual schema of her/his habitus and b) its point of intersection with the creative field' (Toynebee, 2000: 40).

This point further underlines the notion that agency is dependent on structure; even in improvised situations. Within these situations there must also exist a shared understanding between the individuals in the group of the expectations of the cultural and social context, and the symbol systems that operate within it, for meaningful collaboration to occur. In this way, the participants inside the recording studio can be viewed as a functioning creative system with a symbol system (domain), social group (field) and a collection of individuals (agents).

1.8 Group Creativity as a System

Studies of the emergent properties of a group, particularly during improvised musical performance (Sawyer, 2003b), have significant implications for the study of processes that can occur during the making of a record inside the recording studio. For instance, it has been argued that a focus on the individual during group creativity is limited because the way in which a group functions arises from the interactions of its individual members (Sawyer, 2003b). Studying group creativity therefore requires a group level of analysis because creative groups are: ‘complex dynamical systems and manifest emergent properties...[and are] at the systems level that are not held by any of the individual components’ (Sawyer 2003b: 166). A group level of analysis is present in conceptual studies of group creativity (Paulus and Nijstad, 2003) that use a framework of an individual’s contributions (e.g., Hinsz, Tindale & Vollrath, 1997; Stasser & Birchmeier, 2003). It is argued that there are: ‘Three aspects of group functioning: group members, group processes and group context’ (Paulus and Nijstad, 2003: 332). This framework has been developed as a model illustrated in Figure 5 below:

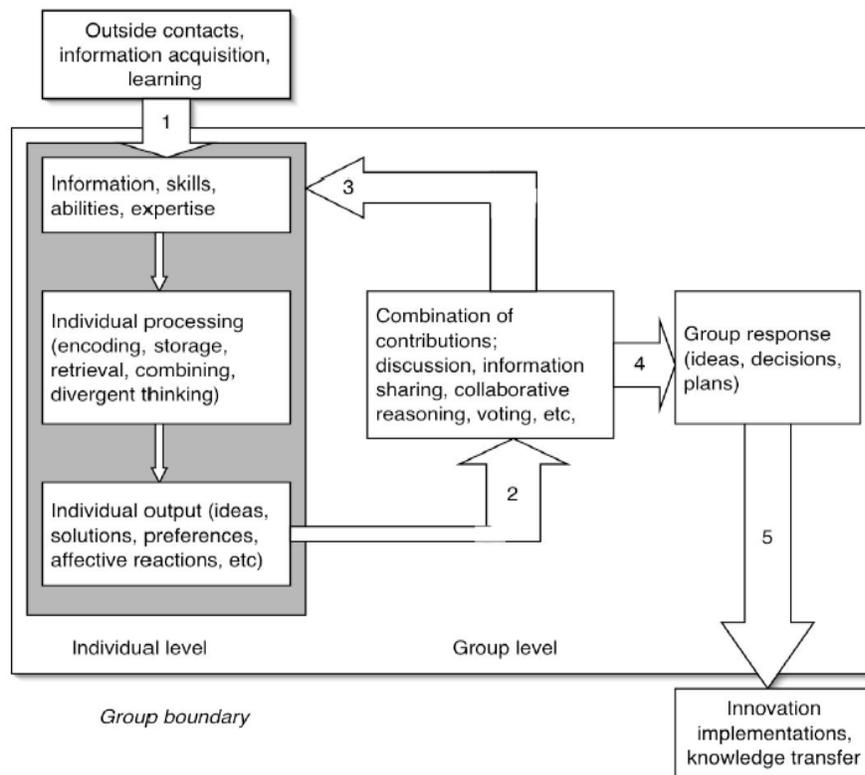


Fig. 5. 'A Generic Model of Group Creativity' (Nijstad and Paulus, 2003: 334).

In much the same way that Csikszentmihalyi's (1988, 1995, 1996, 1999) systems model requires the acquisition of domain specific information by an individual, the model above identifies 'information acquisition' as a necessary component of collaborative creativity. The individual must first acquire particular skills, knowledge, ability or expertise in order to action the proceeding stages of creativity on an individual level. These individual stages (with a grey background) represent the individual's creative process and are dependent upon the experience of the participants; this stage may be better represented by Wallas' four-stage process for less experienced participants, that includes 'preparation, incubation, illumination and verification' (1976), or Bastick's two-stage process of intuition and verification (1982), or Bourdieu's description of 'habitus' (1984, 1990 and 1993) for more experienced participants.

The individual contribution is then outputted to the group for discussion, assessment, verification or rejection. If rejected, the process returns to the individual level where individuals within the group begin the process again (or add to or alter the initial contribution), or if the group has verified the contribution it is progressed out of the immediacy of the group and in due course the collaborative creative contribution progresses to external verification where it can be evaluated, verified or rejected (McIntyre, 2009). Although the arrangement of the model is different to that of the systems model it has been argued that the exchange of knowledge, ideas and critical evaluation between the group is similar to that of the systems model because it acknowledges the: ‘individual, field and domain interactions necessary to produce artefacts’ (Kerrigan and McIntyre, 2010: 14).

In bringing together all of the ideas presented so far, further developments to the systems model of creativity have provided useful minor alterations to the original model presented by Csikszentmihalyi (1988, 1995, 1996, 1999) to extend to the study of creative groups. For example, in her exploration of the production of a documentary film, Susan Kerrigan concluded that even though creativity occurs at: ‘the intersection where individuals, domains and fields interact’ (Csikszentmihalyi 1999: 314), the element of ‘creative practice’ is not represented in the original model. Kerrigan’s revised systems model of creativity demonstrates how creative practices can also be represented in the systems model by contextualizing each of the generic elements of the creative system in relation to the creative practice of documentary filmmaking (Kerrigan, 2013). In this case, the domain was recontextualised as the: ‘cultural archive consisting of Fort Scratchley history and documentary knowledge base’ (Kerrigan, 2013: 114) and the field was re-contextualised as the: ‘social groups of experts who assessed and assisted with the creation of the documentaries and then judged them as being appropriate representations of the historical truth of the Fort Scratchley site, for example, local historians, Fort Scratchley Historical Society, Newcastle City Council (NCC), documentary distributors and the general public’ (Ibid: 113-114). The individual in the system was the documentary filmmaker herself and by specifically redefining each of the elements within the system ‘creative practices’ could be seen to

emerge at the intersection between the individual, the domain and field. A revised systems model (Figure 6) was therefore developed in order to illustrate that ‘creative practices’ can be replaced with the original term ‘produces novelty’. This alteration however: ‘still endorses all the definitions presented by Csikszentmihalyi (1988, 1995, 1996, 1999) and indeed continues to rely on those rigorous and established arguments that validate a creative systems’ approach’ (Kerrigan, 2013: 114).

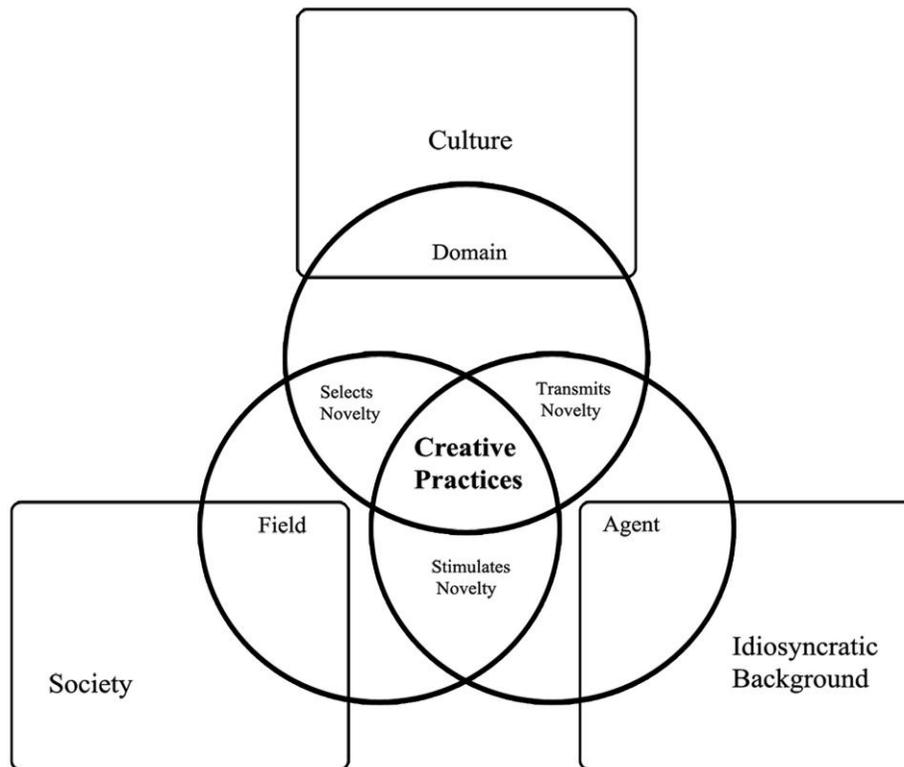


Fig. 6. ‘Revised Systems Model of Creativity Incorporating Creative Practice’ (Kerrigan 2013: 114).

In addition to replacing the term ‘produces novelty’ with ‘creative practice’, the term ‘individual’ was substituted with ‘agent’. The term ‘agent’ expands the perspective of the model to include a single individual, a group of individuals or even an institution. Making this apparently minor alteration has shifted the focus from the individual in the system to the possibility of representing a group of individuals in the system. This alteration acknowledges that each member of the process performs a particular function within a particular domain and his or her creative contribution is effectively

dispersed within the process of collaboration. This process is defined as distributed creativity (Sawyer & DeZutter, 2009) and refers to: ‘situations where collaborating groups of individuals collectively generate a shared creative product’ (Sawyer & DeZutter, 2009: 82). The alteration from dynamic arrows between components of the system to the Venn diagram visual overlay of components in the system also acknowledges the complex interactions between the components that occur during collaboration. The term ‘creative practices’ has been placed in the centre of the three overlapping components of the model to: ‘explicitly illustrate interaction and intersection between the components’ (Kerrigan, 2013: 125).

These useful revisions to the systems model support the prevailing conception of systems theory, principally that systems are wholes that are derived from the interactions between their parts. Although systems can sometimes appear to exist independently they are actually the result of: ‘an all-embracing organic pattern. No single part of this pattern was ever really separated from another’ (Skyttner , 2006: 38). Arthur Koestler (1975) illustrated this perspective of interrelated, scalable systems through the term ‘holon’, which he described as an: ‘entity that when viewed one way is a complete object but when viewed in a different way is a component part of another possibly larger entity’ (McIntyre, 2013: 91). In the case of the systems model of creativity, the domain, its content of symbols, culture, previous works and codes can be viewed as a separate entity. However, because the domain is a necessary component for creativity to occur, and must be internalised by an agent in order to be creative, the domain can therefore be seen as a crucial element of the larger system of creativity (McIntyre, 2013). The creative system can therefore be viewed as scalable, which: ‘applies equally well at the individual level and also at the group, organizational, institutional or sociocultural level’ (Ibid: 91).

Therefore Kerrigan’s (2013) revised model of creativity, in combination with Koestler’s (1975) scalable concept of holons, provide the necessary frameworks in which to study creativity and collaboration inside the recording studio. By re-contextualising the revised systems model of creativity to apply to the production of a

rock record inside the recording studio, the other elements within the system can also be re-contextualised. For example, the domain can be re-contextualised to relate to the immediate context of the rock music, which includes the stylistic characteristics of rock, the song, its arrangement and the technical and cultural aspects of rock record production. The field can also be re-contextualised to represent the immediate context of the recording studio, and the participants inside it, as the social group of experts that understand and apply the domain in assessing the creativity of each individual's creative contribution. Furthermore, because the 'individual' has also been replaced with 'agent' in the revised model, this allows a systems approach to accommodate groups as well as individuals. Employing a systems approach to the study of creativity and collaboration in the recording studio acknowledges that the creative process is non-linear and recognises the cultural and social elements of an agent inside the recording studio. The acknowledgment that systems are scalable also allows the creative system to be scaled up or down in studying some of the processes inside the recording studio. The creative system therefore provides a useful framework to investigate creative practices, or P-creativity (Boden, 2004) on an individual level and on a group level. Both of these approaches provide a more inclusive approach in studying the creative 'practices', or actions, as well as creative ideas that are: 'original, valued and implemented' (Csikszentmihalyi and Wolfe, 2000: 81) by the participants inside the recording studio as they collaborate on the production of the record.

Conclusion

Moving beyond a focus on the creative individual, studies into groups have highlighted that individual cognitive processes were not easily attributable to a single individual because of 'deeply embedded group processes' (Sawyer, 2003: 21).

Social/psychological studies into the creativity of groups have further highlighted that groups made up of diverse individuals can be more creative than groups that are more homogenous and that some groups move through different stages of collaboration.

However, these studies have often overlooked the cultural and social context in which group creativity takes place and critiques of these studies have further encouraged a

consideration of the social interaction and exchanges that occur during the creative process. Sawyer's study of group creativity from the perspective of an improvising jazz ensemble has been useful in identifying a mixture of interactional forces that are placed on participants during improvisation such as semiotic mediation and interpretation in communication, the flow of the prior interaction and the definition of, and constraints of, the performance genre. These aspects of creativity relate to previous assertions that an agent selects from a limited number of possibilities presented to them by their previous experience, their habitus and the social expectations of the field (Bourdieu, 1996; Toynbee, 2000). Consequently, a shared understanding of the expectations of the social and cultural context, and the symbol systems that operate within in it, are necessary for groups to collaborate. The interaction between all of these elements should therefore be considered in equal terms to the group members, group processes and group context when studying group creativity (Nijstad and Paulus, 2003). Group creativity can then be viewed as a system in operation as the sharing of knowledge, ideas and analytical feedback within the group is analogous to the systems model of creativity (Kerrigan and McIntyre, 2010: 14). A systems approach therefore provides a useful framework to investigate the creative practices of the participants inside the recording studio. Furthermore, rescaling the systems model using Koestler's idea of 'holons' (1975) allows the creative process to be scaled to an individual level and on a group level inside the recording studio. Employing a scalable systems approach inside the recording studio also means that the: 'original, valued and implemented' (Csikszentmihalyi and Wolfe, 2000: 81) creative practices, actions and ideas generated by the participants can be observed.

Having focused on studies into creativity, and determining the frameworks (Kerrigan, 2013; Koestler, 1975) to investigate creativity and collaboration inside the recording studio, the following chapter addresses current research into record production, its personnel and processes. Beginning with some of the mythologies and traditions that are evident in the discussion of popular music recording the chapter concludes by drawing the main points of Chapter one and two together by illustrating the context of this study into creativity and collaboration inside the recording studio.

| 2 |

STUDIES INSIDE THE RECORDING STUDIO

Introduction

The previous chapter critiqued the idea that the ability to be creative is genetically, or biologically, inherent and a distinct characteristic of particular individuals. This Romanticised, and overly simplistic, view of creativity often ignores the cultural and social processes necessary for creativity to occur. Furthermore, scholarly research exploring creativity as a collective, collaborative, group practice has begun to illustrate the complexities involved. However, Romantic notions of creativity in the recording industry continue to prevail in the popular imagination of artists, engineers, producers and audiences (Williams, 2011; McIntyre, 2012). The dominant focus in rock music and record production has historically been on the artist, with a particular emphasis on the Romantic ideals of creativity. Rock musicians in the 1960s were characterised by Romantic ideology in which true creativity lay in opposition to commercialisation (Wicke, 1990:98-99) and being creative meant being free from constraint. These ideas appear to be so embedded into the culture of the recording industry that: ‘they are reflected in the way artists are sold to audiences, the way audiences think about what happens when records are made and they make regular appearances in articles and conversations about the studio and its practices’ (McIntyre, 2012: 149).

Some of these myths that surround the recording studio and its related practices have been reinforced by the artists, engineers and producers themselves, confirming the assertion that some individuals use these myths to validate their practices within their community (Boden, 2004). Places are also mythologised in this process and interviews with artists, engineers and producers refer to the ‘magic’ of a particular recording studio because of its connection with particular recordings or artists (Gibson and

O'Connell, 2005). Furthermore, as specific sites of popular music production, recording studios have been presented as 'places of creativity and production' that are promoted as: 'authentic "locales" where timeless music was made' (Gibson and O'Connell, 2005: 58) and these: 'myths and images of recording have turned them into seminal spaces, each with their own harmonic qualities of reverberation, echo and silence' (Ibid: 58-59). These Romantic images have permeated through the popular media and have been endorsed in Hollywood productions and music documentaries such as the Ray Charles biopic '*Ray*' (2004) and the Rolling Stones documentary '*Sympathy for the Devil*' (1969). Music documentaries tend to present an incomplete view of the recording studio and its processes by diminishing the role of recording technologies by filming musicians: 'delivering collective performance rather than focussing on the fractured, individual nature of overdub performance central to most multi-track popular music recording' (Williams, 2011).

The Romanticised images of the recording studio and its practices therefore present a dramatic, glamorous and often partial picture of the recording process. These Romantic images are difficult to refute because of the often private and closed environment of the recording studio. This lack of access to the environment of record production, coupled with Romanticised depictions, contribute to an often-incomplete understanding of what actually takes place during the making of a record. Because the artist's contribution is often the most prominent in the final recording, the contributions of the recording engineer and the record producer are often 'behind the scenes' (Zak, 2001: 164). However, a rock music recording is often a collaborative endeavor undertaken by a 'creative collective' (Hennion, 1990). The 'creative collective' are a team of individuals who work together on the production of the recording including tasks such as song writing, arranging, engineering, producing and performing. The final recording is therefore the result of: 'a continuous exchange of views between the various members of the team; and the result is a fusion between musical objects and the needs of the public' (Hennion in Frith & Goodwin, 1990:186). The contribution of each individual involved in the recording process influences the final result and although it is the artist or band that is credited on the record's front cover: 'most tasks

involved in making a record require some measure of artistry' (Zak, 2001: 163). The promotion of a creative group over the creative individual de-emphasises the agency of the individual within the creative process during the production of a rock recording and highlights the collective nature of art making (Becker, 1982; Wolff, 1981). Because art making takes place within a cultural framework (Wolff, 1981) those involved in making rock music recordings are constrained and enabled by: 'the available technologies and expertise, by economics, and by the expectations of their audience' (Shuker, 1994:99). Therefore, rather than the result of one person's efforts, the production of a rock record is the result of: 'the dynamic interrelationship of the production context, the texts and their creators, and the audience for the music' (Ibid).

These ideas further contest the Romantic depictions of the sole, creative artist. However, academic research in this area is decidedly lacking and the recording studio, as a principal location for ethnographic fieldwork, has only featured in a handful of published studies (Hennion 1990; Kealy 1990; Fitzgerald 1996; Gibson 2005; Meintjes 2003; Porcello 2004; Bates 2008). There has however been some growing interest in the study of record production and the processes that occur inside the recording studio through an analysis of the roles of the participants. The following chapter reviews current literature in relation to these roles and the three main observable tasks in this study, that of engineering, producing and performing. With dedicated sections on the sound engineer, the record producer and the performing musician inside the recording studio, the chapter concludes by reviewing studies into collaboration and creativity inside the recording studio and provides the context for this study inside the recording studio.

2.1 The Sound Engineer in the Recording Studio

Sound engineering has historically been viewed as a technical rather than a creative endeavour (Kealy 1990) particularly within the commercial recording industry where the sound engineer, the record producer and the musician have an identifiable history of delineated unionised roles associated with the field of popular music record

production. But sound engineers have taken longer to ascend to the ranks of those described as being engaged in the artistic aspects of record making and most often they have been viewed as mere technicians. This is because of the persistent distinction made between art and craft in which craft is seen to be dependent on overt technical skills whereas art is not (Collingwood, 1963). For example, R.G. Collingwood (1963) insisted on a strict differentiation between art and craft and proposed that one of the peculiarities of craft-based work was the notion that craftspeople systematically planned out what they would do and implement this plan in a procedural way. This idea of craft was presented as the antithesis of what artists would do. For Collingwood ‘the end was thought out first, most commonly by someone else, that the raw material is available before the work is done, that the maker is dependent on the skills of someone else’ (Passmore, 1991: 23). In this case if a form of aesthetic production *didn't* follow these prescriptions it must, of course, be art. However, what underpins this sort of thinking about the distinctions between artistic practice and the use of a technically oriented approach in producing aesthetically appealing work is a very particular, and now, quite anachronistic view of creativity. However, these views on the distinctions between art and craft, and consequently what is considered to be creative, continue to persist within the recording industry and although it has been acknowledged that engineering requires a degree of artistry (Zak, 2001) the engineer continues to be thought of as a mere technician.

Edward Kealy (1990) has argued that the sound engineer’s role has developed from that of a craft-person into an artist and that the sound engineer’s contribution to a recording is a creative one. He maintained that the ability to be creative is dependent upon the recording technology available at the time, the social and economic organisational context of the recording studio, the expectations of the sound engineer’s role and: ‘the associated occupational ideology of sound mixing’ (Kealy in Frith & Goodwin, 1990: 208). These aspects are shown in the work of the recording engineer, which has an integral relationship with: ‘technological innovation and changing musical styles’ (Horning, 2004: 704). The sound engineer’s ability to exercise their agency inside the recording studio is therefore dependent upon the way in which the

studio participants collaborate on the recording, or in Kealy's words, the 'mode of collaboration' (1990). Craft-Union mode for example is a heavily compartmentalised way of working in the recording studio because of the unionised roles of the musicians and the sound engineers. Craft-Union mode offers limited opportunities to exercise creative agency during the recording process. Conversely, 'Art-mode' involves the creative contributions of all the studio participants and the musicians, engineers and record producers are directly involved in: 'organizing the work to be done at the session and make the aesthetic decisions' (Ibid: 215).

It has been argued that the engineer is: 'in fact responsible for much of what we hear on a recording – from the quality of the sound colours to the refinement of the smallest details in the mix' (Zak, 2001: 165). Their tasks involve selecting appropriate microphones and placing them on instruments in order to shape the sound of the recording but fundamentally, the sound engineer has been described as a translator because: 'musical ideas, human presence, artistic personalities, the sounds of the instruments, voices and rooms must all be translated from their original state into the medium of the recording' (Zak, 2001: 165). Because of this sound engineers have developed words, phrases and metaphors to facilitate this translation process and: 'talk is constitutive of sound-engineering work' (Porcello, 2004: 734). The sound engineer therefore requires much more than technical knowledge to undertake their tasks in the recording studio and the importance of: 'tacit knowledge, experience, and human interaction in professional recording has not diminished' (Horning, 2004: 705). In this case, tacit knowledge is defined as the: 'unarticulated, implicit knowledge gained from practical experience' (Ibid) and is a fundamental aspect of the engineer's ability to function inside the recording studio. Horning illustrates tacit knowledge in action through the example of 'microphoning' (Horning, 2004) in which the engineer selects and places microphones on instruments and voices (Canby, 1956) with an aesthetic sensibility in order to balance the requirements of the musician and the overall 'sound' of the recording. The engineer must also think in terms of sound in order to: 'envision the *musical architecture*, how the various instruments and voices in a stereo or multi-

track recording should be placed in the mix, not simply in terms of relative volume, but of their positioning in the aural perspective' (Horning, 2004: 713).

Studies into the sound engineer and engineering inside the studio (Kealy, 1990; Horning, 2002; Porcello, 2004 and Zak, 2001) all infer that the role of the engineer is creative by the way in which the engineer translates the sounds into the 'medium of recording' (Zak, 2001: 165), uses metaphoric and linguistic devices to discuss sonic ideas and convert them into aesthetic and technical solutions (Porcello, 2004), and the way in which tacit knowledge and aural thinking are deployed throughout the engineering process (Horning, 2004). However, these studies fall short in illustrating exactly how the engineer's contribution is creative, principally because they don't employ a definition of creativity. Although they acknowledge the constraints of the engineer inside the recording studio, they also fail to illustrate how they are also enabled through the existence of these structures or creative systems. As a result, the ways in which the sound engineer interacts with elements of the creative system and the creative practices of the sound engineer have yet to be comprehensively explored.

2.2 The Record Producer in the Recording Studio

Record producers have been identified as having a creative influence over a recording for some time and consequently the creative contribution of the record producer has been more considered than the sound engineer. For example, the record producer has been identified as the 'composer' (Moorefield, 2005) by applying the framework of auteur theory. Appropriated from studies into film, auteur theory refers to the ways in which the film: 'director can be viewed as the author of a film' (McIntyre, 2012: 133). These ideas attempt to distinguish the record producer as an identifiable author, or composer, of a popular music recording. The role of celebrated and commercially successful producers within the sphere of Western popular music has been analysed through the notion that they leave an authorial stamp on their productions. Of particular interest to this study are the explorations of producers working in guitar-based rock and pop in which it was noted that because record producers such as Phil

Spector and George Martin developed production methods that went beyond the accepted recording aesthetic: ‘they made a potent argument for viewing the producer as auteur...they were in effect attaining a status akin to that of a film director’ (Moorefield, 2005: xv). However, this focus on the auteur is problematic, particularly in the light of both creativity research presented in the previous chapter and the acknowledgment that the production of art has broader social interconnections. In other words: ‘the idea of the artist as sole originator of a work obscures the fact that art has continued to be a collective product’ (Wolff, 1981:27). A popular music recording is therefore viewed as the result of a convoluted interaction between ideology and economics: ‘mediated through the formal structures of the text (literary or other), and owing its existence to the particular practice of the located individual’ (Ibid: 139).

Some studies into the role of the record producer and the tasks they undertake inside the recording studio have accounted for these broader cultural and social factors. For example, sociological studies inside the recording studio have characterised the record producer as an ‘intermediary between production and consumption’ (Hennion, 1990) with the principal task of representing the audience and encouraging an emotional performance from the recording musician (Hennion in Frith & Goodwin, 1990: 186-187). Record producers have also been described as ‘technological intermediaries’ (Feld, 1994: 282) in their role between people and performers. It has been further argued that record producers: ‘work daily at the interstices of cultural politics and music and are forced by circumstances to find pragmatic solutions’ (Neuenfeldt in Green & Porcello, 2005: 89). This perspective highlights the record producer’s negotiation of the aesthetic, technical, political and economic concerns during the production of a record. The recording studio is therefore: ‘the cultural space for negotiating the complex and sometimes contradictory demands of creativity, commerce, and culture (Ibid: 87). Consequently, the recording studio, its participants and its processes are not separated from their immediate socio-economic and political environment. Importantly then: ‘the ingenuity of technicians, advances in technology, individual talent of artists, and market pressures all need to be held in analytic view if

we are to understand the innovative and creative decisions of music production.’ (Meintjes quoted in Green & Porcello, 2005: 28).

The view of the record producer as ‘intermediary’ has also been illustrated as ‘nexus’ to acknowledge the dynamic relationship between the record producer: ‘the creative inspiration of the artist, the technology of the recording studio, and the commercial aspirations of the record company’ (Howlett, 2012). In their multifaceted role inside the recording studio the record producer forms integral connections and links between the studio participants and other members of the ‘art world’ (Becker, 1982). The record producer therefore is involved in ‘nexus work’ in which the creative collective process involves eliciting and synthesising the ideas of others both inside and outside the recording studio (Long Lingo and O’Mahony, 2010: 48). In their empirical study of record producers in Nashville, USA, Long Lingo and O’Mahony identified a ‘set of nexus work practices’ that were common to the all of the 23 record producers studied. These common practices included: ‘(1) setting the stage, (2) affirming direction, (3) crafting role boundaries, and (4) absorbing challenges to expertise’ (Long Lingo and O’Mahony, 2010: 69). In undertaking these tasks, the record producer has also been presented as a ‘type’ to further illustrate their function inside the recording studio. These types include: ‘artist-producer, auteur-producer, facilitative-producer, collaborative-producer, enablative-producer and consultative-producer’ (Burgess, 2013: 19-20). However: ‘like the blank tile in Scrabble that can substitute for any letter, music producers have to be versatile and supply missing elements to make a great recording’ (2013: 8).

These studies not only highlight the function, roles and nexus undertakings of the record producer (Long Lingo and O’Mahony, 2010; Howlett, 2012; Burgess, 2013) they also underline the convoluted cultural knowledge necessary for the record producer to operate in the field. Bourdieu refers to this accumulation of cultural knowledge as ‘cultural capital’ and its possession: ‘becomes related to the ability to wield power’ (McIntyre, 2008a: 5). However, all of these studies fall short in illustrating *how* the record producer is creative in the tasks they undertake, how they

employ their knowledge and balance the expectations of the field both inside and outside the recording studio. The creative practices of the record producer, and the ways in which they interact with elements of the creative system whilst undertaking their role inside the recording studio, has therefore yet to be comprehensively studied.

2.3 The Performer in the Recording Studio

To date, there has been relatively little academic enquiry into the creative practices of the performing musician inside the recording studio. Studies in this area have typically focused on the musician's experiences of performing in the recording studio and much of what has been published is predominantly in the area of performance studies and almost exclusively with orchestral musicians. These studies are largely split into two strands: 'historical research on the original conditions of performance at the time a given work was composed, and the study of performance practice through recordings' (Greig, 2009: 24-25). For instance, studies into performance have emphasised the link between performance style, individual agency and the broader musical conventions of Western-Classical musicians. Although it was found that performers exercise their agency by exhibiting their own unique performance style: 'it would be impossible for performers to please audiences, promoters and critics' (Ibid: 248) if they did not broadly conform to their expectations. This highlights the influence of the art world on performing musicians and explains how: 'current taste selects performers who conform, and in so doing it creates a "period style" which may be defined habits that may of them have in common' (Ibid).

The orchestral performer's place in the process and product of recording inside the recording studio has also been explored (Blier-Carruthers, 2013). The orchestral performer's creative agency inside the recording studio was also found to be limited because the record producer is viewed as: 'all-powerful, to the extent that the performers often feel that he takes away their control of the situation, yet to the outside world he is almost invisible' (Blier-Carruthers, 2013: 4). Tensions are further created through the expectation of perfection in which: 'audiences and musicians have come to

expect increasingly technically accurate performances... a perfection which musicians are at constant pains to deliver' (Ibid: 5). Performers are also: 'performing for and against the microphone' (Greig, 2009) and recording technologies can become an added layer of constraint in their ability to exercise their creative agency inside the recording studio. For example, although the use of headphones can also provide a communicative bridge between personnel in the control room and musicians performing in the live room, it limits the ability for musicians to communicate verbally amongst themselves to discuss or evaluate each other's performance (Williams in Frith & Zagorski-Thomas, 2012: 114). Drawing on autobiographical, biographical and academic literature these aspects have been brought together through the study of issues affecting performance in the recording studio (Zagorski-Thomas, 2012). Eight categories were identified and are as follows (2012: 6):

1. The performer hearing themselves
2. The performer hearing others
3. The performer seeing others
4. The nature of the studio environment
5. The nature of the recording technology
6. Power relationships and decision-making
7. The alteration of the player's normal performance practice
8. The alteration of other aspects of the player's working practice

It is acknowledged that some categories overlap with others and most notable is the observation that studio performance may not necessarily include performing with other musicians in real time. The nature of the studio environment can therefore influence the performing musician and: 'the nature of the environment in which the recording takes place will be an important determinant in the mood and attitude of the performers' (Ibid: 15). The recording studio can be a foreboding and alienating space for performing musicians (Williams, 2007) and the control room of the recording studio has been compared to an 18th Century prison design feature called a 'panopticon' (Ibid). In the panopticon design the inmates' cells face a central control

tower that affords prison guards continuous observation of prisoners. The design of the panopticon and the recording studio has been compared because the performing musician has: ‘no way of knowing whether its signal is being preserved on a recording, or broadcast over control room loudspeakers, but must operate under the assumption that it is always on’ (2007).

Performing in the recording studio also often requires the musician to perform without an audience. In the recording studio, the audience is often replaced by those directly involved in the decision making process, however the lack of audience response can contribute to the introspection of the performing musician’s experience in the recording studio in which their performance is judged by other participants in the control room. However:

Judgment calls and decision making in the studio are complex phenomena – musicians will often judge a take by how it felt rather than by how it sounded. The stress of trying something that they are unsure of, a moment of indecision or forgetfulness and other factors that may make a player momentarily confused or stressed will often make them feel negative towards a particular take (Zagorski-Thomas, 2012: 21).

Whilst useful in detailing some of the issues, concerns, alterations and requirements for musicians performing in the recording studio the available literature is lacking in a comprehensive exploration of the performing musician’s idiosyncrasies, their knowledge and symbol system, their collaboration with others in the field during a particular recording project and, importantly, how all of these aspects interact with each other inside the recording studio in the context of the creative system.

2.4 Collaboration and Creativity in the Recording Studio

Studies into the engineer, the record producer and the performing musician have illustrated the specific tasks that the particular personnel involved in record production can undertake. They have also described some of the constraining factors that operate on engineers, record producers and performers as they undertake their tasks inside the recording studio. However, because they are restricted in their perspective these investigations tend to offer a limited critical analysis of the interrelated creative contributions of all the participants during the entire process of making a record. There are pockets of research however that have attempted to comprehensively explore the creative process inside the recording studio by employing distinctly different methods of data collection and analysis. For example, the creative contributions of participants inside the recording studio have been explored through analysis of conversations between the participants (Bayley, 2013), through a sociological analysis of agency and structure (McIntyre, 2008a), through participant-observation (Fitzgerald, 1996) and the application of a systems perspective to the record production process (McIntyre, 2012).

Exploring the creative process inside the recording studio through conversation analysis illustrated the different types of interaction that occurs between the participants. These were categorised as: social conversation, nonverbal social interaction, musical conversations, nonverbal musical interactions and musical interactions (Davidson, 2004: 68). The study revealed that musical conversation was the most prevalent of these (Bayley, 2013) but it was also discovered that social conversation was important in order for: ‘musicians create a mutual orientation in relation to each other and their individual and combined experiences’ (Bayley, 2013) in which ‘shop talk’ helps: ‘to position the individual players in relation to each other, in relation to the work they are offered and the work they do, and perhaps the pay they receive’ (Ibid). Studying the social processes in the recording studio provided insight into the way in which: ‘musicians define their roles and working relationships with each other and what they consider to be the most important factors that make it work’ (Ibid).

By drawing upon the ideas of Pierre Bourdieu, Phillip McIntyre explored the distribution of power inside the recording studio and argued that the recording studio, like any field, is one of contestation in which different types of capital are deployed throughout the recording and production process. Cultural capital is defined as a type of knowledge that allows the person, or agent, to decipher: ‘cultural relations and cultural artefacts’ (Johnson in Bourdieu 1993: 7). Cultural capital is deployed throughout the recording process and, in addition to economic (money) and social capital (status in broader society), it is argued that an individual’s accumulation of cultural capital is central to the way in which agency and power can be exerted in the recording studio. It should be noted however that: ‘these forms of capital don’t operate in isolation from each other but are, of course, interdependent’ (McIntyre, 2008a: 5). The celebrity status of a creative individual, or their symbolic capital, can also be deployed in the recording studio to exert agency and acts as: ‘a way of providing distinctions and definitions of success’ (Marshall, 1997: 2). The status of a celebrity therefore: ‘confers on the person a certain discursive power’ (Ibid)’. Agency or power operate within a number of broader constraining systems and an individual’s power inside the recording studio is both enabled and constrained by their relationship and connection to the field. Therefore: ‘their freedom to act is relative to the domain and field they work in and not, as a Romantic view of creativity would have it, a case of having no impediments to their action’ (Ibid: 7). The operation of power inside the recording studio therefore has multiple facets. It impacts and guides the process of collaboration inside the recording studio between the musicians, engineers, record producers, technicians and record company personnel. Importantly, it is through the operation of power and: ‘the interplay between the components of the system, and the power that each enacts, that creativity in the studio is produced’ (McIntyre, 2008a: 6).

Investigating the creative processes involved in a popular music recording session (Fitzgerald, 1996) with a songwriter, arranger and session guitarist highlighted the collaborative nature of working inside the recording studio. It was emphasised in this instance that the process was so highly collaborative that the established financial remuneration systems, that of publishing and copyright, were brought into question. It

was deliberated whether the contributing musicians should share in the songwriting credits ‘and hence the publishing royalties’ (Fitzgerald, 1996: 73). Whilst useful in highlighting the notable contributions of the songwriter, arranger and session guitarist, as Fitzgerald himself points out, the study only mentions in passing the contributions of the studio sound engineer and thus provides only a partial analysis of collaboration during the recording session.

Building upon other studies in the recording studio (Hennion, 1990; Fitzgerald, 1996), Phillip McIntyre’s investigation into the creative processes of the record producer during the stages of record production applied Bourdieu’s (1977, 1990, 1993 & 1996) ideas on cultural production and Csikszentmihaly’s (1988, 1997 & 1999), systems model of creativity. Creativity in this context is defined as:

An activity whereby products, processes and ideas are generated from antecedent conditions by the agency of someone, whose knowledge to do so comes from somewhere and the resultant novel variation is seen as a valued addition to the store of human knowledge (McIntyre 2012: 151).

By drawing on empirical data the study illustrates that, in order to be creative, record producers must have an intimate knowledge of the domain of record production to help them decide on songs, song quality, quality of performances, tuning and timing. It was also shown that producers must have an intimate knowledge of, and interact with, the agents and institutions that constitute the field of record production (shown in Figure 7 below):

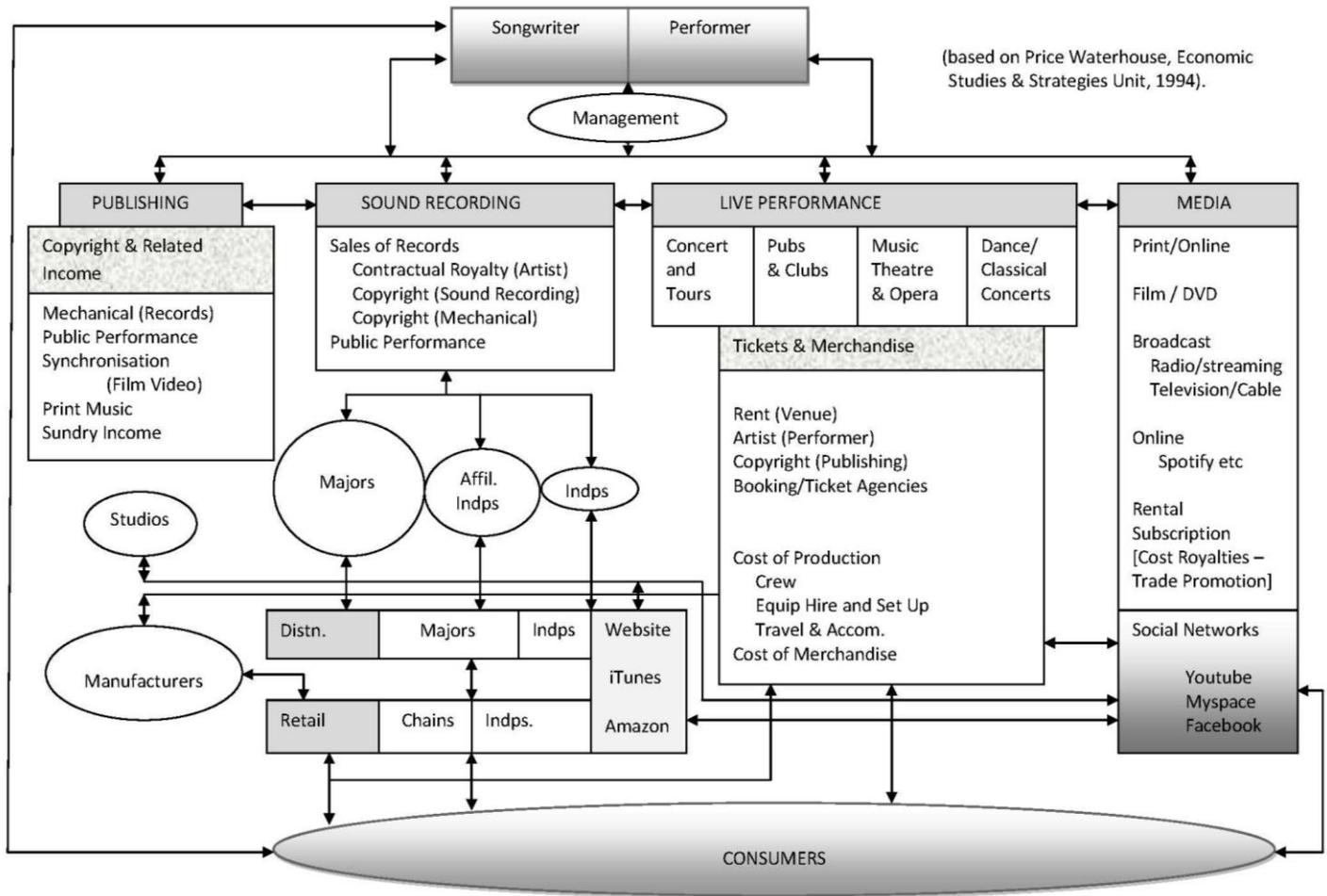


Fig. 7. ‘The field of Commercial Record Production’ (Thompson & McIntyre, 2013).

The study highlights a number of musical, logistical, technical and financial constraining factors placed on record producers as they collaborated inside the recording studio but also that these constraining factors are also: ‘critical enablers of the process. This is to say they are factors that *allow* creativity to occur’ (McIntyre, 2012: 160). This does not mean that the creative decisions or actions of record producers are predetermined however, rather actions and ideas are selected from a variety of options or ‘possibles’ (Bourdieu 1996, Toynbee 2000) and that creativity shares interdependence: ‘with the structures, the domain and field of record making, that these record makers exist in’ (McIntyre, 2012: 160). These final points are fundamental in refuting the Romantic, individually focussed perspective of creativity

and, by conflating the sociological perspectives of creativity by Bourdieu (1996), Toynebee (2000) and Csikszentmihaly (1988, 1997 & 1999), these assertions also confirm the perspective that: ‘all action, including creative or innovative action, arises in the complex conjunction of numerous determinants and conditions’ (Wolff, 1981: 9). However, because of its broad aims McIntyre’s study provides a limited focus on the collaborative interactions of other participants in the process, such as the engineer and the performing musicians. Because of this, the analysis falls short of examining the other interactive systems that occur inside the recording studio during the making of a record such as performance and engineering (Zak, 2001). In addition, by drawing primarily upon interview data that spans numerous productions from different decades and countries, the conclusions drawn by this study are less specific to a particular production at a particular historical moment and geographic location. A critical study of both the contributions and the processes of *all* of the participants inside the recording studio is therefore necessary.

Conclusion

Although research into creativity has rebutted the myth of an inspired, lone, creative ‘genius’, these depictions continue to endure within the popular imagination of artists, engineers, producers and audiences (McIntyre, 2012). Some recording studios too are presented as historical sites of creativity in which the process of record production is ‘romanticised’ and promoted in films and documentaries (Gibson & O’Connell, 2005; Williams, 2011). A growing body of literature however acknowledges that record production is a collaborative process (Hennion, 1990; Zak, 2001; McIntyre, 2012) and a number of studies have focussed on the specific roles within the process, namely that of the engineer or the record producer (e.g. Kealy, 1990; McIntyre, 2012). Whilst these studies and discussions are useful in identifying the domain knowledge and the specific tasks that the particular personnel involved in record production can undertake, they are generally restricted in their perspective and do not critically examine the interrelated creative contributions of the participants during the entire process of making a record.

Although limited in its scope, Fitzgerald's (1996) ethnographic study begins to address this issue by exploring the collaboration between a songwriter, arranger and session guitarist during a recording session. McIntyre's empirical study (2012) builds upon the work of Fitzgerald and explores the creative process in the stages of record production in which he draws upon Hennion (1990), Burgess (1997), Bourdieu (1977, 1990, 1993 & 1996) and Csikszentmihalyi (1988, 1997 & 1999). He refutes the individually focused Romantic myth of creativity by conflating the sociological perspectives of creativity of Bourdieu (1996), Toynbee (2000), Csikszentmihalyi (1988, 1997 & 1999) and Wolff (1981) and concludes that the producer is simultaneously enabled and constrained by the discipline and structures in which he or she operates. Although McIntyre fails to comprehensively explore the interactions of other participants, such as the engineer and performing musicians within the process, his analyses of the creative individual (2012) and the distribution of power in the recording studio (2008) begin to usefully illustrate a creative system at work and provide a useful starting point for this study. The following chapter presents the contextual frameworks of this study, introduces the study's aims and objectives and then discusses its methodological concerns.

| 3 |

METHODOLOGY: GETTING THE CREATIVE AND COLLABORATIVE PROCESSES 'ON RECORD'

Introduction

As previously mentioned the process of making a record is often a team accomplishment as a group of individuals work collaboratively to produce a recording (Hennion, 1990; Zak, 2001; McIntyre, 2012). In analysing the creative and collaborative processes that occur in the recording studio it is therefore necessary to consider the creativity of the individual in equal terms to the creativity of the group. The following study builds upon the work of McIntyre (2008, 2012) by viewing the processes inside the recording studio as part of a creative system, which can be studied by scrutinising moments within it (Csikszentmihalyi in Sternberg, 1988: 325-338). Kerrigan's revised system of creativity allows the group's creative practices, ideas and actions to be investigated as they undertake the principal tasks of: 'performing, engineering and producing' (Zak, 2001) and by integrating Koestler's (1975) concept of holons, this study also explores the creative system's interactions on an individual and a group level. The larger task of creating a rock record can also be scaled to illustrate the smaller tasks, of those observable in the recording studio, that of 'performing', 'engineering' and 'producing' as shown in Figure 8 below. These three interrelated tasks therefore make up the principal foci of the investigation, and the interaction between these provides micro insight into the study of record production more generally.

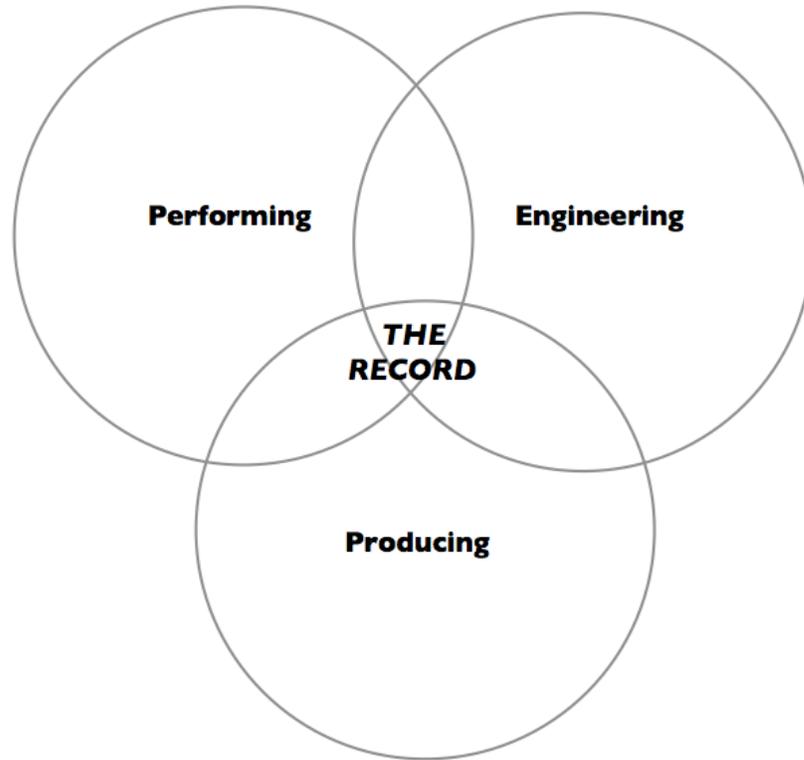


Fig. 8. 'The Interrelated Tasks of Record Production Inside the Recording Studio'.

This chapter describes how the research for the thesis was conducted and the various methods involved, and discusses some of the specific challenges that were encountered and the strategies that were put in place to address them. Unlike previous studies into creativity and collaboration in the recording studio (Fitzgerald, 1996; McIntyre, 2008; 2012) a number of ethnographic methods were employed as part of the research for this thesis, such as participant observation, ethnographic interviews, video and sound recording. This research did not involve the kind of fieldwork and 'thick description' commonly associated with social anthropology and ethnomusicology, but an ethnographic approach was nevertheless essential in order to research the creative system in action and at first hand, and gain an insider's perspective. Nevertheless, chronicling the recording process using numerous ethnographic methods presented challenges similar to those encountered in numerous other ethnographic studies, namely, the challenge of both participating and observing whilst also trying to capture as much of the action, interaction and communication as possible.

This chapter is loosely structured around the four characteristic themes of empirical research identified by Buchanan, Boddy, and McCalman: 'getting in, getting on, getting out and getting back' (1988: 53). The first section, entitled 'getting in', addresses the central issue of accessibility across the spectrum of ethnographic pretexts, from negotiating access to the recording studio sessions in order to observe and document them, to overcoming various obstacles to access, such as the unique architecture of the recording studio. The recruitment of the research participants is also discussed and these participants are introduced in detail. The second section, 'getting on', discusses the navigation of social relations within the recording studio and the alternating role of the ethnographer, from participant-observer to participant. The final section, 'getting it on record', discusses the use of multimedia technologies, such as video and sound recording, as a necessary intermediary in the data collection process, particularly since the unique architecture of the recording studio provided sufficient challenges to the observational process. Particular attention is drawn to the employment of multi-modal approaches and methods in order to capture the complex interactions between the participants and the technology within the recording studio.

3.1 Getting In

Although highlighted as one of the central issues within ethnography (Hammersley and Atkinson, 1997), it is startling that the issue of accessibility is rarely discussed within recording studio ethnographies, particularly as the issue of accessibility is on-going throughout the ethnographic process and is: 'often at its most acute in initial negotiations to enter a setting during the "first days in the field"' (Hammersley and Atkinson, 1997: 54). The issues of accessibility within this recording studio context were evident from some of the initial exchanges of contact between the intended participants and myself. The world of recording studios can be largely inaccessible for even the musicians who wish to record in them (both financially and socially), so gaining access to a recording studio both socially and physically can be a challenging task for an ethnographer. A fundamental reason for this is that recording studios are 'sealed' facilities in several ways: firstly, they are often constructed to be separated

acoustically from their local environment so that sound does not disturb nearby buildings or residences and, most importantly, so that sound does not enter the recording studio and obstruct the recording process. Secondly, recording studios are not public spaces (like a city square or a town library) so physical access to them is limited and gained only by invitation from the house engineer or producer, or from the studio manager or studio owner. Thirdly and fundamentally, the recording studio during a recording session is a place of work in which studio personnel and musicians usually require a private environment that is free from distraction, allowing them to create an intimate setting and thereby maximise effective collaboration and communication. Gaining access to a recording session can be the most challenging obstacle of all, particularly because a recording session is often limited to only those involved in the recording process. Any additional individuals in the recording studio may be a distraction, affect the flow of the session or disrupt the relationships and communication between the studio personnel. In her ethnographic study of female popular musicians Mavis Bayton (1990) identified the importance of privacy in the practice room in order to enable effectively collaboration and resolve any issues. In a similar way, recording studios are intentionally secluded with access limited to only those involved in the recording process. For an ethnographer who is not directly involved in the recording process there is little opportunity to gain access to a recording session. However, my own initial attempts to gain access to a recording studio session began with an exploration of the personal network of recording engineers and record producers who were either previous colleagues of mine or friends of these colleagues.

It was assumed that my own background as a practitioner would prove to be useful when discussing the additional role of the ethnographer within the recording studio, and the first contact, who was a commercially successful record producer working at a recording studio in Liverpool, showed some interest when discussing the intended research. However, when asked if he would allow the recording session to be observed and documented the response was tentative, and he expressed a preference for me to only observe bands that were not signed to a record label. He was concerned that if

signed bands were involved there may not only be an infringement of copyright but also the attendance of additional people in the recording studio, which may need clearance from the record label or management company concerned. I therefore suggested to him that if I performed menial tasks in the studio, such as setting up microphones or coiling cables, this might help to remove the explicit role of the 'observer' in the room and, like Thomas Porcello (2005) in his study in Austin, Texas, I would essentially be part of the process. Unfortunately, he was adamant that he would already have enough personnel in the recording studio but agreed that a follow-up phone call would be made to arrange a meeting and discuss the details of the project further. However, after numerous attempts to contact this producer it was decided to explore other possible contacts.

In an attempt to learn from this initial exchange, when I contacted subsequent record producers it was emphasised that observation would not get in the way of the record-making process. However, these responses were also justifiably hesitant because 'unfortunately, my studio is too small to have an extra person' (2011, personal communication) and 'the bands I work with are signed so the label won't want anyone else involved' (2011, personal communication). It was evident through my attempts to gain access to a recording studio session through engineers and record producers, that as the ethnographer I had been positioned as an outsider. The role of outsider in the recording studio has an identifiable tradition in popular music, the most famous of which is Yoko Ono, the wife of John Lennon, who accompanied Lennon on numerous recording sessions with the Beatles, much to the dislike of some of the band members. Discussing outsiders in band rehearsals, Mavis Bayton noted that:

It is very important that people other than band members are excluded from the practice space so that the band can concentrate on its tasks and come to see itself as a special kind of social unit. Privacy is necessary for reasons of both efficiency and morale, something which bands quickly learn for themselves if they have to deal with 'outsiders' intruding on their space (1990: 247).

In personal interviews conducted with both engineers and producers, outsiders were also highlighted as an influence on both the recording process and the mood inside the studio. Engineer Dan Turner explains that:

The studio is often such a private, intimate place that any outsider inevitably changes the way you operate, often directly influenced by the circumstances of the session.... it can completely ruin your day. It's such a small, tight 'boys club', that any outsider can change the whole atmosphere and often get in the way (2012, personal interview).

Record producer Phil Harding adds that:

Having an outsider in the room when I'm working with an artist in the studio would be too compromising. You want to give your client and your artist the best performance from your side and you're going to feel compromised if there's an outsider in the room. I have had situations where I've had to ask the artist to either get their friends to leave or not come in next time. On the other hand, I can certainly remember for instance Toyah Wilcox, when I was engineering with a producer and a group of her session musicians, her boyfriend would often come in and constantly make comments...that's so difficult, you know, you'd all want to nut him but who's going to say to Toyah "don't bring your boyfriend?" Because obviously if it's a boyfriend or someone who is as tied in with the artist as that you all feel you've got to react to that but not react in a negative way.... you're forced into kind of placating the person, whatever the comment, whatever they're saying. Worse than that, I used to hate doing advertising sessions because you would have completely non-musical people coming in and commenting (2012, personal interview).

Both the responses from engineers and producers, and the initial failure to gain access to a recording studio session, highlighted that although engineers and record producers

facilitate the needs of the musician and act as intermediaries between the artist and the industry, they are not the gatekeepers to a recording session. As identified by both Dan Turner and Phil Harding, the gatekeepers to a recording studio session are the musicians who are recording in the studio. The challenges of gaining access to a recording studio session described above not only illuminated some of the mechanisms of recording studio practice; they also highlighted some of the power relations and social hierarchies that can operate covertly within a recording studio context.

The next phase of the process involved finding a band that were preparing to make a record and then attempting to gain permission to observe and document the studio sessions. A number of bands from the Merseyside area were contacted via email and the Liverpool-based soul band 'The Midnight Ramble' were the first to express their interest in the project. After meeting with the band and describing the aims of the research and the ethnographic process, they were happy to be involved with the project and granted me permission to observe and record their studio sessions during the making of their record 'Hightime'. However, at this stage, due to budget constraints of the recording project The Midnight Ramble did not have a record producer to produce the sessions, and Paul the lead singer asked if it were possible to apply for funds in order to secure one. This demanded some consideration as the legitimacy of ethnographic research is often challenged on the basis that: 'making claims about what happens in the 'natural' settings on the basis of data produced in settings that have been specially set up [by the ethnographer]...is to engage in a largely implicit and highly questionable form of generalisation' (Hammersley, 1992: 11).

Although recruiting a record producer within this context could affect the working practices inside of the recording studio, the investigation into the creativity and collaboration throughout the process would not necessarily affect the 'naturalness' of the setting. Moreover, it is commonplace in the recording industry for record producers to be specifically chosen by bands or artists or record companies to collaborate with musicians and engineers because: 'of the way their previous records sound or because they are known to be good at a certain style of recording' (Burgess, 1997: 84). On this

basis, and to maintain the naturalness of the process, it was imperative that the members of the band were involved in the selection of a record producer that could meet their requirements for collaboration. Paul, the lead singer, was particularly excited at the prospect of working with a record producer, as he had taken most of the production responsibilities on their prior recording projects.

As aforementioned, the record producer is typically responsible for overseeing the recording project from aspects such as the available time and resources, through to some of the technical and aesthetic considerations of the recordings (Zak, 2001). The band were interested, however, from a perspective of both objectivity and collaboration and if a record producer could provide an 'outside' perspective and bring useful experience to improve on the recordings they had made previously. The search began though a re-visitation of my immediate contacts. However, it was through a chance meeting when visiting Ariel Studios, a converted Royal Air Force (RAF) listening post just outside Wrexham in North Wales, that I met record producer Marc Joy. Marc rented Studio Two at Ariel Studios and during a break in proceedings in Studio One I met Marc outside and instantly struck up a conversation with him. I mentioned the recording project to him and, after he had finished recording the band he was working with that day, we discussed the project further. He expressed his interest in working with a new band and particularly as part of a study into the processes of creativity and collaboration in the recording studio. After our meeting, and upon Marc's request, I emailed the Midnight Ramble attaching links to both Marc's previous work and a link to an interview with Marc from www.recordproduction.com where he discussed some of his working methods, his experience as a record producer and some of the bands he had worked with. Paul contacted me after watching the interview and expressed his enthusiasm for working with Marc, particularly as Marc had previously mastered some commercially successful records (Primal Scream and Oasis). I subsequently arranged a meeting so Marc and the band could discuss the recording project further and also decide on a studio in which to record the majority of the record.

The decision to choose a particular a studio to make a record can be taken by the record company, the record producer or the artists themselves, and the chosen recording studio has the ability to impact on the recording project because: 'the associations between records and the places where they are made lead recordists to employ a particular studio in search of not only a sound but a resonant connection to the particular record or style' (Zak, 2001: 104). The studio for this recording project not only had to meet the financial constraints of the recording project but a number of conditions set by the band, and the record producer had to be satisfied. Firstly, the recording studio had to be accessible to the band in terms of its location as only one of the band members owned a car. Secondly, due to both the preferred working practices and the aesthetic intentions of the record that Marc and The Midnight Ramble agreed upon during the pre-production meeting, the recording studio had to be large enough to accommodate the entire band recording together at the same time. Finally, due to the financial constraints of the recording project, the chosen studio had to provide an engineer, as there were insufficient funds to employ an engineer separately.

The band had previously recorded in another recording studio on Parliament Street, on the edge of Liverpool city centre, and it was suggested by the band that they could record there. The studio was both within the budget and included an engineer. However another studio named 'Elevator', located on Cheapside (in the centre of the city), had a larger live room in which the band could be recorded as an ensemble and a greater range of microphones. It was therefore decided that the more central location for both Marc and the band would be preferable. In addition, Elevator Studios on Cheapside was the more desirable option for the band due to its reputation for recording commercially successful Liverpool artists such as The Coral and The Zutons. This was also the preferred option for Marc as the studio offered an extended selection of high quality and vintage microphones.

3.2 Getting On

The social and physical issues that surrounded gaining access to a recording studio session served to illustrate some of the unique social imperatives that govern recording studio practice. These social imperatives are considered to be central in determining the outcome of the project because: ‘making records is intrinsically a collaborative creative process, involving the efforts of a “composition team” whose members interact in various ways’ (Zak, 2001: 63). Because ethnography demands immersion into the social context of interest, the ethnographer’s position within the recording studio session, both physically and socially, in other words ‘the ethnographic self’ (Coffey, 1999), must also be considered. Before the fieldwork began the primary intention was to avoid affecting the natural processes in the recording studio, which in this instance meant attempting to maintain a primarily observer position. This however proved difficult as it was not always possible (or desirable) to be a continual a ‘fly-on-the-wall’. The close proximity of the participants meant that avoiding conversation or social interaction could have adversely interfered with the social processes within the field. This was no more acute than when I was often asked, “what do you think?” For this reason, the expectations of my position as the ethnographer were discussed with the participants at the earliest opportunity within the fieldwork. During the first meeting between the record producer (Marc Joy) and the band (The Midnight Ramble) I invited the band to ask questions about the ethnographic process before the fieldwork in the recording studio began. This consequently allowed their role and the ethnographer’s role to become less ambiguous and dispelled the band’s initial assumption that they would have to behave or perform in a particular way to avoid any contact with the ethnographer. After they were assured that they could behave and perform as they would normally and interact with me at any point, Marc continued to joke that he shouldn’t be speaking to me in order to maintain the ‘fly-on-the-wall’ ethnographic position. This became a running joke throughout the recording project and rather than highlighting that observation was taking place, it served to help me as the ethnographer to assimilate more effectively into my observational role. Without discussing this during the pre-production meeting, the participants may have found the

presence of an ethnographer in the recording studio unsettling, which in turn could have undesirably altered field interactions. This is commonly referred to as 'observer effects' and these interactions with the field and its participants have historically been viewed as a negative attribute of ethnographic research because:

They indicate a "contamination" of the supposedly pure social environment being studied (Hunt, 1985). Some methodologists advise qualitative researchers to hone an awareness of possible observer effects, document them, and incorporate them as caveats into reports on fieldwork (Patton, 2002). Others encourage ethnographers to seek out explicitly evidence of observer effects to better understand – and then mitigate – 'researcher-induced distortions' (e.g., LeCompte and Goetz, 1982; Spano, 2006)... The possibility that the ethnographer can both have an effect and by doing so tap into valuable and accurate data is seldom explored in contemporary literature on methods (Monahan and Fisher, 2010: 358).

However, building relationships through social interaction in the field proved to be an important aspect of participant observation in the recording studio. Although at the outset of the project, when attempting to gain access to a recording session, I had positioned myself as an outsider, my background as a recording engineer and popular musician eventually proved useful in building relationships with all of the participants during the fieldwork. Rather than ignoring the participants and minimising observer effects, developing a rapport with those involved allowed greater access to their thoughts and ideas that would not have been possible through observation alone. In addition, discussing other artists' work, technologies and practices, also helped to frame the participants' musical references, musical influences and their process of domain acquisition. A non-participatory perspective on field relations: 'may be restricting their access to rich data in the field' (Monahan and Fisher, 2010: 370).

Developing relationships proved useful in gaining access to more personal and individual perspectives throughout the process and at the end of the fifth session I was

presented with the opportunity to participate as an engineer in the project. This prospect arose after overdubbing the main vocals where Marc and the band decided that a piano and an organ would be useful additions to the arrangement. I suggested that these could be recorded at Leeds Metropolitan University recording studios and before setting up for the session, Marc asked if I would be willing to help with some of the engineering tasks such as attaching microphone cables and offering information on the signal routing of the studio. Participating to this extent in the project did take some consideration, particularly as my involvement would in some way affect the final outcome. However, because my role would be primarily as an assistant I decided that having an insider perspective would help to remove ambiguity in the interpretive process because: ‘the danger that attends the role of complete observer is that of failing to understand the orientations of the participants’ (Hammersley and Atkinson, 2007: 87). Being a participant during a small part of the recording process allowed me to ask additional questions, which helped in gaining further insight into the working methods of the studio participants and intensified my sensitivity to the social interactions inside the recording studio between the band members and Marc. This highlighted a fundamental strength of a participant/insider perspective since: ‘the task of the ethnographer is not to determine ‘the truth’ but to reveal the multiple truths apparent in others’ lives’ (Emerson et al. 1995: 3–4).

As the ethnographic perspective shifted from outsider to insider my ‘ethnographic self’ moved beyond having an influence on the participants, due to observer effects, to include a more informed and personal interpretation of the participants’ interactions (Coffey, 1999: 5). The idea that the ethnographer can have an observer effect *and* gather precise information is a poignant one, particularly in the intimate environment of a recording session. However, cultivating familiar social relations through participation and interaction proved to have a positive effect during this study and it has been argued that conventional social scientific views that demand the ethnographer to maintain a distance are typically misdirected and: ‘arguably, the problem of the social scientist is not that his connections are too many and too strong, but that they are too few and fragile’ (Jensen and Lauritsen, 2005: 72).

It should be noted at this point that participation and interaction were both considerate to the social expectations and the established conduct of the recording studio, commonly referred to as 'studio etiquette'. Etiquette is described as a: 'collective social knowledge—"no one taught us these rules"—the rules are learned through long years of socialization' (Sawyer, 2000: 18). During a one-to-one interview Darren Jones, the engineer during the project, explained that studio etiquette is:

Darren – Judging about how vocal you can be about certain things because it can be quite a delicate situation and quite often if people are unsure about what they're doing, or are coming out with new ideas, then to stay neutral in the situation is important. If you're just there to assist then you should be assisting and helping to set things up but if you start saying "I'm not sure about this" then you're not really assisting the session, you're starting to interfere with it. Judging what you think appropriate language is to use, how honest to be about things are also important...if you say the wrong thing you can quite easily destroy the whole thing that's going on'

Observing studio etiquette is a general expectation of recording studio personnel who support the recording process to help avoid unnecessary distraction and maintain an optimum level of communication between the participants. Signature Sound Studios explain that studio etiquette involves:

Knowing when it is appropriate to communicate in the studio is perhaps one of the most important concepts to grasp...On the other hand, knowing when to be silent is also very important. For example, when an engineer is in the middle of a recording or mixing session — even if he or she is just listening back and not hands-on doing something — do not interrupt by asking questions, making comments, or any other unnecessary noise. Any of these actions might break the engineer's concentration and he or she will probably not be very pleased with you. Your best bet when you find yourself in a

recording session is to be silent, observant, and readily available if your help is needed (Signature Sound, 2010).

The expectations and recommendations described above are not only relevant to studio apprentices; they are suitably applicable for observers conducting research in the recording studio and throughout this project, observing studio etiquette was necessary to allow all the participants to communicate effectively between each other, for the engineer and record producer to make critical judgments on the musicians' performances and to maintain a degree of naturalness in the field setting. Observing studio etiquette was not only an essential part of effective social integration during the recording sessions, it also governed the timing and opportunity for informal interviews and exploratory conversations. Knowing when to ask a question became a useful skill that developed as I became more familiar with the working practices of the participants throughout the process. Observing studio etiquette, cultivating familiar relationships with the participants, and my familiarity with the field context of the recording studio, all helped in my integration into the role of field researcher. However, care was also taken as: 'sometimes a familiar setting is too familiar, however, and the researcher takes events for granted, leaving important data unnoticed or unrecorded' (Fetterman, 2010: 39)

One of the greatest challenges for the insider is in remaining naïve to some of the processes that occur during the fieldwork and maintaining a degree of curiosity in order to study participants' actions and develop pertinent questions that can help to explore them further. Although working in the recording studio is a familiar setting, I had never been in that particular recording studio so the layout, the available equipment and the logistical operations required to operate the studio equipment (such as setting up a headphone mix) were unfamiliar to me. In a similar way to a person driving a new or unfamiliar car, the *function* of the controls are the same but the operation may be somewhat different from what they have been used to. This provided a welcome amount of unfamiliarity in which to explore, describe, compare and discuss some of these differences with the participants throughout the fieldwork. I had not met

Darren (the engineer) prior to the commencement of the fieldwork and I had not worked in another recording studio with any of the participants before fieldwork began. Rather than reducing my inquisitiveness, the unique opportunity to primarily observe (rather than participate in) the recording process with a recording engineer, a record producer and a group of musicians I had not worked alongside before, made me more sensitive to the social intricacies of the setting and the individual traits exhibited by the participants. This degree of unfamiliarity with the participants, their individual working methods and the unique collaborative situation helped to get closer to the view that: 'The goal is briefly, to grasp the native's point of view, his relation to life, to realise *his* vision of *his* world' (Malinowski, 1922/1978: 25).

The ethical implications of capturing the entirety of the recording sessions on video and Dictaphone did require some consideration both prior to gaining ethical approval and after the data had been gathered. The primary use of video was to capture the movement, gestures and performances of the participants. The central purpose of using audio recordings was to capture conversations and the sonic environment of the recording studio. However, it was imperative that any of the video, or the recorded audio, was scrutinised before it was replayed to the participants to avoid any unnecessary harm or distress. This was most important where instrumental or vocal performances were being discussed and care was taken to introduce the background of the discussion in order to contextualize the comments of the participants.

3.3 Getting it Down

Conducting ethnographic research in the recording studio presented some unique social and logistical challenges that were fundamentally related to the distinctive architecture of the recording studio and the social setting of a recording session. The construction of a typical recording studio creates a division between the control room and the performance space: 'with a glass window that isolates the sound of one world from the other' (Williams, 2011). The first three recording sessions were conducted at Elevator studios in which the live room is on a separate floor of the building to the control

room. This presented an exceptional challenge in gaining observational access to all of the actions and interactions between the participants during the sessions, primarily because it was physically impossible to be in both rooms at any one time without disrupting the recording process. If observation was taking place in the control room during tracking, actions and interactions were not being observed in the live room. It was therefore important to spend a period of time in the live room in order to gain some perspective on what the performing musicians experienced, and similarly in the control room in order to observe the experiences of the engineer and the producer. Consequently, it was determined that a number of CCTV-style cameras would be used to record the actions and interactions in both the live room and the control room. However, there are a number of considerations for the use of video and choices must be made in relation to: 'where shots are to be taken, whether the camera should be fixed or mobile, whether a single focus is to be adopted or whether the focus should vary; and if so when and how' (Hammersley and Atkinson, 2007: 148). In response to these points, the positions of the cameras were determined on the basis of both optimum coverage and unobtrusiveness. At the beginning of the session, I consulted Darren, the engineer at Elevator Studios, on roughly where he would be positioning the members of the band to perform in the space during the recording and three of the four cameras were then fixed in place, focussing on an area of the live room. The selected cameras were chosen specifically because of their unobtrusiveness as they are small, do not have large tripod like stands and transmit their video signal wirelessly to a computer where each of the perspectives are recorded simultaneously as shown in Figure 8 below:

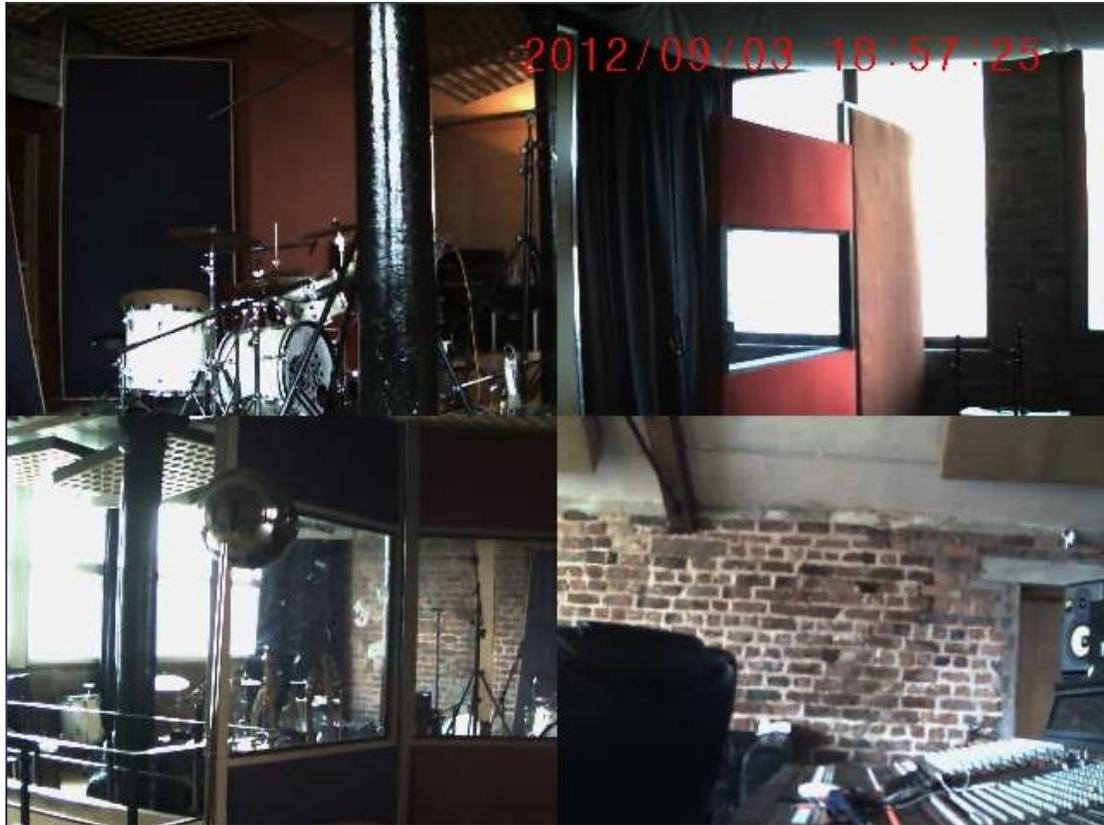


Fig. 9. 'The Four Camera Perspectives inside Elevator Studios'.

There were distinct advantages to using multi-perspective video, particularly as they assisted in recording multiple modes in the field: that of movement, sound, and sights, and the film as a method of research: 'makes field enquiries more accessible...we have words, plus intonations, plus pauses, plus facial expressions' (Loizos, 1980: 60-61). The use of video recording was also fundamental in capturing some of the group processes that occurred during the studio sessions since:

When cognitive processes are distributed across groups, they become visible, and scientists can observe them by analyzing the verbal and gestural interactions among the participants (Sawyer, 2009: 81).

The video recordings provided the basis for the method of identifying the cognitive emergence of the contributions of each participant known as 'interactional analysis' (Jordan & Henderson, 1995) where interactions between the participants could be

further scrutinised, played and replayed and their visible contributions identified. As a useful advantage the use of multi-perspective video also meant that fieldnotes could be focused on sufficient details rather than describing fully some of the interactions that occurred, particularly where a succession of fleeting interactions would have been difficult to identify, remember and detail immediately.

The permanence of video was also a distinct affordance (Grimshaw, 1982) as the entirety of each recording session could be repeatedly played and replayed, allowing the focus or attention to be changed each time the video was viewed. This also served in the identification of interactions or actions that were not observed during previous viewings or even during the recording session (Erickson, 1982, 1992; Fetterman, 1998). However, the use of still images and film materials does have its limitations because they do not necessarily produce faithful and accurate images rather: 'these forms of representation are partial and conventional' (Hammersley and Atkinson, 2007: 148). The unedited videotape is therefore limited in its representation of the event, which is further limited by the video camera's capacity to only record the events that fall within the range of the camera lens. In this way, the multi-perspective cameras provided a distinct advantage over the use of a single video camera with one perspective but remained limited in their ability to capture participants' inner thoughts and feelings during recording. These limitations were further amplified by the cameras' technical constraints, that of fixed-focus and reduced frame-rate, which abridged some movements and gestures during the recording sessions. Because of these limitations the video footage was not used to take the place of an additional observer, but rather was used in part to corroborate or correct observations that had been misremembered or misreported when writing down field notes.

The video footage also provided sufficient stimulus when conducting the interviews to remind participants of particular movements or gestures. The use of video during the interviews allowed participants to view (and review) themselves throughout the process, which encouraged them to be reflective of their actions and interactions. Whilst playing the videos of the sessions during the interview I also asked the

participants to provide a running commentary on their actions, identify any habitual movements that would have been unperceivable through observation alone, and describe some of their inner thoughts and feelings as the session unfolded. However, the propensity to favour video recording in ethnography and neglect the important role of accompanying sound recordings can have unfavourable effects because: 'poor-quality audio is always irritating, always detrimental to analysis and presentation, and injurious to results' (Shrum, Duque and Ynalvez, 2007: 217).

Although video recording has been somewhat privileged in the data collection discussion thus far, all of the video recordings were accompanied throughout the ethnographic process with sound recordings. These were either captured using a digital Dictaphone or through the on-board microphone of camera number 1. Both the video recordings and audio recordings were time-stamped and therefore could be used together to play at any desired location in order to revisit a conversation, a musical performance or a particular movement or gesture. Placement of the Dictaphone was dependant upon the type of session, the placement of the ethnographer and the location of camera number 1; for instance, in the early stages of the process, the Dictaphone was placed in the control room as the majority of the conversations between the participants could be captured through the studio speakers. However, in later sessions the Dictaphone was placed in the live room to capture the conversation and camera 1 recorded the sound in the control room. The portability of the Dictaphone also meant that it was used to conveniently record brief conversations with the participants, which would have otherwise been cumbersome to write-up quickly. The majority of the audio recordings were also transcribed to allow further analysis of the interactions to take place since the written transcriptions, the audio recordings and the videos also allowed an amount of substantiation between the different communicative forms. One could read the transcription and then watch the video and infer something from bringing together the verbal and the visual forms of communication.

The richness of the data provided a more comprehensive record of the communication between the participants, however, neither video nor sound recording were used in

isolation as field notes were used extensively during participant observation. In a similar fashion to the use of both video and sound recording, the annotation of field notes required some consideration, not least because of their practicalities within the field situation. Wolfinger (2002) outlined three considerations for note taking in the field:

First, a researcher will sometimes be able to take notes while in the field. Many fieldwork texts advocate this practice (Berg, 1989; Emerson et al., 1995; Goffman, 1989; Lofland and Lofland, 1984; Schatzman and Strauss, 1973). These preliminary notes generally form an outline when the researcher sits down at the end of the day to type out complete notes. Second, the focus of an ethnographic investigation typically narrows over time (Hammersley and Atkinson, 1983; Spradley, 1979), obviously influencing what a note-taker chooses to describe. Third, note-taking may be influenced by the perceived audience (Emerson et al., 1995). Within these broad constraints, however, an ethnographer will still have to decide exactly what should be annotated (Wolfinger, 2002: 87).

It was further considered that: ‘you cannot get it all. You will do well to get enough of the “right stuff” even *after* you decide what the right stuff is’ (Van Maanen, 1995: 97). The right stuff in this instance centred on the interaction between the elements of the creative system (the individuals, domain and field) and the interaction between the participants inside the recording studio as they completed the tasks of performing, engineering and producing. Fieldnotes were written whenever it was possible and written with a temporal and time-stamped, rather than task-based, focus so that sections could be chronologically identified and matched with the relevant sections of video or audio. One particular advantage to this method is that it encourages the ethnographer to reconstruct the events in the order they actually occurred, which can further encourage recall of other pertinent details (Wolfinger, 2002). As the fieldwork progressed however, the field notes became more and more focused; Emerson et al. define this tacit selectivity of note taking as employing a ‘salience hierarchy’

(1995:48). Thus during the latter stages of the ethnographic process, the field notes paid particular attention to the creative interactions and conversations between the participants, particularly where a decision had been made that would have a noticeable outcome on the final recording. Using both video and sound recording to capture some of the visual and sonic interactions helped to relieve some of the pressure on writing ostentatious descriptions in-situ. Once the participants had left the studio, the field notes were reviewed and additions were made, particularly on aspects that could not have been captured by video or audio recordings such as facial expressions and small bodily gestures (e.g. head nodding). There were also occasions where notes couldn't be taken, for instance when I was assisted on the session, so the video and audio recordings were used to review the session once the participants had left the studio and field notes were written whilst the memories of what happened were still fresh. Some of the limitations of these approaches, namely the inability to always interpret the thoughts or actions of the participants, also highlighted a fundamental requirement to interview the participants in order to further triangulate and corroborate their actions, interactions, intentions, thoughts and ideas. Brief, informal, conversational interviews were carried out throughout the recording process whenever the opportunity arose. These ranged from single questions to a series of open questions conducted either in-situ or during a break in proceedings. These brief interactions were more common during the later stages of the project when fewer members of the band were directly involved with the recording process and conversations away from the recording area were less detrimental to the participant-observation process.

Formal group and one-to-one semi-structured and unstructured interviews were conducted after the recording had finished (see Appendix 2 for dates and further details). For the first round of interviews a semi-structured design to the questions was adopted in order to gain specific information on the participants' knowledge of the domain and field of rock record production (see Appendix 1 for an overview of these questions). The questions were designed to be adaptable and responsive and although as Priest (1996) argues, the construction of interview questions, the way they are ordered, framed and presented can all have a bearing on the sort of information

garnered, they nevertheless gave unprecedented access to the participants' prior knowledge that was unobtainable in other ways (Rossman and Rallis 2003). The benefit of conducting conversational interviews during the process was that particular aspects and incidents could be substantiated and discussed almost immediately after the event. However, the formal semi-structured interviews that occurred a number of weeks and months after the recording process lacked some of the immediacy of these in-situ interviews. For this reason, selected sections of both the video and audio recordings of the sessions were used to help participants recall their actions, thoughts, ideas and intentions. Inviting the participants to comment on the video footage and sound recordings helped to corroborate personal observations and allowed the analysis to become, at times, collaborative.

The second round of interviews was used to allow participants to expand on some of the points they made in the first round of interviews. Unstructured questioning was employed as a way to encourage participants to discuss their creative processes without imposing any prior ordering, grouping or classification of questions (Punch, 1998). For this reason, the second round of interviews included mostly spontaneous questions that were related to the flow of interaction as the participants watched and explained the video footage (Patton, 2002). The questions were more focused on each individual's processes to help gain an understanding of whether or not the interaction of the creative system's elements related differently to particular roles inside the recording studio. Some common questions were asked during the second round of interviews though as this helped to corroborate answers from other participants that involved collaboration with the entire group (i.e. what is the process in the band of writing songs?). These unstructured interviews provided the opportunity to pose more probing and focused questions, add further detail to previous answers, and further develop a rapport with the participants. All interviews were recorded using a Sony ICDPX333 digital Dictaphone and transcribed for further analysis.

3.4 Getting it 'On Record'

The final, and in some senses most pertinent, characteristic of documenting, analysing and recounting the activities that took place during the recording project were the intricate links between the ethnographer and the participants, which may be unintentionally revealed through interpretation and representation in the text (Van Maanen, 1995). As John Van Maanen acknowledges, aspects of the subjective experience of the author are often reflected in the text:

It should not be surprising that a discourse heavily dependent on the authorial presence (e.g. Clifford, 1988) will incorporate feelings of the author. Emotion presumes that the author's self is positioned in the text, and so, we find echoes of fear, sadness and exaltation (Van Maanen, 1995: 166)

However, acknowledging the distortions that subjective and objective views can create is not the immediate problem as Jean-Paul Dumont explains:

The problem is not to eliminate the distortions of subjectivity and objectivity, but mainly to reinstall experience in its place; in other words, to let it all happen, to accept the radical character of the fieldworking experience. Once subjectivism and objectivism are rejected, what is left to turn to? The answer was given to me indirectly in the field and amounts to the experience of intersubjectivity... Intersubjectivity depends exclusively upon the possibility of establishing a dialogue, that is, upon the reversal of perspective whereby not only are the natives anthropologized – they are also, in turn, anthropologizing (1978: 60-61).

For this reason, aspects of participant narrative have been included throughout this text, primarily to support the observations made but fundamentally to provide the necessary context for creative decisions and collaborative actions. Although these include relevant and distinctive details of the individual, they have been included to

suggest a more ‘collective story’ (Van Maanen, 1995: 212) that reflects the experiences of recording musicians, engineers and producers who work in a recording studio more generally. As Van Maanen clarifies: ‘Although the narrative is about a category of people, the individual response to the well-told collective story is “That’s *my* story, I am not alone”’ (Ibid). However, unlike ‘classic’ ethnographies that focus on the cultural, political or historical aspects of recording studio practice (Bates, 2008; Meintjes 2003) this study had the added intention of exploring a creative system at work (Csikszentmihalyi, 1999; Kerrigan, 2013) and illustrating some of the individual and group processes that were evident during the making of a popular music recording. An ethnographic approach has been described as: ‘The focus upon people and their musical practices and processes rather than upon structures, texts or products’ (Cohen, 1993: 127). However, this particular study illustrates the convoluted intersect between the musical practices of people and the structures in which they take place, and therefore accurately interpreting the actions, interactions and intentions of the participants was a fundamental consideration.

As a recording practitioner with a degree of familiarity with the recording process a fundamental issue was also that of interpreting relations within the field and accurately representing the participants’ intentions because: ‘even so-called insider ethnomusicologists, those born into the traditions they study, undergo a productive distanciation necessary for the explanation and critical understanding of their own cultures’ (Rice, 1997: 117). In interpreting and representing the actions and interactions that occurred in the recording studio, the participants’ voices were a vital inclusion throughout. Responses from the conversations and interviews used in this thesis were also reviewed by each of the participants to help prevent misinterpretation or misrepresentation. Participants were able to correct or amend my interpretations and descriptions. For example, I had recorded in my field notes that engineer Darren had performed an action on the mixing desk so he was able to hear something more clearly. However, after reviewing this interpretation, Darren explained that he had done it for the benefit of the recording musicians in the live room.

Rather than the typical term of 'informants' found in the writing of ethnography, the musicians in the band, the engineer and the record producer were instead referred to as 'participants' for two reasons. Firstly, the term informants would not adequately describe the role played by the musicians, engineer and producer, chiefly because of their constructive engagement during the interview process in which they became co-collaborators in evaluating, analysing and explaining their actions and interactions. Secondly, I too became a participant when engineering one of the sessions and therefore the term 'participant' acknowledges the blurring of the discreet boundaries between the ethnographer, the musicians, the engineer and the producer throughout the process. The participants gave their explicit consent to use only their first names in this thesis in order to provide some level of anonymity but maintain their identity within the research process. Using the participants' first names also allowed them to later identify each other when reading some of the passages of the thesis.

The overarching issue of attempting to represent the multi-faceted, multi-layered and convoluted process of sound recording in words alone still remains, however, and it has been further argued that: 'a recognition of multiple interpretations is a reminder that we impose our analytical structures upon the social world we endeavour to describe' (Van Maanen 1995: 96). The limitations introduced by the subjective imposition of interpretation and representation is often subsumed in the promotion of triangulation in which multiple perspectives are combined in an attempt to 'know' a fundamental 'truth'. However, instead of a triangle the image of a crystal illustrates a combination of:

Symmetry and substance with an infinite variety of shapes, substances, transmutations, multidimensionalities, and angles of approach... Crystalization provides us with a deepened, complex, thoroughly partial, understanding of the topic (Richardson, 2000: 934)

Furthermore:

Crystallization does not depart radically from other recent developments in the wide field of qualitative methodology, but rather offers one valuable way of thinking through links between grounded theory (and other systematic analyses) and creative genres of representation (Ellingson, 2009: 5).

Crystallization therefore is a useful term in explaining this study's use of combined methods in which the principle research goal is to 'construct situated knowledges, generate description and understanding, and trouble the taken-for-granted' (Ibid: 8).

Conclusion

Building upon previous studies on creativity and collaboration in the recording studio (Fitzgerald, 1996; McIntyre, 2008, 2012) ethnographic methods have been used to empirically explore the creative system inside the recording studio. Conducting an ethnographic study in the recording studio introduced a multitude of issues that were related to ethnographic methods more generally. These issues included the initial and on-going problem of access to the data, cultivating and maintaining relationships with participants, the inherent problem of observing and collecting data in the specialised and unique construction of the recording studio, and the interpretation and representation of the participants' actions and interactions. The issue of access was addressed by negotiating access through the gatekeepers of a recording studio session: the musicians who are recording there. Observing studio etiquette helped to preserve the naturalness of the setting and avoided any unnecessary disturbance to the recording process. This, in turn, helped to build and strengthen relationships with participants, both inside and outside the recording studio, which further enhanced access to the participants' thoughts, interpretations and perspectives throughout the study. A multi-mediated approach that included sound recording, video recording, participant-observation and field notes was used to capture the actions and interactions inside the studio during the recording sessions, particularly where observation alone was not

possible. Finally, a clear acknowledgement of the researcher's ethnographic self (Coffey, 1999) in the interpretation and representation of the processes of the participants places the methodology of this study in the middle of the qualitative continuum between interpretivism and positivism, with an overarching social constructivist perspective.

Before exploring the creative and collaborative interactions that occurred during the three observable tasks in the recording studio (performing, engineering and producing), the following chapters set out the re-contextualised components of the creative system so they apply to rock record production. The following chapter presents the domain, which is the culture and symbol system of rock record production, and primarily draws upon discussions with the participants and uses formal and informal literature to support some of these discussions. The subsequent chapter presents the re-contextualised field, the social organisation that understands, uses and alters the domain and also illustrates the participants' knowledge and understanding of its mechanisms and criteria for selection.

| 4 |

THE DOMAIN OF ROCK RECORD PRODUCTION, THE PARTICIPANTS INSIDE THE RECORDING STUDIO & THEIR DOMAIN KNOWLEDGE

Introduction

Having defined the context for the study and introduced the methodological issues and strategies for documenting the creative system at work, this chapter begins the contextualisation of the creative system by introducing the domain of rock record production and the participants' knowledge of it. The participants in this study had to engage with their internalised knowledge of the domain and the domain knowledge of the other participants. In order to illustrate the participants' knowledge of the domain of rock record production, research from the semi-structured interviews before, during and after the recording sessions inside the studio are included alongside the contextualisation. The first of the chapter's two principal sections presents the participants and the domain of rock record production, which includes three broad interconnected aspects: musical, technical and cultural. The second principal section introduces the ways in which the participants acquired their knowledge of the domain of rock record production. The chapter concludes by identifying how the participants have been encultured into the domain of rock record production. It is shown that through this process of enculturation that some of the participants' processes inside the recording studio have become 'instinctive' and 'second nature' (Bastick, 1982).

4.1 The Participants and their roles in the Recording Studio

The majority of the participants inside the recording studio were the musicians who made up Liverpool Blues/Rock band The Midnight Ramble. The group was formed in 2010 by lead singer and principal songwriter, Paul. Paul describes their musical style as: ‘rock with a mixture of influences from soul and blues. I listen to a lot of Bruce Springsteen but I also listen to a lot of Blues like Howlin’ Wolf and Soul like Otis Redding, and of course, classic Rock like Led Zeppelin’. The Midnight Ramble were nominated for Album of the year at the Liverpool Music Awards in 2012 for their debut album *Sink the Pieces* and Paul explains that in making the album: ‘we booked out Whitewood studios in town [Liverpool] and tracked most of the album over two days. Some of the bits like electric guitar we recorded at home and we mixed and mastered it ourselves’. Tracks from *Sink the Pieces* have also received international radio play and the band have supported Martha Reeves and The Vandellas and James Taylor Quartet in addition to headlining their own live gigs. Drummer Phil later joined after the original drummer left, and vocalist Jess joined the group part way through this study and the production of this record. The seven musicians in the Midnight Ramble each had their own role within the band as listed below:

Paul – Lead Vocalist, Guitarist and Principal songwriter

Mike – Lead Guitarist

Rory – Trumpet player and pianist

Chris – Bass guitarist, backing vocalist

Nick – Saxophone player

Phil – Drummer

Jess – Backing vocalist

The other two participants in the recording studio were sound engineer Darren and record producer Marc. Darren was the engineer during the initial stages of production of the record and had been the house engineer at Elevator studios since 2007. His intimate knowledge of the recording studio, its layout and the equipment meant that his

principal role was to fulfill the technical requirements for the initial part of the recording. Marc has been a record producer for over 20 years with additional experience as a mastering engineer, mastering recordings for some commercially successful acts such as Oasis, Primal Scream and The Saturdays. Marc's principal role in the recording studio was undertaking the task of producing although his role further extended to engineering and mastering in the latter stages of production of the record.

The roles of the participants during the making of a record can often be fluid and overlap (Zak, 2001) and although during the research for this thesis the musicians, the engineer and the record producer each had their defined roles, the interconnectedness of the tasks necessitated collaboration on aspects such as decision-making. During the latter stages of making the record the roles began to overlap considerably in and record producer Marc undertook both the tasks of engineering and producing. The musicians also began to contribute more to the decision-making process, particularly during the task of mixing.

4.2 The Domain of Rock Record Production

Having introduced the participants inside the recording studio it is important to note that they are only one part of the creative system. In order to make the record the participants, or agents, had to dynamically interact with the other two elements: the domain and the field (Csikszentmihalyi 1999). Working within the tradition of rock, the participants inside the recording studio had to first draw their knowledge from the domain, which is the information stored within the culture and symbol system of rock record production. This domain includes traditions, practices, terminology, language and codes used by members of the field of rock record production. In making a record, the musicians, the engineer and record producer applied their knowledge of the domain in order to produce a variation within it, which could then be verified by the field (Csikszentmihalyi, 1997). In other words, the participants in the studio drew on the symbols, codes and language of rock record production, rearranged and combined them in a unique way, in order to make something novel: in this case, the recording.

The domain: ‘consists of all the created products that have been accepted by the field in the past, and all the conventions that are shared by members of the field – the languages, symbols, and notations’ (Sawyer, 2012: 217), which includes innumerable rock recordings and the conventions and cultural practices that span the length and breadth of popular music practice, such as contemporary Western popular song writing (McIntyre, 2009) and live performance (Zagorski-Thomas, 2014). However: ‘recording practice is an immense, and immensely complicated, topic which requires volumes of encyclopedic exposition to comprehensively elucidate’ (Hodgson, 2010: ix), and because of this great expanse an effort has been made in this chapter to contextualise the parts of the domain specifically relevant to the participants in this study. The participants’ knowledge of the domain of rock record production has been grouped into three broad areas of ‘musical’, ‘technical’, and ‘cultural’, and although it is acknowledged that these areas are intricately intertwined and interrelated, they have been distinguished for ease of analysis and discussion. A fourth broad area, ‘entrepreneurial’, which relates to the legal and industrial aspects of the domain of rock record production, has not been included, principally because the roles of the musicians, engineer or record producer did not require knowledge of working with a record label or publisher during the recording process. However, where participants demonstrated their knowledge of this area this has been included in order to represent the wider commercial tradition, culture and symbolic rules of rock record production.

4.2.1 Musical Aspect of the Domain

The central element of the musical aspect of the domain of rock record production is the contemporary Western popular song (McIntyre, 2009b: 1). In his study of popular songwriters Phillip McIntyre determined that songwriters required a body of knowledge to enable them to create songs and this knowledge includes an appreciation of lyrics, melody, rhythm, harmony, the structure of songs and their arrangement in addition to: ‘various production elements that affected the nature of the song’s reception and an understanding of audiences’ possible interpretations of the work

produced' (2011: 84). In much the same way, all of the participants in this study demonstrated a working knowledge of Western contemporary songs and their elements including lyrics, melody, harmony, arrangement, rhythmic components and song structure. Principal songwriter and vocalist Paul explained that:

You need to understand the 'hook', in terms of pop writing, understanding the melody and what it's doing, and how it brings the song together. Because a really rubbish melody over some fantastic music can really ruin a song.

Recording engineer Darren also had some understanding of these song elements as his ability to identify these musical features informed some of the technical processes such as recording, overdubbing or mixing, where he was often asked to start recording from the first verse or the second chorus. Musical knowledge therefore enables engineers: 'to understand performers', arrangers', and producers' discussions' (Porcello, 2004: 733).

As well as knowledge of popular song and musical styles, the domain of record production also holds some of the symbolic rules, traditions and practices of the related domain of musical performance. The significant difference, however, is that the musicians were not performing in front of an audience, and the performance was captured and relayed to them through the use of microphones and headphones, and then further scrutinised by the engineer and the producer in the control room. The musicians' performance of the song was therefore altered in a number of ways. For instance, in the latter stages of production complete performances of the song were not required so musicians only performed part of the song, or musicians were required to repeat a particular section of the song until the performance was deemed sufficient. The symbolic rules of live performance and those of record production are therefore different as the performance of the song in the recording studio can be stopped and started at any point, repeated numerous times and altered through both the application of recording technologies and the acoustics of the recording space. The musicians

demonstrated a knowledge of these practices and an ability to adapt to the use of these practices throughout the record production process.

All of the participants in this study also demonstrated a working knowledge of the structure and form of the songs through discussions between themselves, by taking instructions from the other participants and during subsequent interviews. The principal songwriter, the record producer, the trumpet player, the saxophone player and the backing singer further exhibited their knowledge of melody and harmony through the alteration or addition of musical parts during the production process. However, it was the record producer who demonstrated the most acute ability to recognise the deficiency of specific musical elements in the performance of the song; in particular, the clashing or mistiming of rhythmic, melodic or harmonic elements⁴. It has been argued that the record producer often requires a greater musical understanding than all the other participants in the recording studio (Watson, 2006), where an entire working knowledge of the song's musical aspects helps to effectively visualise, plan and predict the various ways in which the song could be arranged. The arrangement therefore:

Involves more than fitting together of instrumental parts; in many cases a track's arrangement develops according to criteria that are specific to recorded sound. That is, some of an arrangement's characteristic features may come about as a result of electronic sound processing, frequency manipulation, or various mixing techniques (Zak, 2001:32).

It has been further argued that: 'the song is nothing before the arrangement' (Fitzgerald, 1996: 20-21) and that conception: 'occurs at the moment of orchestration, recording, and sound mixing' (Ibid). The song is therefore orchestrated through a combination of these previously discussed elements of performance, arrangement and technical mediation in which the recording consists of the song, the musical arrangement and the track (Zak, 2001). Consequently, listening to a record is the

⁴ A specific example is illustrated during the stage of production in Chapter 8 'Producing in the Recording Studio'.

experience of hearing: ‘both the song and the arrangement’ (Zak 2001: 24). This is a fundamental aspect of the domain of rock because it illustrates how interconnected the areas of the domain are and their mutual interdependence. The relationship between music, technology and ‘sounds’ was evident throughout the study in which participants discussed the ‘sounds’ of specific eras of sound recording, the ‘sounds’ of specific technologies and the ‘sounds’ of specific bands. For example, record producer Marc referred to the ‘70s’ sound, which he explained was:

The golden era of sound recording and making records. It wasn’t just the technology, although that did help, it was great songs and, y’know, great sounds. Those records still sound great today and *Crime of the Century* is still my favourite from that era’.

Marc’s comments above illustrate how the elements of musical performance and technical mediation combine through the processes of songwriting, engineering and production to create a resultant ‘sound’. Lead singer and songwriter Paul illustrated his knowledge of these processes during pre-production and explained that he has always considered how his songs will be orchestrated even before they have been played to the other band members:

Paul - I’ve always written with the bigger picture in mind. I’ve always written with the idea that “this is the song” with a dramatic picture of how the song will sound. Anytime I’ve demo’d anything I’ve always gone with that bigger picture.

Writing songs with an aesthetic consideration for their orchestration and arrangement has been defined as ‘writing records’ (McIntyre, 2009), a process in which framing the song plays a central part. In the context of rock record production, this process is commonly referred to as arranging and, as Zak previously noted, it: ‘involves more than the fitting together of instrumental parts’ (Zak, 2001: 33-32). Here, the musical, technical and cultural aspects of the domain of rock record production cannot only be

seen to overlap but also viewed as interdependent, and of all the research participants record producer Marc and lead singer and songwriter Paul demonstrated the most advanced knowledge in this area of the domain.

4.2.2 Technical Aspect of the Domain

Technical knowledge within the domain of record production generally related to the task of engineering, and the musicians suggested during their interviews that although technical knowledge was useful in order to perform on a record it wasn't entirely necessary:

Paul – You don't need to know it [technical knowledge] necessarily but you need to be aware of the technical stuff and you learn that as you go along. The more recording you do the more you become increasingly aware of how things are set up and ultimately what the engineer's going for because it's his or her work as well.

Mike – I don't feel that technical knowledge is essential, but it can give both performers and engineers a clear indication of what is required in the end result. Any technical knowledge performers bring into the studio can help mould the song.

Both Darren and Marc undertook an engineering role during the recording process. Throughout the task of engineering and in subsequent interviews and discussions, they demonstrated their technical knowledge of the domain in the recording studio, which included the broad area of acoustics, knowledge of how sound behaves the recording studio, the factors of room dimension and shape, absorption, reflection, diffraction, sound isolation, reverberation and echo. They also demonstrated their technical knowledge of microphones, the various manufacturers and types of microphones and how the use of particular microphones contribute tonally to the recorded sound:

I consider mics to be like paintbrushes. They all do pretty much the same thing, but each has its own characteristics and best applications (Swedien quoted in Hatschek, 2005: 40).

This knowledge of the domain was coupled with a working familiarity of mixing consoles in order to combine and mix the recorded signals, primarily because:

The console is the nerve center of the control room...It also serves as the organizational center of the control room, directing the routing of all signals to and from the tape recorder and the studio's various sound processors, providing the ability to instantly isolate any signal or to group a subset of signals, and offering the flexibility to create different simultaneous mixes (Zak, 2001: 118).

Furthermore, Darren and Marc demonstrated knowledge and understanding of the setup and use of other dedicated recording equipment such as recording software and analogue audiotape. Knowledge of monitoring was demonstrated through the setup and application of various loudspeakers and amplifiers in order to listen to the recorded sound in the control room. The technical aspects of the domain also included a working knowledge of the sonic characteristics of various monophonic, polyphonic and percussion instruments in order to capture the sound produced by them. Both Darren and Marc demonstrated their technical knowledge of guitar amplifiers, their sonic characteristics and the way in which they were combined with various models of electric guitar to create particular or familiar sonic aesthetics. In summary, the technical aspect of the domain of rock record production broadly comprises of:

Learning how to operate the control room equipment (in a visual field of knobs, switches, and lighted displays that resembles, at first glance, the complexity of an airplane cockpit)...of being familiar enough with electrical flow to trouble-shoot the inevitable broken signal path or feedback loop; of possessing at least a rudimentary knowledge of acoustics in order to make

informed judgments about how sounds will translate from one listening environment to the next; and of mastering the intricate processes of audio recording ranging from microphone (mic) selection and placement to ‘building a mix’ step-by-step from performances captured on tape or disk (Porcello, 2004: 733).

Darren and Marc further demonstrated their knowledge of how the technical aspects of room acoustics, instrument acoustics, microphone characteristics, microphone placement, and audio processing equipment can combine to create specific sounds. Their working knowledge of how room acoustics, electronic sound processing, frequency manipulation and various mixing techniques could be combined in order to achieve a specific production aesthetic, or to create sonic characteristics of rock, were demonstrated throughout the recording process. Finally, Marc demonstrated his technical knowledge of mastering, which is often the last stage in the record production process (Hodgson, 2010: 189). This process required technical knowledge of frequency manipulation, audio editing and the technical constraints of the intended formats such as CD and MP3.

Although the musicians in this study didn’t regard technical knowledge as essential, they did highlight that a technical awareness of the recording technologies and the way in which they affected and captured their musical performance was useful:

Chris – In order to perform, the technical knowledge would really be pretty minimal. Just knowing about the equipment you are using and a little about how songs are recorded would be enough. The more knowledge the better though I think, so the greater understanding one has of a studio, the better this can be accommodated by the performers in order to remain calm and understand what the staff in the studio are doing around you.

For the musicians, this technical awareness extended to the use of microphones and the way in which they capture the musician’s performance. For example, in order to

maintain a relatively constant level of loudness, vocalists Paul, Chris and Jess performed with the microphone, moving closer in quieter sections and moving further away during louder sections.

Overall, knowledge of the technical equipment and the accompanying technical practices and processes within the domain of rock record production were only pertinent to those engineering. The engineer therefore has two specific tasks: firstly, to address the technical aspects of the record production process from selecting and setting up microphones to operating the recording equipment; and secondly, translating the musical intentions of the musicians and the record producer into 'technical action' (Zak, 2001). Integrated into both of these specific tasks is the requirement to interpret the broader aesthetic and musical ideas of the participants and convert them into technical decisions (Porcello 2003).

4.2.3 Cultural Aspect of the Domain

The cultural aspect of the domain includes all of the traditions and cultural practices of the recording studio that have developed over time principally to facilitate collaboration and effective communication during the record-making process. For example, the previously mentioned cultural practice of observing studio etiquette during a studio session encourages the participants to avoid unnecessarily obstructing the process at critical moments. However, maintaining a comfortable, good-natured atmosphere in which to work is also important in the intimate setting of the recording studio. The social conventions of recording studio practice are governed by the field of rock record production and embedded in the cultural aspect of the domain, which further includes building and maintaining relationships and the use of specific language and terminology in order to discuss musical sounds and translate sonic descriptions into technical action. The cultural aspect of the domain also holds the ideology of rock record production, its incorporation of recording technologies and its associated practices. For example, it has been argued that studio recording is the process of piecing together fragments of actual events to create an ideal event (Eisenberg, 2005).

Record-making is therefore more like: ‘movie making as we usually understand it’ (Eisenberg, 2005: 89) in which the: ‘realist relationship between musical work, performances, and recording is moot; in part, thanks to rock’s on-going exploitation of the recording process itself’ (Gracyk, 1996: 53). Making a record is therefore simply more than packaging a series of pre-existing sounds (Zagorski-Thomas, 2014) as record producer Marc explained:

We’re making a record not a recording; it’s a totally different thing. You’re trying to create something that’ll stand up to continual listening and scrutiny y’know, but also give the best representation of the band and their sound...it’s OK to have more than one of each instrument if we need to make it sound thicker or we want to layer sounds together, or if we record it all in one take or if we piece it together: whatever produces the best sound.

The ideology of record-making combines the musical, technical and cultural aspects through the implementation of rock record production’s cultural practices. For example, illustrated in Marc’s comment above is the often fragmented nature of studio recording and its related cultural practices, which include ensemble recording, overdubbing, editing, splicing, compiling, and altering timing or tuning. These practices are employed in order to create the ‘ideal event’ (Eisenberg, 2005).

As previously discussed, cultural practices inside the recording studio have been developed in response to its unique architecture (Williams, 2011) and the necessity to effectively communicate between the control room and the live room. Because of their greater experience of the recording studio space it was also the role of the engineer and the record producer to reduce or remove any anxiety and resolve any issues that arose during the recording process⁵. Anxiety on the performing musician’s part can be

⁵ A specific example of how cultural domain knowledge is employed when things don’t go smoothly in the recording studio is illustrated in chapter 8 ‘producing in the recording studio’ in which Marc had to elicit a vocal performance from an anxious Chris.

increased due to a sense of expectation attached to the social setting as singer Paul explains:

It's a very difficult thing to do, to perform in the studio on cue... There's always that nervousness when someone says "we're rolling", even though it's scary and it's nerve-racking I love those probably about 7 seconds before you count in. I love that because of the anticipation and that's ultimately what pushes you on and the adrenaline kicks in there and then.

Bass player Chris further states:

There'll be people in the studio that you may not know well or have ever met before, you need to make sure that they'll be working with you, not against you. If you don't have the people working with you on your side it makes things much more difficult. Getting on with the people around you makes life easier in any environment, so in such a sensitive one as a recording studio it's vital that every effort is made to build good relationships, even if you will only be working together for a short period of time.

Knowing when to make a joke, a particular remark or to comment on a specific performance can be a challenging task in the intimate atmosphere of a recording session and participants demonstrated their knowledge of this cultural aspect of the domain in relation to their roles within the process. For example, engineer Darren explains that this involves:

Judging about how vocal you can be about certain things because it can be quite a delicate situation and quite often if people are unsure about what they're doing, or are coming out with new ideas, then to stay neutral in the situation is important. If you're just there to assist then you should be assisting and helping to set things up but if you start saying "I'm not sure

about this” then you’re not really assisting the session, you’re starting to interfere with it. Judging what you think appropriate language is to use, how honest to be about things are also important ...if you say the wrong thing you can quite easily destroy the whole thing that’s going on.

It is also the engineer’s role to provide stewardship to the other participants in order to guide: ‘intuitive musical visions that are often only partly formed, perhaps technically naïve yet artistically sensible, through a daunting technical and analytical process’ (Zak, 2001: 165). The engineer should therefore know how to avoid disturbing the other participants in the recording studio with technical concerns and provide a: ‘sense of well-being in the studio’ (Zak, 2001: 166). Record producer Marc explains:

If it’s a band of four people it’s also about understanding what job each one of them has in the band and understanding who’s doing what, then you’re able to analyse to see how best they can do it [make a record] to their ability to bring out the best in them.

Therefore, participants must come to understand their role within the record production process and identify their relative musical, technical and social tasks. For instance, Marc developed knowledge of the social make-up of the group of musicians in order to address any issues and to identify various ways to coax or elicit a performance from them if necessary. The cultural aspect of the domain also included building and maintaining social relations during the recording project. In relation to the role of the record producer:

It helps to be on friendly terms with the artist, and for the duration of the project you may get quite close, but it is an intense relationship between people whose lifestyles and personality types are often quite different. Generally, once the album is over the artist will go on tour, the producer will move on to his next production and very often they won’t meet up again until

the next record or when they receive their Grammy award (Burgess, 1997: 115).

The cultural practice of building and maintaining relationships whilst working inside the recording studio was therefore both temporary and fundamental in order to create a unified atmosphere for effective collaboration throughout the duration of the record production process. Another important cultural aspect of the domain of rock record production identified by the participants was that of language, which included musical terminology, physical descriptions of the properties of sound, such as frequency, and metaphorical devices. There is a difficulty of using language to explain sound because:

Attention to sound for its own sake has become deeply embedded in studio work, so has the need for engineering professionals to be able to discuss it in finely detailed ways. In this sense, sound poses a problem for recording engineers: how to render acoustic phenomena concretely in language...[in the recording studio it] is especially complex because talking about music, indispensable to the functioning of any recording session, is heavily reliant on competence in managing a wide range of metaphoric discursive conventions (Porcello, 2004: 739).

The social setting of a recording session therefore demanded a 'register shift' (Porcello, 2004), which enabled participants to switch between metaphoric, pictorial or interpretive linguistic devices. Ultimately, the use of these devices was to facilitate the translation of sonic or musical ideas into technical action and the participants in the recording studio broadly demonstrated a shared understanding of terminology, metaphor, description and a working knowledge of these through practical implementation in conversations and discussions.

In conclusion, none of the participants had intimate knowledge of all three aspects of the domain of rock record production and therefore collaboration was a necessary means to address any inadequacies in domain knowledge or skills. For instance, the

musicians had relatively little technical knowledge of the domain and therefore collaboration with the engineer was imperative in fulfilling the necessary technical requirements. The musicians had only made one record prior to this recording and therefore they were reliant on the record producer's musical, technical, cultural and ideological domain knowledge to guide them through the process.

4.3 The Participants' Process of Domain Acquisition

It has been noted that:

The *domain* is the symbol system that the person and others working in the area utilise. It is the culture and conventions the person becomes immersed in. It includes all the work done to this point within that particular field and may be held within a person's idiosyncratic knowledge base or accessible from other sources within the field' (McIntyre, 2012: 78).

However, it can be argued that the domain does not simply include all the work done to this point because the field selects or rejects particular works based on their selection criteria at a given point in time. In other words, the criteria for selection can change over time, which adds a further historical dimension to the context of the domain and the field. There are then political, social, economic and historical inferences that are in operation within the field and the domain as they change over time. Despite the difference in age and experience of the participants, the popular music tradition and context of record production in which they were working was evidently shared. This tradition was contemporary western popular music, which uses the western harmonic system, popular song structures and popular lyrical conventions and constructions with an emphasis on British and North American popular songs. Added to this were the traditions and conventions of western rock record production with an emphasis on British and North American records. This emphasis on British and North American popular song and rock records is unsurprising given the

economic dominance of British and North American record companies within the commercial recording industry throughout the 20th Century, and the fact that all of the research participants live and work in Britain. The shared historical context of the participants further contextualises their creative activity within the broader traditions, culture and symbol system of rock record production and plays an important role in the production of new works because:

The most original works of art may be genial applications of a well-known vocabulary...What makes them original is not their defiance of the past or their rude assault on settled expectations, but in the element of surprise with which they invest the forms and repertoire of tradition (Scruton, 1998: 42)

Creative works are therefore resolutely based on what has come before and: ‘in order to produce something new, one should first become as knowledgeable as possible about the old’ (Weisberg in Sternberg, 1988: 173). In order to contribute to the record, the participants first had to acquire knowledge of the domain of rock record production, which also enabled them to avoid producing something that has been made before (Watson, 2000). In this way, the participants could rearrange: ‘the forms and repertoire of tradition’ (Scruton, 1998: 42) in order to create a record that is: ‘original, valued and implemented’ (Csikszentmihalyi and Wolfe, 2000: 81) by the participants and their audience, or in Boden’s terms, P-creative (Boden, 2004).

This process of domain acquisition can take numerous forms, from formal or structured education to informal acquisition through a process of immersion called enculturation (McIntyre, 2005). Having explored the studio participants’ knowledge of the domain of rock record production, this third section of the chapter presents the participants’ development and acquisition of domain knowledge that allowed them to contribute and collaborate inside the recording studio. Different aspects of the domain were acquired at different times, and to varying degrees, by the participants although for the purposes of analysis and discussion, the participants’ acquisition of the domain of rock record

production have been presented in reference to the domain's three broad areas of 'musical', 'technical' and 'cultural'.

4.3.1 Musical Domain Acquisition

For the majority of the participants acquiring the musical aspect of the domain of record production began formally through learning the basic rudiments of music at school. This was predominantly related to Western Classical music as the CSE (Certificate of Education) taken by all 14-16 year olds and the O Level⁶ did not have a requirement to include music. Where music was included: 'the higher-status O Level exam included only classical music, and the lower-status CSE exam included entirely classical music, with a few pockets where popular music was taught' (Green, 2002: 89). In 1986 the British government introduced a new system of examinations for 14 to 16 year olds, called the General Certificate of Secondary Education (GCSE), which included a new music syllabus that covered the study of folk, jazz, popular and world music (Ibid). However, Classical or Western Art traditions have continued to be prevalent in the way in which music has been taught and up until the middle of the 1980s:

School music classrooms were characterized by quite traditional music teaching methods and content, despite the influence of progressive approaches related to the 'avant-garde', the incorporation of composing activities and the entrance of popular music in the curriculum (Ibid: 90).

The pre-eminence of the Western Art tradition as a superior form of music can be traced back to the Romantic period. During this period philosophers such as Kant and Schopenhauer challenged the classical era's stance on musical aesthetics by applying philosophical frameworks of beauty to musical pieces (Donelan, 2008). Some of these

⁶ The CSE, now GCSE, is a qualification taken by all 14-16 years olds in England. The O Level, now A-Level is a post-compulsory qualification taken by 16-18 year olds in England.

distinct elements of the Romantic Art Music tradition still permeate today in both music education and: ‘there is a strong tendency to work more or less exclusively within the assumptions of the Western high-art tradition and accept them without question as universals of music’ (Small, 1999: 10). It has been further argued that Western Art values have impacted: ‘the structure and content of school music education (Hewitt, 2006: 132), and the research participants discussed learning more of the theoretical and cultural aspects of music at school with specific reference to Western Art composers such as Beethoven, Mozart and Bach. Basic musical skills were also learnt at school, which involved singing, learning basic keyboard skills and standard notation:

Paul – I did music in the first few years of High School and dropped it when I was in year 9 mainly due to the teaching. I wanted to do music because I’ve loved it ever since I can remember and I did enjoy it and I learnt to read music...but I dropped it because I lost interest and I wanted to go further with the actual practical bit rather than the theoretical bit.

Rory – I seem to remember analysis was a big thing, harmony as well like Bach Chorales. It was very much like Grade 5 ABRSM theory...It felt like it was all classical analysis and preserving a tradition.

The participants, as in this example below, commonly expressed negative experiences of formal music learning:

Chris – I had music lessons at school but I never learned anything about theory or performance from them. I can remember very little of my time in music class. I can remember doing some pieces on the keyboard and I learned trumpet for about two lessons but that was about it. I think my music teacher had lost his love of teaching years before and even though we were the top class in the year he never really tried to properly nurture any musical talent. I can remember one lesson where he had us take out pages of a student manual. We

did no music, just removed a few pages from a book then went off to maths or whatever was next.

However, most notable from the responses of the participants was the integration of popular music as an additional area of study after GCSE level, referred to as post-compulsory education, which included Further Education (FE) colleges, sixth-form in secondary schools and University (HE):

Mike – I didn't learn about musical performance at school but at college [FE] and university [HE] I studied popular, contemporary and classical music, learned a lot about performance from a soloist point of view, technique and maintenance of instrument are arguably as important as expressive playing and arrangement.

Jess – I learnt the idea of going from the dominant chord to the sixth rather than the fifth or the fourth. I didn't play piano very well, I taught myself from when I was 15 and I only went there when I was 17, I didn't really know very much so he [Jess's teacher] kind of introduced me to a few different type of chord structures and "there are pop songs written on these chords, rather than these chords" kind of thing.

Darren – I did a course in music production that touched on bits of music theory, songwriting and studio recording.

Chris – I attended a one year course in music theory and performance with Liverpool Community College. I had to pass a theory and listening test in order to get onto the course and so bought the GCSE theory book and learned that, as well as two contrasting pieces of music (the solo from the acoustic version of Layla and part of the Pathetique Sonata by Beethoven) and got onto the course. Ironically the course only taught up to GCSE level theory so I'd

learned it all before the course started but I learned a hell of a lot more about different styles of music, composition and performance.

In addition to learning music formally, four of the participants had also learnt some of the musical aspects of the domain non-formally by taking private lessons:

- Jess - I had singing lessons at the Performing Arts school I went to, that was the last time I had singing lessons...that covered things like breathing technique and standing properly so you could project your voice.
- Rory – I had ABRSM (Associated Board of the Royal School of Music) private lessons on the trumpet and took up piano with a bit of theory. I worked towards the exams so I learnt pieces, scales and took lessons up until I was 18. I never got passed [sic] grade 5 so I kind of got by with the technique that I had. I didn't have a strong practice regime to be honest but music was a weekly thing with me and I joined all the school bands.
- Mike – I had private guitar lessons and found this helped a great deal in understanding the role of melody in relation to chord progressions.
- Nick – I had piano lessons when I was 6 or 7 I think until 12 maybe, I can't really remember, and I was taught the Tenor Horn 8ish-12. Then I started to play saxophone at 13, but only had a few lessons. With the piano and tenor horn lessons I learnt the usual stuff, tuning, scales and bit of theory and obviously how to play them.
- Phil – I had drum lessons for about 5 years. There was a particular thing drummed into me by my drum tutor, he used to put you in a room and make you play a beat for 10 minutes, literally 10 minutes then he'd walk out the room. If you played a fill, he'd come back in and start the watch again and you'd have to play for another 10 minutes. But what that teaches you, and you listen to any

good music now or old music, is that they don't put fills in for no reason unless you're heavy metal and you need all these mad rambling fills.

As Lucy Green explains: 'such formal and non-formal provisions still mainly act as supplements or extensions to popular musicians' informal practices. These informal practices continue to form the essential core of most popular musicians' learning, and run alongside additional formal or non-formal activities' (2008: 5). However:

Unlike in most folk and traditional fields, most young popular musicians in Western or Westernized musical cultures are not regularly surrounded by an adult community of practising popular musicians who they can talk to, listen to, watch and imitate, or who initiate them into relevant skills and knowledge. Hence, young popular musicians tend to engage in a significant amount of *solitary* learning (Ibid: 6).

The responses from the performing musicians reflected the solitary nature of learning one's instrument, and furthermore all of the participants had acquired some part of the musical aspect of the domain informally. As in previous studies (Green, 2002) the technique of listening and copying was employed throughout the musician's informal musical domain acquisition:

Paul – It all kind of started just through listening, I've always listened to so many different things, I mean predominantly it's been rock music and a bit of country here and there and everything has been kind of bolted on and I've had phases in my life where I listen to really really heavy stuff and really out-there folk kind of stuff and that's all kind of influenced, I wouldn't say ripped off, but when you first listen to stuff you think well, I want to sound like that so you try and push yourself towards a certain sound.

Mike – When I first started playing I would spend around two hours a day listening and copying records. As my understanding of music has grown I now find it is not always necessary, however I still find this is the best way to learn more complex melodies.

Nick – I think this [listening and copying] is a very important way of learning as it trains your ear and develops your technique of the instrument *all the time*.

Chris – I taught myself how to play guitar and read up on theory, tablature and notation myself. I still can't read music fluently and I'm much better on tablature. I basically taught myself everything I knew, I never had a teacher at any point until I went to college and I started to play when I was 14. I first learned from playing by ear then bought books and one or two DVDs and videos.

There was also a social dimension to learning the musical aspect of the domain and participating in band rehearsals and performances and playing as part of a group introduced collaborative practical learning:

Rory – I didn't have a strong practice regime to be honest but music was a weekly thing with me and I joined all the school bands. That taught me how to follow direction from the orchestra and to listen to other instruments and see where my part fitted in with the bigger piece.

Chris – Basically Paul comes to us with the song, he'll sing it or play it to us and teach us the chords, and then we just kind of work something along with it so the chords are already there and then we write our own parts so Rory and Nick will come up with the brass lines but obviously we'd all have an influence with it and suggest things.

Mike – I have learned that practice is very important, both for practical reasons and the psychological impact this has. Being well-rehearsed makes me feel more assured during performances. On the social side, I have found that gigging has introduced me to a local community of musicians which is a really positive thing as this fosters innovation and collaboration.

Acquiring the musical aspect of domain of record production can be considered in two distinct parts: the first part relating to the theoretical features of music and the second part relating to the practical features. Formal domain acquisition, through attendance at an educational institution, was more closely associated with the theoretical features of music where knowledge of melody, harmony and song structure were acquired and, in some cases, assessed. Non-formal and informal domain acquisition was typically less structured but generally covered more of the practical features of the musical domain such as instrumental technique and performance. All of the participants, apart from Marc the record producer, had acquired musical knowledge of the domain through formal education. Marc had acquired this part of the domain entirely informally.

4.3.2 Technical Domain Acquisition

Educational programmes that relate to aspects of record production (such as sound engineering, music technology and music production) are a relatively new occurrence and the domain of rock record production has historically been acquired through either an informal apprenticeship system or a less formal, less-structured process of immersion termed ‘enculturation’ (Green 2002). The traditional process of domain acquisition within the practice of sound engineering for instance, was often through apprenticeship. The apprenticeship system introduced a particular hierarchy of roles inside the recording studio beginning with runner or ‘tea boy’, then tape operative or ‘tape-op’, assistant engineer, engineer and finally record producer. To move up in the hierarchy, the preceding role would be considered by the proponents of the apprenticeship system, which may be the studio owner, a record label representative or

chief engineer at the recording facility, before moving onto the next stage of the apprenticeship. Engineer Darren acquired the domain in a predominantly informal way through undertaking different roles at different recording facilities beginning first through formal education:

Darren – When I was doing my course in music production I used to go in on the weekends and use the studio. One of my friends that I'd made from University had started a band and we'd decided to make an EP and I'd go in on the weekends record them and then finish it off at home...I learnt a lot about mixing and editing from spending hours at home.

Record Producer, Marc acquired the technical aspect of the domain entirely informally:

I started off just recording my mate's band, and then other bands heard it and asked me if I'd record them, so I did. Me and a friend later set up our own studio in the 1980s, it was quite a crude system but we did everything, wiring the studio, setting up, the engineering recordings and it all went from there really.

Marc's initial experiences of recording in a studio as a musician helped in acquiring technical knowledge of the domain:

Marc – Choosing the equipment to use in our studio came from recording in different studios in the 80s, I noticed that they had compressors and tape echoes and things like that because at that time there wasn't an awful lot of literature about what engineers were doing in studios with compressors so used to talk to a couple of mates who knew a bit about those things and I think it got to the point where I experimented a bit...From recording bands I kind of slipped into the role of engineer and people used to say "Oh he's a good engineer" but I thought I don't want to be just an engineer, you know

I'm a creative person but at the time I suppose I couldn't see that being an engineer was also being creative.

Marc also acquired his knowledge of audio electronics and equipment informally through experimentation, trial and error:

I guess I've always been fascinated with electronics and especially audio equipment, I've always been fascinated by it since I was probably mid-teens something like that and I did mess around when I was a kid with tape-to-tape. I didn't realise that it was going to be a forerunner for what I do now... I like to think that I think in signal flow rather than anything else.

Darren also undertook an apprenticeship in an assisting role learning the domain from this perspective:

Darren – The initial success with the band I'd worked with got me work assisting and engineering in studios in Liverpool and London. So, I was doing bits of assisting in bigger studios and engineering in smaller studios and then eventually started getting more engineering work.

Through continuing involvement with engineering studio productions Darren became immersed into the recording studio context:

When I first started engineering at this studio [Elevator Studios, Liverpool] I was working part-time but there was a month booked out fully so I quit my job at that point and worked straight out for that month and for that first six months I was quite often doing 10 hours a day. I'm producing more and more now but the engineering roles and production roles can overlap quite a bit at times. Producing on the Altekicks EP got me work assisting in here [Elevator studios] and I did a couple of sessions in London as well in Olympic studios so I was doing bits of assisting in bigger places and also getting bits of

engineering in smaller places and then producing bits at home...that way I eventually got more engineering work in here.

In a similar fashion Marc also became immersed into the technical aspects of record production inside the recording studio:

The mate I set the studio up with was more of a musician and I was the one who was more technically fascinated by the recording process really, so the engineering was always my responsibility and I learnt engineering through, just experience, over a long period of time.

Marc however discussed the haphazard nature of his technical domain acquisition and knowledge of some of the technical processes in the recording studio were acquired through trial and error:

I'd try stuff out like EQ and if it sounded good then I stuck with it but I suppose that was all part of the learning curve of trial and error...No one's ever shown me how to mix I've just experimented a lot and I'm still not sure if I can mix (laughs).

More contemporary forms of technical domain acquisition include educational programmes that relate to sound engineering in both technical and vocational institutions (i.e. FE and HE Colleges and Universities) where potential engineers can learn about the processes, practices and related areas of the domain of sound engineering in a more formal, structured educational environment. This was the case for Darren:

I studied a course in music production and I was introduced to things like microphones, microphone construction, cables and wiring. We also did projects in the recording studio, things like recording bands and we were shown things like how to mic up a drum kit and a guitar amp.

Some of the other participants had also studied educational programmes in music technology or music production, which addressed aspects of the technical domain of record production:

Jess – As part of my A-Level in Music Technology I did some recording with my tutor and then I learnt how to mix my songs. We used Cubase at school and then ProTools at University. At college we had analogue tape and that taught us recording in a very specific way.

Mike – I attended a music technology course at college which covered a broad range of subjects from studio recording to sequencing. I first started recording at college. We were mainly taught about microphone placement, recording software, use and maintenance of cables etc. Later, in university I learned more in depth mixing and mastering techniques, advanced composition and arrangement techniques and also studied the societal impacts of various genres of music.

In addition, some of the participants acquired the technical aspects of the domain informally through recording at home:

Rory – I started recording at school with my friends...I've got a really distinct memory of using Audacity when I was 14 or 15, around the same time I started playing music with my school friends, and just experimented with plug-ins and kind of electronic sound, starting with a noise from a guitar and making it sound not like a guitar. That was about the same time I was recording songs with my friends. It escalated from there, I got a portable recorder and then I got an interface with my laptop so I've recorded quite a lot with friends and made three EPs and lots of bits of pieces here and there but we were always recording; we were recording more than we were playing. So that's where I got interested in balancing sound and creating that overall sound.... recording in other studios has been useful and I've learnt things like

putting a compressor across the drum bus, re-amping and stuff I didn't have access to really like Protools and outboard gear.

Jess – Me and a friend performed a song on Ashford High Street and my Dad helped us to record that because he always said it's good to hear yourself back before you go on stage. He had a little home set up with Cubase and some middle of the road microphones and I suppose it was actually through him. Again, he was a songwriter and as a teenager he produced his own little album so I grew up with him playing piano at night when he got home from work. During then weekends or whatever he'd go into his little home studio, just like a tiny set up in his study, and he'd keep making music. He kept recording stuff and I think my older sister was the first one to actually record something with my Dad and then, after hearing that, I asked to record with him.

The musicians in this study suggested that although technical knowledge was useful in order to perform on a record it wasn't entirely necessary. As a result, they hadn't learnt the necessary technical knowledge to the extent Marc and Darren had, however, some of the performing musicians had gained some technical knowledge from studying related educational programmes, recording at home, or from their experiences inside the recording studio. This knowledge helped the musicians to alter their performance practices in response to the use of recording technologies inside the recording studio such as microphones and headphones. The engineer and the record producer had predominantly acquired the technical elements of the domain and, through his residency at Elevator studios, Darren had also acquired intimate knowledge of Elevator studio's layout, the studio equipment and some of its inner workings such as signal routing. As shown in Chapter 7, this technical knowledge was employed throughout the task of engineering inside the recording studio and contributed to maintaining the flow of the recording session. Record producer Marc's technical knowledge was also employed throughout the process, particularly in the later stages of production where he also undertook the task of engineering.

4.3.3 Cultural Domain Acquisition and Enculturation

As demonstrated in some of the responses from the participants, acquiring the musical and technical aspects of the domain of record production were often accomplished in highly social situations, particularly because collaboration is often fundamental to playing, engineering and producing popular music. However, the separation expressed by the participants between formal music education and their own informal music learning experiences highlighted the difference in context between the classroom and the recording studio. Lave and Wenger (1991) define the process of learning within a given a context as ‘situated learning’. This separation is exaggerated when participants enter the recording studio because they enter an environment with existing social expectations, conventions and practices. Therefore socialisation is a fundamental process in order to collaborate either through performing, engineering or producing. Groups of people who share these conventions are considered to be a ‘community of practice’ (Wenger et al., 2002), who: ‘share a concern, a set of problems or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis’ (Ibid, 2002: 6). In the same way that some of techniques for musical performance in the studio, and the majority of technical and production skills were acquired informally, the social skills and knowledge associated with the domain of record production were also acquired almost entirely informally through experience and immersion in the environment of the recording studio. This process of enculturation is a: ‘fundamental factor that is common to all aspects of music learning, whether formal or informal’ (Green, 2008: 5).

As previously mentioned, learning to observe studio etiquette was necessary in order to avoid unnecessary distraction and maintain an optimum level of communication between the participants, and knowledge of this was acquired from experience in the studio. In addition, learning to manage and provide stewardship for the other participants was accomplished by those most familiar with the environment of the recording studio. Both the record producer and the engineer had acquired these skills through experience:

Marc – I've picked up the group dynamics thing from years of working with bands in the studio. I can tell quite quickly which band member might cause problems or be difficult from that experience so I'll try and get them on my side.

Darren – You learn something off everyone you work with, they'll have different ways of approaching things...you're constantly learning from others who may have techniques to get something in tune or you learn a way to talk about tuning without offending anyone.

Marc emphasised, however, that this knowledge is acquired over a long period of time:

I think you need quite a lot of experience, not just as an engineer or a musician, but people experience. I don't think it's something that you can do just like that...you're dealing with musicians, they're not robots, they're human beings and what it is you're dealing with is inside them...So you've got to spend a lot of time getting on their side and knowing how to do that takes time.

With the help of the record producer and engineer the social aspects of record production were introduced to the musicians, and the use of humour was identified unanimously by all the participants as a fundamental social instrument in the recording studio. There were a number of reasons for this. Firstly, humour was regarded as useful for addressing problems:

Rory – I've learnt that humour is important in the studio. If something is irritating you or you want someone to stop doing something then saying it in a funny way is a good way of doing things. They get the message and it's also an opportunity for a bit of banter.

Secondly, humour was believed to make the recording studio an enjoyable setting during the recording process:

Mike – Humour's important for overall morale, but also important to remind us of why we are in a band, it's fun! It's fun to play music with like-minded people who are your friends and we don't take ourselves too seriously. We want to make a great record and do the best we possibly can, but at the same time it's important for that process to be an enjoyable one.

Paul – We've all got a very good sense of humour and we all do this for the social aspect as well because it's a lot of fun.

Some of the participants were able to identify where they had learnt transferable skills in related contexts such as the rehearsal room or preparing for a show, as in the example below:

Jess – I didn't really like it but when you're doing musical theatre you have to take direction and you have to just do it. So they go "do this instead" and you're not allowed to go "I don't really think I can do that" you just kind of have to do it. After a while, and after you've worked on your voice you know the range that you have in your head. I know that my range is from D below middle C up to top G. So if Paul in the studio says "can you sing this note instead" I know I can and I think that being engrained from doing theatre as well, with a director, means that I think in the studio I certainly look for who's directing the session.

The cultural aspect of the domain of record production not only includes the acquisition of knowledge related to social practices inside the recording studio but the acquisition of specific terminology or register:

Someone learning a register may be thought of as essentially memorizing a linguistic code. But knowing a register is not the same as possessing the ability to deploy it correctly, particularly when it comes to the social conventions that inevitably surround its use. Therein lies the crucial distinction between language acquisition and language socialization (Porcello, 2004: 740).

In this way, participants can be considered to be enculturated into the musical and technical aspects of the domain because knowledge and understanding of these areas of the domain involves their appropriate application within the social context of the recording studio:

Chris – I think it's the same as any working environment you want to make the best environment for yourself and for others, especially when it's something creative where you going to be trying to get the best take, the best feel as well as being technically good, it's even more important that you have as conducive environment as possible to do that. That's why we always have a joke and laugh a lot as well as making sure that you show basic manners, you know, be helpful to the engineer or producer, and be thankful.

Defining the roles within the studio, their responsibilities and their expectations are also a function of socialisation into the recording studio:

Rory – I've started to observe the roles and the way the producer or engineer kind of leads the session and decides on the order of things, helps you make decisions. The producer takes the lead because he understands the recording process better so he knows what things to record first and dictates how it will pan out...he can also help us to say "no" to things that we felt awkward with, like if that was a good take or maybe we should give up recording this backing vocal; stuff that might be socially awkward for us confronting as a group.

Rory's comment illustrates that there existed: 'common agreement on the conventions- the set of tacit practices governing interaction in the group' (Sawyer, 2003: 168) and that learning to fulfil one's role was considered important in order to avoid obstructing the collaborative process. This knowledge and understanding was acquired informally, through immersion in the social environment of the recording studio. However, Rory's comment suggested that the musicians also entered the recording studio with their own cultural and social practices as a band, and that these cultural practices of the recording studio impacted upon the group's existing working conventions.

4.3.4 Influences on Domain Acquisition

As shown in the previous section, the participants had become enculturated into the domain of rock music and record production through their immersion into the social environment of the recording studio. This process was unique to each of the participants but for all of the participants, enculturation into the domain of record production involved the influence of parents, siblings, extended family and friends in developing an appreciation for recorded music and a knowledge of records:

Darren – My Dad and both my brothers have been in bands...they're all quite musical so it's probably always been there in the background. I used to listen to all my Dad's records and I still do.

Rory – My parents would listen to Chris Rea, bit of Van Morrison and mum had classic FM on the radio. So although not the stuff I'm into, it definitely helped with learning about different musical styles.

Vocalist Jess mentioned her Dad throughout the interviews and acknowledged him as an important influence in her musical development and her acquisition of the technical and musical aspects of the domain:

Early recording inspirations were from my Dad. I grew up with my Dad doing Elton John and Billy Joel covers and I think my Dad's singing influenced me quite a lot and even listening to him recording his own stuff as well. We actually filmed both us singing and we sing quite similarly so obviously I've just watched him.... little things like I stick my neck out when I sing and he does that. It's actually really bad for singing so I've had to rejig my posture but it's just where I've sat watching him play piano and singing.

Responses from the participants showed that acquisition of the domain of rock record production had developed through being a fan of popular music:

Darren – Every record inspires me to make records; I can always find something I like in a record. Whenever I listen to music now I'm thinking about the production side of it...you can't listen to it without doing that unless I'm at a gig or something like that. Most of the time I'm thinking like that, particularly if I'm sat on my own, I suppose it's just another way to enjoy the recordings...it's an extra bonus feature.

Marc – I've always been fascinated by that era of recording, like 1960s and 1970s, and I suppose it's because they were the first records I bought when I was a kid. Bowie and things like that. And when you bought records as a kid, you bought vinyl, and you put the record on and you listen to it again and again and again. You read the back cover and try to grab some sort of essence of what it must have been like, where they were working in this studio; Trident, Olympic or Abbey Road. You think, wow these sound like amazing places and what's a producer?

Recorded music therefore provided access to the domain of rock record production for the participants and continued to provide inspiration, enjoyment and a useful reference for the traditions within rock styles of music. Listening to records further provided the conditions for immersion into the domain of record production in which some of the

rules and content were learnt. An additional influence on the participants' domain acquisition was their general role within the field of record production; for example, Marc's role as a record producer and sound engineer in the wider field of record production increased his development of knowledge across the technical and cultural areas of the domain of rock- record production. Highlighted by all of the participants, however, was the on-going nature of domain acquisition as in this example:

Paul – Every time you go into the studio, just being in the studio environment, mixing or anything like that, you're learning, you're just continuously learning whether you know it or not, you're always soaking things up.

4.4 Stages of Creative Activity: Developing a 'Habitus' and intuition

In order for a person to make a creative contribution to the recording process they must first 'learn the rules and the content of the domain' (Csikszentmihalyi, 1997: 47).

Learning the rules and content of the domain: 'serves to provide the background so that the individual can begin to work in an area and also serves to provide ways in which to modify early products that are not satisfactory' (Weisberg in Sternberg, 1988: 173).

The dedicated sections on how the participants acquired the domain have illustrated how the content and symbol system of the domain of rock record production have been learnt formally, non-formally and more often informally through a process of immersion within the context of popular music and record production.

Through a combination of these forms of domain acquisition, the rules that govern the domain of rock record production have also been learnt and learning the rules has been shown to be as important as breaking them, although: 'one never breaks all the rules, since to do so would be to abandon the discipline' (Bailin, 1988: 96-97). Learning the rules forms the first stage of domain acquisition as described in the previous sections, and has been labeled 'preparation' (Wallas, 1926, 1976). Learning the rules and content of the domain precedes Wallas' creative stages of 'incubation, illumination and

verification' (Ibid, 1976: 69-73). Preparation is also a fundamental part of a creative individual's ability to develop 'intuition', which Bastick explains is the 'non-linear parallel processing of global multicategorised information' (Bastick 1982: 215). Bastick's definition of intuition explains how the creative individual uses the initial stage of domain acquisition or preparation to arrive at the stage of verification. More experienced individuals can appear to make an imperceptible leap from preparation to illumination because of their previous knowledge and experience. The idea of 'intuition' points towards a more systemic process of creativity in which individuals, through experience, develop specific strategies, ways of thinking, acting and doing. It has been further argued that experienced practitioners 'reflect-in-action', a process that individuals are often incapable of explaining and only able to demonstrate through actions, judgements or decisions (Schon, 1983:51). These processes form part of a 'tacit knowing' (Schon, 1983) in which there are:

Actions, recognitions, and judgements which we know how to carry out spontaneously; we do not have to think about them prior to or during their performance. We are often unaware of having learned to do these things; we simply find ourselves doing them, in some cases, we were once aware of the understandings which were subsequently internalised in our feeling for the stuff of action. In other cases, we may never have been aware of them. In both cases, however, we are usually unable to describe the knowing which our action reveals (ibid: 54).

Pierre Bourdieu has made similar points. Firstly, he argued that in order for an individual to become a practitioner they must first acquire knowledge, understanding and the symbolic codes of their practice, and Bourdieu referred to these as cultural and social capital. Secondly, Bourdieu suggested that the individual must experience a process of immersion or 'inculcation' in this knowledge as they acquire cultural capital. In so doing, the individual develops a sense or 'feel' for the process, which he labels a 'habitus'. He describes this as developing: 'a 'feel for the game', a 'practical sense' (sens pratique) that inclines agents to act and react in specific situations in a

manner that is not always calculated and that is not simply a question of conscious obedience to rules' (1993: 5). This development of 'intuition' or a 'habitus' from a significant period of immersion and enculturation in the context of the recording studio has been defined as 'instinct' (Burgess, 1997). Instinct is developed through prolonged periods of time within the context of the recording studio:

But we're not talking about the kind of instinct that you're born with. This is the instinct that develops from being around music, musicians and studios your whole life. This, I think, is the reason that DJ's with no musical or technical ability can still become excellent producers. They have listened to many, many records, logged the way people responded to the music and subconsciously programmed their instinct to be able to reproduce those excitement factors in their own records. I played in a lot of top-forty bands when I was young. I hated it at the time but later when I started to write and produce, I realised that having to learn and play all those hits had instilled in me an instinct for what works and what doesn't. I didn't have to think about how to construct a hit. I just knew (Burgess, 1997:177).

The quote above also supports the previous assertions that intuition can be considered as the tacit, internalised processes and norms that are developed through experience and immersion within a particular context. Record producer Marc suggested that internalising some of the processes inside the recording studio was necessary for effective collaboration:

Marc – I've always been fascinated with electronics and audio equipment and that's helped me to think in terms of wires, cables and signal flow rather than anything else. But when you get used to thinking like that then it's learning to try and throw that away so it becomes almost second nature to you and you don't have to think about all the equipment and everything because you want that aspect to become more transparent so you can get to real reason why a band come to a studio, which is to make a record.

Therefore learning to perform on, engineer, or produce a record is a process of being educated into the system of record production, which involves a period of socialisation and enculturation. Through this immersion the domain is acquired, or in Bourdieu's terms the musician, engineer or producer accumulates cultural capital, and the application of this knowledge becomes second nature. This knowledge forms the basis for the development of intuition in which the proposed stages of creativity can occur quickly, overlap or reoccur rapidly in brief moments where the individual is 'reflecting on action in action' (Schon, 1983:55). These assertions are useful in explaining the unconscious and instinctive practices that occur inside the recording studio and how the process of acquiring the domain is on-going and updated with new experiences:

Darren – Most of the techniques I've learnt have been outside of the course in working on projects with different people. I'm always reading up about other engineers to see what they're doing, listening to records for different sounds, learning from other people when I've assisted them, and trial and error.

Conclusion

This chapter began by introducing the participants inside the studio and explored their knowledge of the domain of rock record production. The domain of rock record production is broadly divided into three interconnected areas: musical, technical and cultural. The musical elements of the domain broadly relate to the components contained in popular song such as melody, harmony, rhythm and lyrics, and each of the participants must have some understanding of these in order to collaborate effectively inside the recording studio. The technical elements generally relate to the engineer and engineering practices, which include knowledge of acoustics, microphones and their characteristics, and recording accessories such as cables, consoles and outboard equipment. Furthermore, the technical and musical aspects of record production can be viewed as combined through the processes of songwriting, engineering and production, which depend upon knowledge of how particular instruments and pieces of recording equipment can combine to produce different timbres or characteristic 'sounds'. The

cultural elements of the domain include knowledge of different modes of communication, an understanding of social context, the identification of the roles inside the recording studio, and the language devices and terminology necessary to recognise, interpret and translate musical and sonic descriptions into technical action.

In acquiring knowledge of the domain of rock record production, the participants in the recording studio had each undergone varying degrees of education and training through a mixture of formal, non-formal and informal means. Some of the musical aspects of the domain had been acquired formally through state education at school, post-compulsory education at College or Sixth-form and in Higher Education at University, which included some elements of Western Art music and some elements of contemporary Western popular song. A number of the studio participants had also taken private one-to-one lessons in which they further learnt the musical aspects of the domain of record production. Some of the technical aspects of the domain, such as knowledge of microphones, acoustics and recording, were also acquired formally either in College, Sixth-form or University through studying educational programmes in sound engineering, music technology and music production. Through a process of immersion within the context of the recording studio, the cultural aspects of the domain were acquired and the studio participants learnt the respective roles, the social practices, the language, and terminology specific to the context of the recording studio. Only one of the participants, the record producer, acquired the domain of record production almost entirely informally, learning through experience and predominantly in an oral fashion. The overwhelming majority of the studio participants acquired the domain of record production from a variety of sources and through formal, non-formal or informal methods. It is fundamental to note, however, that although they have been compartmentalised here for ease of comprehension, the musical, technical and cultural aspects of record production overlap in a complex, interactive and reciprocal way. Consequently, there were instances where the acquisition of one facet led to additional insights into another facet, further illustrating the intertwining and collaborative nature of each of the main aspects of record production. The cultural aspect of the domain

was acquired entirely informally through immersion and demonstrates the collaborative nature of record production inside the recording studio.

Finally, demonstrated in the studio participants' responses were the ways in which some of the processes inside the recording studio had become 'instinctive' or 'second nature', which illustrated the notion of 'intuition' (Bastick, 1982: 215). This intuitive application of information by the studio participants illustrated that each of them had developed a 'feel' for their specific contribution to the recording, or a 'habitus' (Bourdieu, 1996), in which cultural capital had been accumulated to varying degrees to inform this practical sense. The acquisition of the domain of record production had created a body of knowledge that each of the participants could draw from in order to inform their creative contribution inside the recording studio. However, this domain knowledge was typically related to their role inside the recording studio and therefore collaboration provided the necessary means to address any deficiencies in domain knowledge or skills. Having investigated the content and acquisition of the domain of record production, the following chapter explores the make-up and selection criteria of the field and the participants' knowledge of these aspects.

| 5 |

THE FIELD OF ROCK RECORD PRODUCTION: ITS MECHANISMS AND CRITERIA FOR SELECTION

Introduction

It has so far been shown that through a process of domain acquisition the participants inside the recording studio have learnt the domain of rock record production. Some of this knowledge had been absorbed to such an extent that the participants' application of it inside the recording studio appeared to be 'instinctive' (Bastick, 1982). In Bourdieu's terms, each participant in the recording studio had developed a 'habitus' (1993). Internalising the domain was necessary in order for the participants inside the recording studio to contribute to the recording process by using the rock music's symbol systems and cultural practices. The creative contributions of the participants inside the recording studio can therefore be seen to operate inside the broader system, or 'art world' (Becker, 1982) of rock music. The broader social group that understands, utilises and subsequently alters this domain is the field of rock music. The field: 'includes all those who can affect the structure of the domain' (Csikszentmihalyi, 1988: 330). The field has been further illustrated as: 'a dynamic concept in that a change in agent's positions necessarily entails a change in the field's structure' (Johnson in Bourdieu, 1993:6). Fields are therefore considered to be cultural areas of contestation (Bourdieu, 1993) in which there is an on-going struggle for dominance. Fields, however are also spaces for the: 'production, circulation, and appropriation of goods, services, knowledge, or status, and the competitive positions held by actors in their struggle to accumulate and monopolise these different kinds of capital' (Swartz, 1997:117). Fields can therefore be considered: 'structured spaces that are organised around specific types of capital or combinations of capital' (Ibid). The field therefore contains: 'a complex network of experts with varying expertise, status, and power'

(Sawyer 2006:124) and in this instance, the field of rock music is where records are produced, outputted, considered, validated or rejected.

The following chapter re-contextualises the field within the creative system so it relates specifically to the context of rock music and the participants inside the recording studio. The field of rock record production is subsumed within the music industries (Jones, 2012: 10) and its economic areas of recording, publishing and live performance and 'media' are illustrated in Figure 7.

Because the field of rock record production includes sound recording, it also includes recording studios, performing musicians, engineers and record producers that operate within them. In this case the field is not separate from the participants inside the recording studio. They, too, are agents and members of the field who can affect the structure and content of the domain. The field therefore exists both inside the studio, and during recording, not simply afterwards and outside it. In relation to the creative system, the field is as equally important as the domain and the individual (Csikszentmihalyi, 1997: 330). Furthermore, because of the interrelationship between the system's elements, each one influences each other through a dynamic system of causality. The field, its mechanisms and criteria for selection therefore also influence the way in which: 'musicians work...[and] the technological means through which music is recorded, broadcast, circulated, and the aesthetic form and meaning of popular music' (Swiss et. al, 1998: 103). Consequently, the field's selection criteria are: 'important in shaping the content and form of the musical product' (Robinson et al, 1991: 238). The field, its mechanisms, its criteria for selection, its methods of promotion and circulation of rock recordings, therefore all influence the way in which musicians, engineers and record producers operate inside the recording studio. In contributing to the recording process, the participants inside the recording studio had to draw from their internalised knowledge of *both* the domain *and* their knowledge of the field of rock record production.

In contextualising the field so it applies to the context of rock record production, the following chapter presents two principal areas: the recording industry and the media.

These two areas were selected in response to the participants' answers from both rounds of formal interviews. The participants highlighted the importance of the mechanisms and selection criteria of the recording industry and the media because they considered them the most during the creative process. The recording industry is the most pertinent area of the field of rock because although the participants inside the recording studio were not under contract with a record label, the mechanisms and criteria for selection of commercial rock record production were referenced throughout the process. This helps to illustrate how the industrial context of music-making also shapes the musical work (Williams in Robinson, 1991). Moreover, the engineer and the record producer had previously worked on commercial recordings, which added a further layer of influence on the record. The chapter then illustrates the field outside of the perceived immediate context of the recording studio and introduces the mediators of popular music including personnel within Television, social media, radio, and printed and online press. This part of the field of rock is capable of restructuring the domain of rock record production and deciding on the creativity of a given recording by applying their criteria for selection. The mechanisms and selection criteria of the radio, the Television and the press are presented and the re-contextualisation of the field continues by presenting the audience of rock, their criteria for selection and their active participation within the function of the field. The duality of being a music-maker and an audience member of rock music is introduced and the chapter concludes by categorising the participants inside the recording studio as both operatives within, and representatives of, the field as they collaborate inside the recording studio. The field is therefore omnipresent throughout the recording process and consequently influences the creative ideas, actions and decisions of participants. The chapter begins first by illustrating how operatives within the field set discursive parameters around the field of rock, or in other words how they define the boundaries of rock music, functioning as 'cultural intermediaries' (Negus, 1992).

5.1 Cultural Intermediaries within the Field of Rock Record Production

For a commercially produced record (recorded under contract with a record label) it is assumed that the artist or band, engineer and producer will need to negotiate their ideas through the gatekeeping-like processes set up by the industry and expect to have each gatekeeper accept or reject these ideas. The idea of a gatekeeper has been rejected as overly simplistic (Negus, 1992) however as it depicts a limited process of acceptance or rejection and overlooks the involvement of recording industry operatives who contribute to the: ‘words, sounds and images of pop... recording industry personnel can be conceptualised as “cultural intermediaries” (Negus, 1992: 45-46). Therefore, rather than simply filtering products, recording industry operatives contribute to the way in which cultural products are considered, promoted, mediated and remembered. As their function as cultural intermediaries within the field of rock record production, they set discursive parameters around cultural production through an on-going process of: ‘contributing to the production of and then reorganising, circulating and mediating the words, sounds and images of popular music to audiences across a range of entertainment media and cultural texts (recording, videos, advertisements, broadcasts, books, magazines, computer games and various merchandise)’ (Ibid: 62-63).

Cultural intermediaries therefore operate across the field of rock record production and include personnel within the music industries and the popular music press. Pierre Bourdieu suggests that cultural intermediaries who work in relatively recent areas of cultural production, such as rock music, are in a position where: ‘jobs and careers have not yet acquired the rigidity of the older bureaucratic professions’ (Bourdieu, 1986: 151). Entering into these jobs is consequently through: ‘networks of connections and shared values and life experiences formed among members of this group rather than the meritocracy of recruitment through formal qualifications (Negus, 1996: 62-63). This aspect was highlighted in this study in which a number of the participants had undertaken numerous roles, often informally, across the field of record production. For instance, record producer Marc explained that:

I've worked as a recording engineer, producer, mastering engineer and musician. I tend to do more producing and engineering but I still play guitar in a T-Rex tribute band and at the time we made the record I was playing guitar in a soul band.

A number of these roles were occupied simultaneously, which introduces the plurality of operatives within the field of rock record production. This is where: 'staff blur a number of conventional distinctions between such areas as work and leisure, personal taste and professional judgment; and where the distinction between artist, administrator and audience often becomes blurred' (Negus, 1992: 46). Personnel within the field of record production can therefore occupy different roles simultaneously and their understanding of the field's expectations and criteria for selection can be employed in their function as a cultural intermediary. The following sections explore how this function is performed within the two main areas of the field pertinent to this study: the recording industry and the media.

5.2 The Recording Industry as part of the Field

The mechanisms and the criteria for selection of the recording industry were identified as the most prominent and pertinent area of the field of record production during interviews and discussions with the participants inside the recording studio. Personnel within the recording industry include record company personnel (A & R and management etc.), recording studio owners, musicians, engineers and record producers. The element that typically connects all of these individuals is the record company, which funds the record production process and subsequent marketing and promotion of the record. There are two general types of record company: major and independent, these distinctions can be convoluted through the various logistic and economic networks within the recording industry. Even though the band were not operating in the recording studio under contract with a record label the participants often referred to the criteria for selection of major labels, typically when discussing

commercially released records and their related sonic aesthetic⁷. This criteria for selection also often informed methods of performing, engineering and production and reoccurred in conversation as a point of reference throughout each of these tasks. This is because the field provides a set of constricting contexts that are mediated and circulated by the cultural intermediaries within the field rock record production. Through their engagement with the field of rock record production, the participants inside the studio have internalised the structural and discursive parameters of the field. In other words, the participants have learnt the conventions and characteristics of commercially produced rock music, the industrial framework that it operates within and how this influences the selection of musicians and recordings as in this example:

Paul – At the end of the day a record label is a business and they're looking for a product and they're looking for something they can sell. Record Labels are looking for boxes to tick; they're looking for bands who are going to fill a gap of maybe the Merseybeat sound...they're asking where is the next Barry White, or the next Bruce Springsteen?... Because of this, the right people aren't getting noticed, or the people who are getting noticed are getting shoved down a certain avenue as to what a record company wants them to be.

Paul's comments above illustrate his understanding of the economic mechanisms of record companies as they attempt to find, and then develop, a recording artist or band. Musicians and recording companies are therefore considered to be central to the 'art world' (Becker, 1982) of the recording industry. The connection between the artist and the recording company therefore forms the primary commercial relationship in which: 'the recording company itself operates basically as a central A&R (artist and repertoire) recruitment organization and as the publisher of finished recordings' (Scott, 1999: 1968). Between the artist and recording company are recording studios, sound engineers and record producers who mediate the requirements of the musicians and the record company. The requirements, and the criteria for selection, of major record labels

⁷ Specific examples are illustrated in the following chapters.

therefore have an effect on the way in which musicians, engineers and record producers operate inside the recording studio and can influence the overall sound of a recording:

Paul – Major labels normally have big artists and the records have a more polished sound, you know, so every single beat is in time and the vocalist is pitch perfect. Major labels now make me think mainly about homogenous sounding records.

Although major labels control the broader market of recorded music, smaller record labels often referred to as ‘independents’ or ‘indies’ perform an essential function in the recording industry for musicians, engineers and producers. Independent labels are typically smaller than major labels and are often advertised as distinct, or sometimes in opposition to, major labels. Independents also often indicate a difference in musical approach and musical values through the presentation of a type of musical authenticity that is in opposition to that presented by the major labels (Azerrad, 2001; Fonarow, 2006). The criteria for selection of independent labels was identified by the participants as typically different from major labels:

Rory – Independent labels normally have artists whose music might not fit with a major label. Their sound might not appeal to a large enough audience and I suppose our band’s sound would probably be more of an indie label sound.

Both major and independent labels therefore influence the processes involved in making a recording and the intended sonic aesthetic of a record by implementing their criteria for selection, which relates to the way in which they intend to market the band or artist to the public. For instance, participants discussed how the connotations of their locality could relate to the recording industry’s expectations of the sound of their recordings:

Paul – If you're a band from Liverpool you've got to have a bit of a Merseybeat sound. A good friend of mine Rob Vincent, he's signed to an independent label and he's been doing a lot of tours with Paul Carrick but he's been getting a lot of press and he's been cited as the "Scouse Springsteen". If you're from Liverpool you're always going to be labeled in some way.

The recording industry's influence on the way a recording is produced, and consequently sounds, is therefore a complex phenomenon in which numerous elements, such as the locality of the artist and the way in which it is marketed can all have an effect. And although independent labels and their criteria for selection may differ from major labels they are generally connected through the recording industry's infrastructure and its distribution networks of marketing and promotion (Shuker, 2008). Therefore, although marketed as such, the majority of independent labels are not entirely independent of the structures created by the major recording companies. The interactions between this complex network of functional interactions within the music industries has been illustrated as overlapping spheres of creativity, reproduction, distribution and consumption as shown in Figure 10 below:

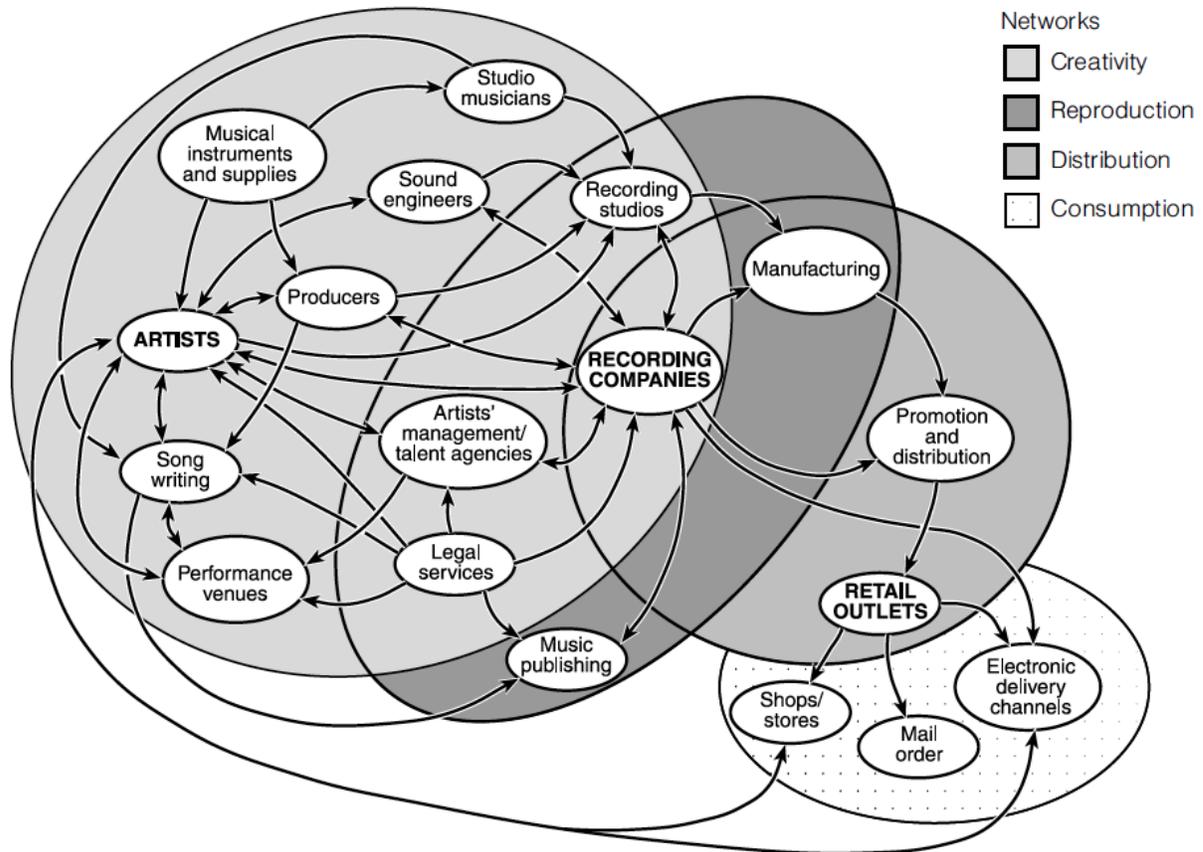


Fig. 10. 'Musical Networks' (Leyshon, 2001: 61).

The overlapping nature of these spheres helps to illustrate the complex, and often simultaneous, interaction between each of the elements of creativity, reproduction, distribution and consumption. The complexity and reciprocity of these overlapping spheres could also be viewed inside the recording studio in which the participants made reference to the commercial expectations of the field throughout the recording process even though they were not operating under contract with a record label. Furthermore, discussions of other records and their sounds were predominantly commercially produced recordings under contract with a record label. Art and commerce are therefore interwoven in the recording industry, however, rather than viewed as polar opposites the recording industry can be: 'understood as both a commercial business driven by the pursuit of profit and a site of creative human activity from which some very great popular music has come and continues to emerge' (Negus, 1996: 36).

Whilst it was acknowledged that the financial support of a record company might have been useful in paying the production costs of the Midnight Ramble's record, members of the band maintained that they were still able to make the record and usefully engage with the field of record production without them. In the post-digital age the necessity for a record company's involvement to make a record has somewhat diminished and audiences can be reached via other means as illustrated in Paul's comment below:

I always wanted to be signed to a label, because you see in magazines or the films as being signed as way of saying you've made it but there's so many avenues nowadays where you can make music, you can make the best record you think you can make of your songs and of your sound. You can put the money up for it or you can get funding for it and then pay a PR company so people can very much sidestep a label a little bit.

Agency was identified as an important aspect of operating without a recording company:

Paul – I think the record we made would have turned out differently and I don't like that, I don't want that...pressure to make it sound a certain way, pressure to get it done on time, pressure to adhere to what they wanted and pressure on us individually and internally and knowing that everything had to be achieved in this session. The beauty of doing the stuff at Elevator and then anything we didn't get done we could do at Marc's [the Producer's] studio, meant that we could take our time with it. I think it would have been a very different record with a record company...to me record company just screams pressure; it screams you need to do this.

Marc – One issue is that a label might have set a particular deadline. Another is that a label might have required it to turn out a certain way, sonically I mean, to suit a particular market.

Although operating in the field of record production without a record company can increase agency over the recording and production process, it can diminish access to the marketing and distribution networks that are at the disposal of record companies. However, the band in this study were using digital music distribution services such as Soundcloud and Bandcamp, which allowed them to upload their music directly to the Internet without the mediation or promotion of a recording company:

Paul – We're selling our music through Bandcamp at the moment, you see all the money from it, you reap the benefits, and it comes directly to you. It's been quite successful too, we've had about 120 downloads and at a pound a download that's pretty good for a small band that are trying to push it for the avenues that we've pushed it down that's not bad.

Record producer Marc adds:

The Internet can be liberating for artists. It is an ultimate requirement as part of the creative purge to get your music out there and the Internet can really help with that.

However, recording companies were still considered important auditors of practitioner's work and were viewed as a way of validating the participants' contributions as in these examples:

Darren – After having my first credit on something, that's when I started feeling confident in what I do. Getting recognition from the industry, from a label and seeing my name on something, on a released sleeve, that was a big thing.

Marc – A band can feel complete and more adequate if they're on a label as opposed to not being on a label and their work is more widely recognised.

Recording companies can therefore provide two things to musicians, engineers and record producers. Firstly, they can provide validation for a creative contribution and secondly, through their vast networks of marketing and promotion, recording companies can help participants inside the studio reach a broader audience. However, as previously mentioned, there is a widely-held perception that the involvement of recording companies and their criteria for selection can reduce the amount of creative agency that the participants can exercise in making the recording.

In summary, the participants inside the recording studio were not under contract with a record label, however they were able to identify the mechanisms and criteria for selection of both major and independent labels. The engineer and record producer were able to do this more assuredly having worked on commercially released recordings. Furthermore, the participants demonstrated an awareness of recording industry's commercial and economic expectations and how recording companies can influence the way in which a recording is made, and its resultant sound. These aspects begin to illustrate the complex interactions that occur within the field of record production and the interrelated nature of art and commerce. Whilst contributing inside the recording studio, the participants had to reference their ideas and actions in relation to their knowledge of the recording industry, its mechanisms and criteria for selection. The following section explores the other main interconnected element of the field of rock record production: the media. The media is an important cultural intermediary in the field of rock record production as it places discursive parameters around the cultural field of rock music and its production. The criteria for selection of the media fed into the creative process inside the recording studio as the participants referenced it during the generation of ideas and their subsequent creative actions.

5.3 The Media as Part of the Field

Personnel within the media, such as journalists and broadcasters in the popular music press, radio and TV and institutions such as the BBC, make up a substantial portion of the field that examine, validate or reject particular records new and old. Described as

‘cultural intermediaries’ (Negus, 1992 & 1996), these personnel and institutions can provide public endorsement for the creativity of a particular record. Developing the ability to operate as a cultural intermediary however is a complex process that involves socialisation into the culture of selection. It has been argued that culture is passed on through ‘memes’, which are the necessary:

Units of information that we must learn if culture is to continue. Languages, numbers, theories, songs, recipes, laws, and values are all memes that we pass on to our children so that they will be remembered. It is these memes that a creative person changes, and if enough of the right people see the change as an improvement, it will become part of the culture (Csikszentmihalyi, 1997: 7).

Popular music recordings are therefore the result of a culture of selection, particularly because both the creative individuals and the field accept or reject these recordings. Those involved within the culture of selection however: ‘do not act in a vacuum, but rather in concrete social situations governed by a set of objective social relations’ (Bourdieu, 1993: 6). These social situations are: ‘arenas of contestation where struggles for dominance take place’ (ibid). Consequently, the participants inside the recording studio whilst making the record entered this arena of contestation during the selection process of ideas and actions. Here, the participants’ contributions were accepted, rejected or modified in relation to the broader field of record production and its criteria for selection. Outside of the recording studio, operatives within Television, social media, radio, printed and online press act as fundamental mediators of popular music and, importantly, are capable of restructuring the domain of rock record production. Their criteria for selection was also referenced during the making of the record and the following section begins by introducing the most pertinent area of the media identified by the participants: the radio.

5.3.1 The Radio

Established as a domestic medium in the 1920s and 1930s (Shuker, 2008) radio has developed an important cultural role as a mediator in the promotion and dissemination of recorded popular music and had a fundamental influence on the transmission of: ‘musical knowledge, styles and preferences’ (Negus, 1996:77). It has been further noted that radio broadcasting has influenced musical formats and: ‘played a central role at particular historical moments in popularizing or marginalizing music genres’ (Shuker, 2008: 141). This historic point is useful in highlighting the often hidden processes of obtaining radio airplay and the numerous cultural intermediaries involved in the process. For instance, the radio plugger is an important cultural intermediary who operates on behalf of recording companies. Their responsibilities include cultivating relationships with radio personnel in order to liaise and promote, or plug, particular records. This can further influence the commercial success of some recordings in which radio airplay: ‘precedes rather than follows massive public popularity’ (Rothenbuhler in Lull, 1987:8) and: ‘the early stages of a marketing campaign can be brought to a halt if the artist cannot get airplay’ (Negus, 1992:114). These assertions highlight the important role radio plays in the promotion of particular records, so much so that the relationship between record companies and radio stations has been described as ‘symbiotic’ (Shuker, 2006). Those involved in the selection of records for broadcast are described as:

The gatekeepers to the radio station’s airwaves. When the marketing and promotion staff at a record label understand what radio needs, it becomes easier for them to find a way to get their new music programmed (Macy, Hutchinson & Allen, 2010: 168).

This highlights the interdependence of radio stations and the recording industry in which radio stations need new material to broadcast and the record companies need new material to be promoted. It also illustrates the complex systems of selection that operate in each of them as they could be considered to have mutual influence over each

other. For instance, the format of the single was selected in order to conform to the stringent timing mechanisms that drove commercial radio during the 1950s in the USA. Because of this, record producers were encouraged to make records shorter than the available 5 minutes 20 seconds on a 45 disc (Osborne, 2012: 124). Recordings are therefore often edited and mixed to meet the criteria set by radio stations. For example, during the task of producing, record producer Marc referenced the criteria for selection of radio during the stage of pre-production in which the duration of the songs were considered. If the songs had been too long he suggested that he would have worked with the musicians to reduce the track's length in order to adhere to the: 'standard 3-minute radio track' (Marc, personal interview). Marc also referenced the criteria for selection of radio during the task of mixing in which:

Marc – I remove the low end of the bass quite often because people listening on the radio aren't really going to hear it and it makes the rest of the track sound better if the bass isn't so prominent.

These examples provide a useful illustration of how the expectations of the field interact with the creative decisions inside the recording studio⁸ and how particular guidelines are created in order to guide the selection process. For example, radio stations: 'have developed an unwritten set of guidelines to help choose the records they will play' (Farra and Parker, 1986: 42) and different radio stations have different guidelines and different criteria for selection. Some of these guidelines have been internalised by the participants in this study in order to define a suitable radio to broadcast their music:

⁸ These examples are discussed in more detail in the chapter 8 'Producing in the Studio'.

Paul – When you say radio the first thing you think about is BBC, Radio 1 right through to however many there are and you think where would we fit into that? BBC6 Music might play us, maybe a slower song for Radio 2 that could potentially fit in but how many radio stations are there in the world? I've always thought that we're not cut out for the mainstream or the pop element of radio and we appeal to the music lover who is more likely to come to a show or find you on your website.

The mainstream in this instance refers to commercially promoted popular music that is chart-orientated, which offers a distinct connection between the popularity of a particular record and its promotion on the radio⁹ (Shuker, 2006: 139). However, it has been noted that there is a 'circular logic' to the charts because: 'the charts are based on a combination of radio play and sales, but airplay influences sales, and retail promotion and sales impacts on radio exposure' (Ibid: 140). Rory, the trumpet player further illustrated his perspective on the circular promotion of chart-based popular music during an interview:

I read an article about [BBC] Radio 1 and they select music based on popularity and include social media so a lot of the music on there is already popular. It probably does increase the popularity, or enhances it, but it's kind of already popular.

However, the charts are still considered to be important in the field of record production because they: 'provide the music industry with valuable feedback and promotion, and help set the agenda for consumer choice' (Shuker, 2006: 140). As a broadcast assistant on a local radio station Rory was operating in the field of local radio and explained that:

⁹ From March 1st 2015, the charts now take into account audio streams from streaming services such as Spotify. This was prior to conducting interviews and collecting data for this thesis.

Most music I listen to comes through my work. I have a listening duty because I'm a broadcast assistant on a program on BBC Radio Merseyside and it's an alternative world music kind of program. We source our own music so we get our own promos and we contact the labels ourselves so all of our stuff is completely diverse, eclectic and bleak. To be played on the show it's really open and inclusive but we wouldn't cross-over with any other program. The nearest program might be late junction on Radio 3, very similar, although late junction has its place in the scheme of things for Radio 3 within the BBC. This program's on local radio so we can pretty much do what we want, I record local bands and we try and do live sessions, simple acoustic stuff. I haven't played our band because we've been played on Dave Monk's show and we don't cross-over and I don't think the Midnight Ramble would fit into the show.

Local radio was also identified as a useful outlet for introducing new music that is considered to be less-mainstream to a broader audience because their criteria for selection is different to that of national radio:

Rory – I appreciate the radio more and more... I think local radio is a great way of promoting your music because there's a lot of niche radio on local radio with a lot of dedicated listeners that would really take on board what's going out on that program.

Record producer Marc explained his process of gaining local radio play from the records he has produced previously:

If I do something I'll upload to BBC Introducing and you're given the choice of which areas you think it should be broadcast or which presenters might like it and so you'd want to fire it at people who might like your stuff...I've literally fired loads of stuff at Adam Walton and it is like throwing stuff at a wall and seeing what sticks. If it doesn't stick then you don't get hung up

about it, you think OK I've redefined my aim, and that's a good thing to find yourself a good radio DJ that you can have a rapport with to sort of like throw stuff at.

Although public and commercial radio stations hold the monopoly on promoting or rejecting records through traditional broadcast mechanisms, the Internet has created new possibilities for artists, bands and musicians to promote their work through Internet radio stations. It has been argued that this has had:

A democratizing effect on the business of broadcasting. Just as anyone, anywhere, can launch a web site, so anyone, anywhere, can start their own radio 'station' and broadcast to the world – without prohibitively high start-up costs or investment of state-of-the-art equipment. For some, this is a return to the pioneer spirit of unregulated, experimental 1920s radio (Barnard 2000: 253).

In a similar fashion to major and independent labels, independent Internet-based radio stations differentiate themselves by exhibiting a less-mainstream selection criteria that may involve less stringent restrictions on a record's duration, lyrical content or instrumentation as Paul explained:

Although we don't fit into popular radio we have been played on a lot of independent stations in the UK and we've had some success over in America and Canada as well because we're signed up to Sentric¹⁰ music who push our stuff out there but we're not really about being in the charts.

By utilising an independent publisher, promoter and royalty collector such as Sentric music, the traditional mechanisms and personnel involved with gaining radio airplay can be circumscribed. Internet radio further allows the promotion of less-mainstream,

¹⁰ Sentric music is an independent music publisher that allows songwriters and musicians to generate income from their compositions without signing a publishing contract. For more information see: <http://www.sentrimusic.com/about-us/>

or niche, styles of music that would ordinarily not be able to receive radio airplay.

Record producer Marc further commented:

The good thing about the Internet is that you can reach a bigger audience on Internet radio. There's probably about 3 million people who listen to dream pop on Internet radio.

The operation of Internet radio has replaced the traditional model of radio broadcasting in a number of ways, on occasion removing particular personnel such as pluggers or sometimes DJs, from the cultural mediation process and created an opportunity where niche styles of music can be accessed by an experienced and discerning audience rather than a broader, more general musical audience. Nevertheless, it was the criteria for selection of traditional radio broadcast models that were referenced during the recording process in this study, which again reflects the complex interconnection between the commercial recording industry, radio broadcasting and recorded music.

In summary, the identification of the criteria for selection of radio stations is made more complex by its 'symbiotic' (Shuker, 2006) relationship with the recording industry. The interdependence of the recording industry and the radio station highlights how the systems of selection that operate in each of them may also be influenced by each other. For instance, recorded music may be edited to suit the criteria for radio. Radio stations have developed unwritten rules by the way in which they select music to play (Farra and Parker, 1986) and the criteria for selection and the constraints imposed by radio on recorded music have been internalised by the participants inside the studio by extended listening and engagement as fans of popular music, a process of socialisation. Furthermore, it was the criteria for selection of national and mainstream radio, rather than Internet radio, that were primarily discussed during the production of the record inside the recording studio, which further highlights the complex interaction between the recording industry, radio broadcasting and independently recorded music.

5.3.2 Television and Music Videos

In addition to radio, Television has also grown to be an important mode of selection, promotion of particular artists, bands and records through the broadcast of music documentaries, musical performances, musical events and music videos. In a similar way to the interrelated influence of radio and the single, the proliferation of the music video has also influenced the way in which artists, bands and records have been selected and marketed by recording companies and Television broadcasters. The modes of visual distribution of rock music however have shifted from large national Television broadcasters to more openly accessible, on-demand formats such as Youtube or Vimeo on the Internet. Music videos, and their changing promotional outlets, have therefore followed a similar trend to that of the single on the radio in which the traditional cultural intermediaries involved in selecting and promoting certain music videos can be bypassed. However, as the traditional promotional outlets of recorded music have changed, the traditional cultural intermediaries too have been replaced with more contemporary post-digital intermediaries. These post-digital intermediaries employ modern strategies to market music videos on the Internet where particular videos are promoted and distributed within a campaign on platforms such as VEVO, Vimeo or YouTube. These post-digital cultural intermediaries typically act on behalf of record companies but post-digital marketing services are also open to independent artists who have a promotional budget. The participants in this study had previously made a music video to accompany their record without the aid of a marketing or Public Relations company to promote or distribute it. They did however consider music videos to be an important method of distributing and promoting their records to their audience through platforms such as YouTube as Paul indicates:

Having a music video had definitely helped get certain things, like it's helped us get a festival slot this year and that's been off the strength of the videos. Obviously the song is married up to the video and it's something that you can present instantly...some people are into different things, some people are more Soundcloud driven and listen to as much music as possible on there and then others might consume their music through YouTube so it's another platform to get your music out there. The videos got us more reviews too from people we didn't know, which is always great.

Record producer Marc explained that:

Quite often people listen to music on their laptop and it's great to be able to watch a video of your favourite band or something that you really really like, or something you've just learnt about like a new band, a new video with something you've never seen before...there's nothing more refreshing than that so I think a music video is really important.

Just as the radio's criteria for selection requires consideration during the mixing process, the limitations of reproduction technologies such as laptop speakers were also considered:

Marc – You can't, and shouldn't, mix for laptop speakers but I suppose that's the way it's gone. Y'know, it's the same with the radio, no one's going to hear the bass through their little laptop speakers so rolling it off [the bass frequencies] for radio is the same.

In addition to music video and dedicated music channels such as MTV, Television has also been used as a method of talent search through the promotion of particular artists in the 1960s with 'The Monkees', later in the 1990s with 'S Club 7' and more recently Pop Idol, X-factor and Britain's Got Talent in the UK. These particular Television

programmes promote a shorter, more glamorous route for a performing artist or band to take in order to be signed to a recording company. However, the participants didn't view this as a viable interaction with the field of record production as illustrated in the comment below:

Paul – It pretty much happens in every taxi you go into, I had one a couple of weeks ago but essentially we were in a taxi going to rehearsal and the brass lads had their instruments with them and I had my guitar and the taxi driver said “oh you're in a group are you?”, we said “yeh yeh”, he said “what do you do?” and we told him we do a bit of soul, a bit of rock, a bit of blues. He said “Oh right, you want to get yourselves on that Britain's Got Talent” so we replied saying that it wasn't really our kind of thing. He said “oh right, well you want to get yourself in front of those spotters down at the Carling Academy”. We all laughed because it signifies the impressions that people have about musicians and you can just go on Britain's Got Talent and you'll be rich and famous and people will know you for years to come or you can get yourself down to the Carling Academy and someone will just be standing in the audience, a spotter in inverted commas, will spot you and make you rich and famous and you can go and record and tour the world and that's just how it works for a lot of people. But it's not how it works at all.

This anecdote demonstrates some of the popular perceptions of the selection criteria of the field that are portrayed on Television that may not be entirely accurate. It does however confirm the cultural intermediary role that Television can undertake in the selection and rejection processes of particular records or artists. The musicians in this study didn't view this part of the field as particularly influential on their decision-making inside the recording studio. Rather, Television was viewed as a mainstream aspect of the commercial recording industry and music videos were seen as an important additional way of promoting their music.

5.3.3 The Popular Music Press

The remaining cultural intermediaries within the media include the popular music press, however the participants considered the press's criteria for selection to be considerably less important than that of the recording industry and the radio, as Paul explains:

I don't read too much about music in the press. I don't like NME because they're only interested in picking up on the next big thing or banging on about the same old artists.

The record critic and writing about records became a 'specific occupation' (Frith, 1996: 281) in the twentieth century with four overlapping kinds of critical discourse: The record as record, the record as collectable, the record as acoustic device and the record as work of art (Frith, 1983). New records are reviewed in the popular music press, which includes a broad range of publications both in print and online within the commercial publishing industry. Some of these publications are weekly, such as the *New Musical Express* (NME) and some are monthly, such as *Q Magazine*. In addition, and separate from the commercial publishing industry, the popular music press also includes privately published fanzines (Shuker, 2006: 162). In the same way that personnel in Television and radio mediate popular music recordings journalists, professional and amateur writers, and authors in the popular music press also act as cultural intermediaries. A further distinction can be made between industry-orientated, performer-orientated, and consumer-orientated music magazines (Shuker, 2006) that further target specific requirements or needs of readership. For instance, *Sound on Sound* and *Future Music* are aimed specifically at home recordists and bedroom music producers and are therefore performer-orientated. Whereas *NME* and *Q Magazine* are consumer-orientated.

In much the same way as radio broadcasting, the popular music press has a complex relationship with recording companies, which has at times also been presented as one

of symbiosis and, on occasion, one of ‘osmosis’ in which: ‘many journalists are ex-members of rock groups, play in bands themselves or are managing unsigned artists’ (Negus, 1992: 125). This has increasingly become the case as the Internet has expanded the possibilities for individuals to enter the popular music press. Musicians, engineers and record producers can themselves act as cultural intermediaries in the popular music press without the constraints of an editor or a specific link to a record label. These figures such as John Robb, who hosts the Internet news and review site ‘Louder than War’ (<http://louderthanwar.com/>), have grown to be notable cultural intermediaries within the less mainstream areas of the popular music press.

Only two of the participants in this study said that they read publications in the popular music press (Engineer, Darren and record producer, Marc) and none of the participants saw the record review process as having an impact on their operations inside the recording studio. Moreover, national publications that reviewed records such as *MOJO*, *UNCUT* and *Q* magazine were seen to have a financial barrier in receiving a review as Marc describes:

Q magazine do have a review section at the back, which is great, but to get a review you’re talking about PR [Public Relations]. You can’t just knock on the doors of these places and the only way you can get in is PR and that can be horrendously expensive. It’s only really record labels that have that kind of access to these magazines.

Marc’s statement above re-introduces the idea that the commercial popular music press has a symbiotic relationship to record companies who have greater access to marketing and PR resources and, importantly, that the popular music press may also act as a tool for promotion and popularisation of new records. Evident in Paul’s opening comment above are the processes of the popular music press that involve reviewing, promoting and revisiting older records. For example, *Q Magazine* regularly includes articles of the greatest albums, artists or singles of all time and their online publication includes a weekly ‘featured playlist’ and ‘five songs to hear this week’

(<http://www.qthemusic.com/>). In this way, the popular music press can be seen as a perpetual cultural intermediary that is both mediating and validating new records and older records at the same time. In other words the popular music press is engaged with presenting: ‘a constant turnover of new trends, scenes and performers, while also mining music’s past using the links between older and consumer’s nostalgia, younger listeners’ interest in antecedents and the back catalogue’ (Shuker, 2012: 158). As Paul’s statement noted above, the participants in the recording studio didn’t regard the popular music press’s criteria for selection as important because ‘the next big thing’, or the criteria for what is considered to be creative, alters all the time. The idiosyncratic criteria for selection of the popular music press often creates a situation where: ‘particular performers and their efforts will be heaped with praise by one reviewer and denigrated by another’ (Shuker, 2012: 159).

In summary, although personnel within the popular music press have been identified as important cultural intermediaries in the evaluation of popular music (Negus, 1992) the participants inside the recording studio didn’t acknowledge the press’s criteria for selection as important. Consequently, the criteria for selection of the press was not specifically referenced whilst making the record in this study. However the press is considered to be an important auditor of the creativity of rock recordings (Negus, 1992). The selection of certain records over others by the cultural intermediaries within the popular music press influences the content of the domain and consequently the creative ideas and actions of the participants inside the recording studio. The influence of the popular music press over the creative process is therefore more evident within the content of the domain and the way in which certain records have been chosen for inclusion within it. The penultimate part of the field of rock record production, the audience, is now presented within the specific context of this study.

5.4 The Audience as Part of the Field

In rock music generally sound recordings are typically the first contact an audience has with a band or artist's work (Wicke, 1990; Gracyk, 1996) and personnel acting as cultural intermediaries within the field of rock record production are also part of the audience of rock record production. The selection criteria of the audience is therefore a necessary consideration within the creative process. The perception of audiences and their relationship to popular music recordings has fundamentally altered from the notion of passive consumption (Adorno, 1941:17-48) to actively assigning value and making meaning through an on-going process of re-production. The initial simplistic views of audiences (Hall and Whannel, 1964) that were delineated by age, generation, majority and minority have given way to studies of audiences as instrumental creators of subcultures (Becker, 1997; Hebdige, 1979), as active participants in various 'scenes' across musical styles and genres (Straw, 1990), and finally, as resourceful, discerning individuals who are active participants in the creation of specific associations with popular music (Lewis, 1992; Chambers, 1985). Most notable however, are the ways in which Finnegan (1989) and Cohen (1991) highlight the duality of being a music-maker and an audience member as Chris the bass player explained:

I'm a music fan as well as a member of a band so I'm sure that that sometimes influence the types of parts I'll write or I'll think about how an audience might listen to it.

On this particular point, it has been argued that: 'audience members aren't all the same. They can be grouped depending on their level of expertise, how connected they are to the creators who work in the field' (Sawyer, 2012: 218). Sawyer presents a nest of audiences that depicts 'intermediaries' at the centre, who select the creative works and then: 'pass outward, to connoisseurs, amateurs, and the broad public' (Ibid):

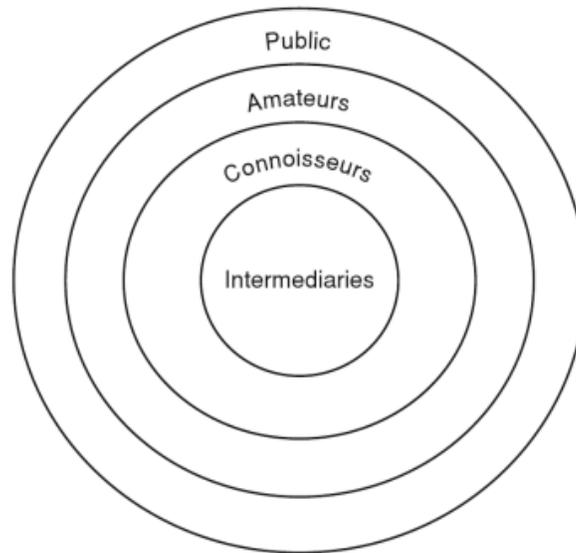


Fig. 11. 'Nested Audiences' (Sawyer, 2012: 218).

Within the field of rock record production: 'the collective choices of the general public can have an indirect influence on future creative works' (Sawyer, 2012: 218). It can be concluded that: 'in one way or another, fans play an indirect role in the creative process' (Ibid). This aspect was evident in examples from the following chapters in which some of the performing musicians considered the criteria for selection of the audience in trying to listen to a take for the first time as an audience member would, or the engineer by considering if an audience would notice a particular detail in the arrangement.

Audiences can also perform the function of cultural intermediary, provide a degree of validation for an artist or band's work and: 'create greater consumer sovereignty and choice by bypassing the traditional intermediaries operating in the music industry' (Shuker, 2006: 19). This has the ability to circumvent the cultural intermediaries of record companies, radio, TV or the music press and allow those that make the records to be involved in their own distribution, promotion and marketing. In this regard, just as popular music journalists, broadcasters and personnel within the recording industry, audiences too can be viewed as active participants in the creation of cultural meaning

and significance both as part of a community of fans and in their own personal and unique way.

During the record production process participants drew on both their knowledge of the domain and their experience as an audience member because: ‘artists are listeners as well. Indeed, they are listeners first. Their vocabulary is formed initially by the sounds that they absorb’ (Zak, 2001: 186). This is fundamental in illustrating the multi-layered and complex interactions that occur between the field and the cultural producers within it. This aspect provides further evidence for the way in which field shape the outcome of a musical product (Williams in Robinson, 1991). Occupying simultaneous roles as an audience member of rock and as a studio participant introduces the omnipresent nature of the field. The field exists both inside and outside the recording studio and all of the participants in the studio referenced the audience, both directly and indirectly, throughout the record production process and in subsequent interviews as illustrated in the examples below:

Chris – If we're in the band purely for our own fun then we can be as self-indulgent as we like, but if the point is to gain listeners and fans then they should always be at the front of our thoughts.

Darren – I suppose I do consider the audience, I probably do it more consciously when I'm thinking, “Are we being a bit too self-indulgent here? Do we really need to spend this long on that when people aren't going to hear it?” Usually to get a bit of perspective I'll think how much of a difference it will make to people listening.

In summary, the view of the audience as a part of the field of rock record production has transformed from the notion of passive consumption (Adorno, 1941) to one that views audiences as active participants in making meaning and assigning value through their process re-production. Furthermore, the participants inside the recording studio actively considered the audience during the record production process because they too are audience members of rock music.

5.5 Participants inside the Recording Studio as Part of the Field

The participants in the recording studio are the first audience (Hennion, 1990) and in the same way that the participants inside the recording studio are members of the audience, they are also members, or representatives of the field. It has been argued that the participants inside the recording studio are: ‘the immediate cultural intermediaries who can affect change directly’ (Negus, 1996: 67) and: ‘contribute their input to the studio project’s creative output’ (McIntyre, 2008). As noted in the introduction, the field of rock record production is not separate from the participants inside the recording studio. They, too, are agents and members of the field who can affect the structure and content of the domain. The field therefore exists both inside the studio, and during recording, not simply afterwards and outside it.

As well as existing as social arenas of contestation (Bourdieu, 1993), fields are also: ‘arenas of production, circulation and appropriation of goods, services, knowledge, or status, and the competitive positions held by actors in their struggle to accumulate and monopolize...different kinds of capital’ (Swartz 1997: 117). Because contestation and competition are central to Bourdieu’s notion of fields, the use, or deployment, of capital is primarily linked to the negotiation of power relationships within the field, which includes in this case, the recording studio. This negotiation is a complex process and involves different forms of capital, which include economic, cultural, social and symbolic capital. For example:

Economic capital, which is immediately and directly convertible into money and may be institutionalised in the form of property rights; cultural capital, which is convertible, on certain conditions, into economic capital and may be institutionalised in the form of educational qualifications; and social capital, made up of social obligations (connections), which is convertible, in certain conditions, into economic capital (Bourdieu 1986: 243).

In the context of record production economic capital generally relates to the money invested by the record company to pay for the participants’ time in the recording

studio, which can bring: ‘with it a certain amount of leverage’ (McIntyre, 2008). Cultural capital is accumulated knowledge of a cultural domain and affords the individual a sensitivity to, an appreciation of, and a competence in: ‘deciphering cultural relations and cultural artefacts (Johnson in Bourdieu 1993: 7). Cultural capital can be linked directly to power relationships inside the recording studio in which a participant’s ability to influence other participants in the process is often dependent on: ‘the accumulation of cultural capital they hold as well as the maintenance of social relations within the field’ (McIntyre, 2008a). It is therefore typically the most experienced and most connected members of the field that can influence the record production process inside the recording studio.

Both the deployment of cultural capital, which relates to the domain, and the upkeep of social relations in the field, or social capital, were important factors throughout the record production process but were fundamental during the early stages of the recording project as Marc, the record producer explains:

You need to know which one of the band members you can take the piss out of or which one might need a nudge, or which one to get on your side. If you have a laugh then it doesn’t feel like work and the band normally feel more relaxed.

The cultural aspects of the domain of record production also highlighted the social hierarchy of participants in the recording studio as Nashville record producer Vance Powell explains the position of tape-op or runner in the studio:

The band’s opinion, the producer’s opinion and then the engineer’s opinion; all those are way above your opinion. Don’t make comments about the song, don’t make comments about the band, I mean you can make jokes with the band if you feel comfortable with them but don’t be singing the lyrics of another song to one of their songs, that’s a really bad idea...I’ve seen that go horribly, horribly wrong (Personal interview, July, 2013).

Powell's statements highlight the symbolic capital that is deployed by the participants throughout the record production process in which the social status of a participant affects methods and modes of communication. Record producer Marc underlines this social process within the field in this example:

There's always one band member who is the leader and try to get on their side first. It makes my job easier if there's any decisions to make or if there's a problem then I'll get that person on board and then the rest of the band normally follow.

Marc further explained that:

If it's a band of four people it's also about understanding what job each one of them has in the band and understanding who's doing what, then you're able to analyse to see how best they can do it [make a record] to their ability to bring out the best in them.

Paul also noted the deployment of both cultural and social capital by record producer, Marc throughout the process:

Initially, we couldn't see a lot of differences to the way we worked on the self-produced record because the songs weren't changed. We went in with these songs and we were thinking what did Marc actually do? Well he was there as a support, a guide and using his knowledge of knowing that this is a good song and we can run with this, I can hear something within this. Marc was looking for the performance and trying to make the best of it and getting the best out of people and what can be pushed and pushed. It wasn't until we'd done, maybe 18 takes, that we realized "ahh, he's looking for something" he's not wanting to come in and move the chorus or move the verse or ditch that verse, he understands that this is the song. There's no drastic changes and this is a good well-arranged song and how can we get the best out of it and I think that was the main difference.

Paul also commented on the engineer's deployment of cultural capital:

Darren is so amazing at what he does, he understands sounds, music, mic placements and he's always willing to learn from all the people he works with. I see him like the keeper of the studio kind of thing. He knows where everything is, he tries things out and he really knows that studio and he knows how to get the best out of it. So I think the main thing for me was, he was there to enrich the sound. He knew the room and he knew where to place things and he worked well with Marc and it was a great partnership between them.

As the most experienced participant in the recording studio, Marc had accumulated the most cultural capital and was expected to 'be the outside eye and the outside ear' for the band (Paul, personal interview). Marc acknowledged the musicians' confidence in his ability as a record producer as a necessary part of the process:

I think they knew what they [The Midnight Ramble] were going to get out of using someone external, not so much *using* a producer and I liked that. They must have had some faith in me for them to allow me to whip them through all those takes of that first recording (laughs). They must have been able to trust my judgment and the proof was there when they'd come in and listen.

Bourdieu's final category social capital, while primarily about social connections and how to apply them, is linked to the symbolic connections an individual may have within the field. The status of celebrity provides a way to differentiate a participant's place in the field through the recognition of their achievements and inside the recording studio: 'celebrity status confers on the person a certain discursive power' (Marshall 1997: 2).

This was notable by the way in which cultural capital, in combination with social capital, alters the power relationships between the participants in the recording studio as Darren explains:

Confidence is always still a thing that develops all the time, I don't think I could pin-point an exact time and I suppose it would depend almost to a certain extent who I would be working with at the time. Say if I was working with Brian Eno or something and I thought the opposite to what he suggested I'd probably reassess and rethink why he thinks that, so I'd say I'm more confident in some situations than others.

It has been argued that 'to a lesser degree a similar set of power relationships occurs for artists' (McIntyre, 2008) and this was evident in the way in which the principal songwriter, Paul, generally had the most sway in the decision making process than the other musicians:

We all contribute, y'know, Mike will write the guitar solo, Roy will write the brass lines, we're fairly democratic like that but I suppose because it's my song I'll normally have an idea of how it should sound and I'll probably the final say.

In addition to the intermediaries inside the recording studio, it has also been suggested that a broader audience outside of the recording studio has 'an influence on the creative process, even if the creator is alone in a room in the woods' (Sawyer 2012: 218). This point was illustrated in Rory's response: 'after doing a take, when I'm listening back I pretend like I'm listening to it for the first time so I suppose I'm listening to it like someone in the audience'. The immediate field inside the recording studio perform an essential function in assessing or validating the contributions of the participants. Therefore, the participants inside the recording studio were both representatives of, and operatives within, the field of rock record production and the recording studio therefore became a social arena of contestation (Bourdieu, 1993). Here the participant's ideas were subject to verification through a complex process that involved the deployment of different types of capital: cultural, social and symbolic.

Conclusion

In conclusion, the field of rock record production is: ‘a complex network of experts with varying expertise, status, and power’ (Sawyer 2006:124) and these experts perform the function of ‘cultural intermediary’ (Negus, 1992) in determining the novelty of a popular music recording. The participants inside the recording studio highlighted the areas of ‘sound recording’ and ‘the media’ as the most pertinent areas of the field in which their mechanisms and criteria for selection had been internalised through a process of socialisation into the field of rock record production. Although the participants inside the recording studio were not under contract with a record label, they were able to identify the mechanisms and criteria for selection of both major and independent labels. The participants also demonstrated an awareness of the recording industry’s commercial and economic expectations, how recording companies can influence the way in which a recording is made, and therefore affect its resultant sound. The participants had also internalised, to varying degrees, the mechanisms and criteria for selection of areas of the media including the radio, Television and the popular music press. For example, radio stations have developed unwritten rules by the way in which they select music to play (Farra and Parker, 1986) and this criteria for selection, and the constraints imposed by radio on recorded music, had been internalised through experience and extended listening as members of a popular music audience. The participants inside the recording studio therefore had internalised *both* the domain *and* the selection criteria of the field of rock record production. During the making of the record inside the recording studio, the participants acted as members of the audience and as members, and representatives, of the field. This was a multifaceted process that involved the diffusion of agency and the deployment of various kinds of capital (which are associated with an agent’s status, power and influence) within the structures and systems of rock record production.

Having contextualised the domain of record production and the field of record production so they relate to the specific context of making a rock record inside the recording studio, the following three chapters focus on the three principal tasks of

performing, engineering and producing inside the recording studio. Each chapter draws on ethnographic data gathered from inside the recording studio in order to investigate how the musicians, the engineer and the record producer interacted with the elements of the creative system as they performed these tasks. In a similar way to the three dynamically interacting elements of the systems model, the three main observable tasks are so interconnected that each one is typically necessary for the other to occur and often, in turn, affect each other; in other words they form an interactive and interconnected system. They are presented here separately for ease of analysis and discussion, beginning first with the task of performing inside the recording studio.

| 6 |

PERFORMING IN THE RECORDING STUDIO

Introduction

As the previous chapters have demonstrated, the performing musicians in the studio had internalised the body of knowledge that contains the components of the symbol system and the culture and traditions of rock before entering the recording studio. This body of knowledge is predominantly related to the musical aspects of the domain of rock record production, specifically a working knowledge of Western contemporary songs and their elements including lyrics, melody, harmony, arrangement, rhythmic components and song structure. The musicians performing in the studio had also acquired knowledge of some of the technical aspects of the domain, particularly because their performance was mediated through recording technology such as microphones and headphones. Finally, the performing musicians demonstrated a knowledge of some of the cultural aspects of the domain and the social expectations of the field by observing studio etiquette, maintaining a good-humoured atmosphere and, at times, using humour to help address any sensitive issues inside the intimate atmosphere of the recording studio. The expectations, mechanisms and criteria for selection of the field had also been internalised through both a process of socialisation into popular music practice as fans of rock music and from experience gained from performing inside the recording studio.

Having contextualised the domain and the field so they apply to the context of rock music and record production, the following chapter presents the task of performing inside the recording studio using the framework of the revised model of creativity (Kerrigan, 2013). The data is drawn from extended participant-observation inside the recording studio, which included walking around the live room as the musicians were

setting up, sitting in the control room and standing in the live room whilst the musicians were performing. Studio etiquette was observed throughout but there were opportunities to ask the musicians questions as they were setting up, in between takes and during breaks. Interviews were conducted before the musicians entered the recording studio, in-situ and after the recording sessions and their responses have been included to provide further explanation and insight. The CCTV cameras placed in both the control room and the live room captured the action and interaction throughout the process and the resultant video recording was used during interviews to help the participants commentate on their thoughts at that time.

Two specific stages during the production of the record have been selected in order to view the creative system in operation: pre-production and production. Specific moments in time have been chosen within these stages of production and the chapter begins by exploring the processes of songwriting and arranging before the musicians entered the studio. These include the processes of writing musical parts and deciding on characteristic sounds of their instruments. Inside the studio, during the phase of production, the creative processes of setting up, positioning and tuning instruments and ensemble playing are investigated and the chapter also examines how the musicians judged and selected their performances and how new musical parts, such as the guitar solo, were added to the arrangement of the track. This chapter also introduces the unique perspective of viewing the interaction between the elements of the creative system on an individual and a group level as the musicians undertake these tasks inside the recording studio. The chapter begins by defining the role of the performing musicians in this study and their function during the record production process.

6.1 The Role of the Performing Musician

The role of the performing musician in the recording process on first appearance seems obvious however:

The situation is rather more complicated than that. There are many different kinds of people involved in the making of a recording, most notably the producer and production team, and performers often do not have the control that one might assume they do, either throughout the process or over the final product (Blier-Carruthers, 2013: 3).

The amount of agency a performer can exert on a given record will therefore often depend upon the structures that are operating within the context of the recording studio and the recording project. For instance, the Craft Union mode of collaboration (Kealy, 1979) was a highly compartmentalised form of record production in which each participant fulfilled their role and did not deviate from it. In Craft Union mode the performing musicians would have been expected to take their direction from those running the recording session, namely the record producer or label representative, however the Art mode is characterized as the antithesis of this in which the performing musician has increased agency over all aspects of the record production process. Regardless of the collaborative mode, the performing musician is expected to provide the raw material of the record in order to provide the essential parts of the track. The performing musician, or recording musician (Zak, 2001), is further expected to:

Pass on his or her musical persona, and whether this involves a series of painstaking steps or a first-take spontaneity, the moment of performance is not the ultimate point of the process. There is the ever-present concern for how the performance will hold up over time, how well it will travel. For in the form of the work the performative moment is transformed into an enduring aesthetic object (Zak, 2001: 51).

The performing musicians throughout this study were expected to be able to perform as an ensemble inside the recording studio and to perform on their own, overdubbing single parts. Some of these overdubs and musical parts, such as the electric guitar solo, had yet to be finalised and the musicians were therefore expected to compose new musical parts during the stage of production. The performing musicians were also expected to make judgements on particular performances however, they were not always able to maintain a degree of objectivity throughout the performance process and the division of labour inside the recording studio helped to facilitate the decision-making process. The role of the performing musicians in this study was therefore multi-faceted as they set up and tuned their instruments, provided the raw material for the record by performing as an ensemble and performing and composing overdubs individually. They also contributed to the decision-making process.

6.2 Pre-production

The phase of pre-production is described as: ‘the stage of a recording project that precedes formal recording. It may include any or all of the following: songwriting, arranging, rehearsal, demo recording’ (Zak, 2001: 223). The aspects of songwriting, arranging and rehearsing in this study were completed by the band during rehearsals leading up to the recording sessions at Elevator Studios. These aspects were not documented as part of this recording project because the primary focus was on the interaction inside the recording studio between the engineer, the producer and the musicians within the band during the stages of recording, mixing and mastering. However, the processes of songwriting and composition were discussed with the band during a number of interviews at their rehearsal space. Paul, the principal songwriter in the band, explained during one of these interviews that the song-writing process was not necessarily separate from the production process: ‘I’ve always written with a very clear vision in my head of how the song’s meant to sound at the very end and I try and work towards that all the time’. The band chose to record three songs for their record: 1. Southpaw Billy 2. Last Thing on my Mind 3. High Time. Bass player Chris

explained in an interview at their rehearsal space how the band add their parts to the arrangement of the song:

Basically, Paul comes in with a song and it's been, y'know basically the songs as far as chords, melody and the structure but then we'll alter it and say what about this or we'll put the brass and the guitar and we'll change things around *slightly* but it's essentially as Paul brings the song to us and that's how it is. It's then going over it and over it and that's how we've always worked on the songs.

With the structure of the song in place (the chords, melody and lyrics), the rest of the band members discussed during the interview how they composed their musical parts in reference to both the musical, lyrical and intended sonic aesthetic of the overall song. This process required knowledge of the domain and the selection criteria of the field, and was illustrated in bass player Chris's explanation of his compositional process below:

I was listening to a lot of Motown and James Jamerson, there's a big Motown influence to the bassline on Southpaw Billy. I was sitting at home with the demo recording that Paul had made and it came to me, with that bouncy Motown sound... The bassline for the verses kind of appeared to me in one of those celestial-type moments but I always say that if you can remember it the next day then it must be good and, again, I heard it, it was there the next day. For the chorus I wanted to keep that same feel and I just played what came naturally and it gradually became cemented into what I play. Basically, for me as far as that was concerned, it was playing along to the song with a very Motown view of what to play.

The 'celestial-type moment' that Chris refers to here does not simply mean that the compositional process of the bassline is inexplicable. As Chris mentions, he was drawing from domain examples, namely Motown basslines and those played by James

Jamerson, which therefore provided the necessary preparation for what Tony Bastick terms 'intuition'. Intuition, as defined by Bastick, is 'a form of global processing of multi categorised information' (1982:310-311) and includes Wallas' previous stages of 'preparation, incubation, illumination' (1920). Listening to, and practicing along with, Motown basslines allowed Chris to assimilate and internalise the playing style of James Jamerson, the most famous bass player from the Motown house band The Funk Brothers. Through a process of incubation, the rearrangement of these aspects were then completed and later appeared at the stage of illumination. The final stage of verification is where: 'Both the validity of the idea was tested, and the idea was reduced to exact form' (Wallas in Rothenberg & Hausman, 1976:70) but Csikszentmihalyi proposes an additional step of 'elaboration' and explains that:

After an insight occurs, one must check it out to see if the connections genuinely make sense. The painter steps back from the canvas to see whether the composition works, the poet rereads the verse with a more critical eye, the scientist sits down to do the calculations or run the experiments. Most lovely insights never go any farther, because under the cold light of reason fatal flaws appear. But if everything checks out, the slow and often routine work of elaboration begins (1997: 104).

The stage of elaboration as outlined by Csikszentmihalyi can be seen in Chris's description that the bassline was still memorable and appropriate the following day, however Csikszentmihalyi urges caution because the five-stage perspective of the creative process may appear to simplify the complexities involved and explains: 'That the five stages in reality are not exclusive but typically overlap and recur several times before the process is completed' (1997: 83). During the part-writing process there was evidence for the stage of 'verification' (Wallas, 1926; Bastick, 1982; Csikszentmihalyi, 1997) as Mike, the lead guitarist described during an interview: 'we'll just play the parts we've written and sometimes someone will say "no that's not really what we're after" and sometimes you'll play a part and it'll be "yes, we'll have that, keep that one, remember that one!" Bass player Chris explained:

Rory and Nick would come up with the brass lines but obviously we'd all have an influence in it and we might offer suggestions to change the phrasing or some of the notes so it'd be kind of communal in that kind of way.

Here, the musicians in the band performed the function of the field through the acceptance, alteration or rejection of particular musical parts that contributed to the arrangement of the song. In order to do this, the musicians drew upon their knowledge of the domain in order to assess the appropriateness of their specific musical parts. Although this appears to be the initial part of the process, the previous example of Chris's bassline illustrates that in generating the ideas for their musical part, the musicians may have already evaluated these ideas before they externalise them to the rest of the band. Sawyer explains that it isn't entirely clear whether or not there are:

Distinct creative stages corresponding to ideation and evaluation. Evaluation must occur in part at the ideation stage; otherwise, too many ideas would be generated for the limited processing capability during live performance. The evaluation stage would be overwhelmed, unable to properly filter the large number of musical ideas (Runco, 1993). Several studies have shown that the ideas generated in the ideation stage are not unrelated, but instead reflect associative patterns (Mendick, 1962; Runco & Okuda, 1991). Thus, even if it is analytically useful to distinguish ideation from evaluation, both types of thought may be constant, ongoing components of the creative mind, moments of unitary process (Sawyer, 2003: 174).

The musical parts that were presented to the other musicians had therefore already undergone a complex individual, internal verification process, and pre-production allowed these ideas to be externalised for further scrutiny, acceptance, modification or rejection by the band. This evidence supports the idea that there is a system in operation throughout this process (Sawyer, 2003) as the musician's individual and externalised ideas all drew their associations from the existing body of knowledge and symbol system of record production. This system was also viewed in operation as the

musicians engaged in defining the characteristic sound of their instruments by selecting specific instrument models and tuning them appropriately. During an interview at the band's rehearsal space drummer Phil explained how he had arrived at his drum sound:

My drum sound comes from the music that I listen to, if it wasn't right for this band then I wouldn't force it on there or anything but the music I listen to, and I make a point of not saying drummers, because I'm not particularly into fancy drummers or anything like that, I love the sounds of those old drums, those 60s and 70s drums. I've been through a few kits but the record that did it for me completely was Ray LaMontagne, I listened to those drums on there and they just send you to another world so I just made it my mission to get that sound and I even went and got the kit and I don't change the skins that much to get the same sound.

This distinct example highlighted how Phil drew from the domain, referencing specific records in order to determine the type of drums that produced the desired characteristic sound. Phil also considered the selection criteria of the field in order to establish the appropriateness of this sound for the intended musical style of the *Midnight Ramble*. Pre-production was therefore viewed as a necessary stage of preparation before entering the studio, as bass player Chris explained in an interview after the first recording session:

I think we all have the idea that once we're in the studio we don't want to be messing about with arrangements and thinking "oh maybe we should put another chorus there, can the middle-eight go there instead?" Those are questions that we should've been asking a long time before it comes to going in the studio. So with those songs we knew them inside out...It's like sort of the same thing as playing a cover song; you know that it goes verse, chorus, verse, chorus, middle-eight, chorus, outro or whatever it might be so there's no kind of trying to change things because it's gotten to the point where we've tried it all out in rehearsals and we feel that that's the best version of the song.

Drummer Phil added that:

As general rule we don't write in the studio as such. Most of the time the parts are pretty much in place when we go in so it may be that after five takes you've got enough confidence to do something a bit different but normally I'll stick to the format.

The stage of pre-production in this study was, therefore, where the songs were written; the majority of musical parts for the songs were composed, with other band members performing the function of the field as the musical parts went through overlapping stages of verification and elaboration. Characteristic sounds of instruments were also selected and decided upon in order to fit the intended sonic aesthetic or sound of both the group of the musicians and the style of music that the musicians play. Finally, pre-production served as a necessary period of rehearsal and preparation for the recording studio in order to avoid making large alterations to the structure of the songs during production. In each of the examples, the performing musicians can be seen to draw their information from the domain of record production and reference the selection criteria of both the immediate field (the other musicians) and the broader field of record production.

6.3 Production

The stage of production includes the actual recording process and typically includes: 'tracking and overdubbing and can typically involve a number of people, songwriters, performing musicians, the engineer and the producer all giving their creative input' (McIntyre, 2012: 157). The stage of production in this study included recording, termed tracking, and overdubbing and involved the performing musicians, the engineer and the record producer. Performing in the recording studio during the stage of production began with each musician setting up his instrument in the live room at Elevator studios. Engineer Darren indicated to each musician where they should set up. In the early stages of production the performing musicians were engaged in tuning and

altering the tonal characteristics of their instruments through dampening, as in the case of the drums, or altering the controls on the guitar and bass amplifiers. This was a two-stage process in which the first stage was to achieve the appropriate sound for each instrument in the live room, and the second stage involved the producer or the engineer making adjustments to the tonal and sonic characteristics of the instruments as they were captured by the microphone and outputted through the monitors in the control room. The following exchange occurred between the participants during the first stage of this process of setting up the drums:

Once Phil had set up his drums he then practiced drum fills to check the positioning of the drums, making periodical adjustments to either the drums or the stands that hold the drums as he practiced. He then proceeded to add a large amount of dampening to his drums using packaging tape and tea towels. I asked him why he added so much dampening to his drums and he explained that:

Phil – I just have dead drums, as dead as you can get them, I don't change my heads or nothing...I hate snares that sound like snares (then makes a swoosh sound to demonstrate). It's all part of getting my drum sound.

Once he had sufficiently removed any ringing from the sound of the drums by dampening them with the tape and tea towels, he then slightly adjusted the tuning of each drum using a tuning key to alter the tension on each one of the drum's lugs. Record producer Marc watched whilst Phil completed these tasks and then listened intently as Phil played the drums in the room. After Phil had finished playing Trumpet player Rory and singer Paul had joined Marc to listen to the sound of the drums. I also joined them to observe the interaction between them and following conversation was captured on the Dictaphone:

Marc – It sounds a bit deep doesn't it?

Phil – [directed to Rory whilst playing his bass drum] How does that sound out there?

Rory – Sounds fine to me

Paul – It's not too punchy but it's not too like urgh

Rory – ...and it resonates nicely, not for too long

Paul – Play with the whole kit if you can

Marc – Have you got dampening going on on the toms?

Phil – There's an internal muffler yeh...nothing on the top though
(Marc "Ok"). Why did you want me to leave it off?

Marc – No, I was just thinking that you could tune the floor tom a little bit higher

Phil – Yeh, yeh

Phil then hit the floor tom, tightening the alternate lugs as he went in order to tune the drum a little higher. Phil then hit the floor tom again:

Marc – That's a bit better

Phil continued to raise the tone of the floor tom and after a couple of attempts Marc interrupted:

Marc – That's it, just there (Phil – "Yeh?")...yeh it's got a bit more tone to it now.

This exchange during the early stages of production began to illustrate how collaborative the process was inside the recording studio, with each individual contributing their knowledge and evaluating the sound of the bass drum. In essence, the participants performed the function of the field in evaluating the sound of the bass drum, offering feedback on its subsequent alterations. The engineer and record producer then collaboratively completed the tasks of selecting, placing, auditioning and

altering each one of the microphones on each instrument¹¹. After the engineer and record producer had completed these tasks the musicians began by performing their first take as an ensemble in the live room whilst the engineer and producer listened in the control room. The first take began tentatively as the performing musicians adjusted to the way in which the technology (microphones and headphones) mediated their performance and the performance of the other musicians. During an interview, having watched the video footage of the first couple of takes of Southpaw Billy, singer Paul explained some of the strategies he employed to cope with the environment of the recording studio:

You're very aware that you're in the studio and you're not as aware of everyone else in the band because, certainly the way we recorded it, everyone was dotted around the room and for a few of the takes of Southpaw Billy I took the headphones off and tried to do it that way but I couldn't fully connect with everything... Even though we were performing together it felt like a completely new experience but weirdly familiar... It can change second by second of what you want to hear, or what you're listening for, nuances in what Mike's playing, which you normally hear in rehearsal or hear on stage, and you don't quite hear them so you have to be focused as well as getting the energy out and getting the song down.

What the musicians chose to focus on when performing also depended upon their instrument, for instance, the rhythm section (bass guitar and drums) are expected to play sympathetically with each other as their performances provide the main rhythmic elements of the song. During an interview, bass player Chris explained that whilst performing in the recording studio he is concentrating on:

Getting a good take and locking in with the drums. The other guys take care of what they're doing with their instruments and it's only when we've got a 'full band' take done that I would think about a final record.

¹¹ These tasks are discussed in more detail in the following engineering and producing chapters

Singer and guitarist Paul also explained that during the performance in the studio:

I'm listening for the best representation that I hear in my head because I've always been into energetic-feeling music and I'm always looking for that, every single time we record...I'm listening for the right feel or energy within that. I'm also listening to see if I'm singing or playing the right notes (laughs) but you're listening for the best representation of what's in your head.

As previously argued performers often judge a take on how it feels (Zagorski-Thomas, 2014) but this specific description is limited to the judgement of performance as primarily emotional, which is misleading. In this context the musicians used the word 'feel' in order to describe or explain 'appropriateness', which in turn points towards a system of reference in operation because: 'the ascription of creativity always involves tacit or explicit reference to some specific generative system' (Boden, 1994: 78). A more accurate portrayal of 'feel' would therefore include the performer's ability to identify how their performance 'fits' with specific reference to examples from the domain within the system of performance. It has been argued that people are often able to identify the suitability of something within a given form (Schon, 1983) so much so that: 'we can often recognise and correct the "bad fit" of a form to its context, but that we usually cannot describe the rules by which we find a fit bad or recognise the corrected form to be good' (Schon, 1983: 52). The judgement of form performed by the musicians occurred on two levels. The first involved judging the micro fit of their performance by initially assessing how their performance fitted with the other musicians' performances. Secondly, the musicians judged the macro fit by considering how the overall performance fitted with reference to the domain. The second level of judgement is further illustrated in the example below:

Chris – Whatever feeling the song is trying to put forward needs to be experienced by the listener to help them to connect and enjoy the song, and that can only be done if the song is performed correctly. It's kind of like acting in that sense to me. Whether the song is fast and strong, like Southpaw Billy, or delicate like High Time, the correct energy and feel needs to be on the song to make it 'right'... There needs to be honesty to the playing and singing in order to justify it from my side too.

After performing a number of takes in the live room record producer Marc invited the musicians into the control room to listen to their previous performances. After listening to the first two takes, the musicians compared and discussed their performances on each of the takes in relation to the micro fit of the performance, which included aspects of timing and tuning. Record producer Marc offered some direction as to how the performance could be improved and specifically asked Rory and Nick (trumpet and saxophone) to focus on their tuning. The performing musicians returned to the live room with a more definite sense of their requirements and after watching this portion of the video back, singer Paul commented:

That's when we realized that he [Marc, the record producer] was listening for something and that helped us to see what it was he was listening for...we just needed to keep going with what we were doing.

After each performance, the musicians were asked by the record producer over the talkback communication system to 'Go again'. Gradually, the musicians became unaware of how many takes they had performed and reported in their interviews that they had lost track of time because they had so intently focused their attention on each performance¹². The psychological state in which individuals are immersed in their activities has been identified as the state of 'flow' (Csikszentmihalyi, 1997b). The

¹² For an in-depth discussion of the psychological state of flow see: Csikszentmihalyi, M. (1997b). *Finding Flow: The Psychology of Engagement with Everyday Life*. New York: BasicBooks.

state of flow is described as a circumstance in which: ‘the person is absorbed in their activities and when actions follow smoothly from their thoughts...Attention is available to negotiate outside tasks and people feel in command of the situation’ (Larson in Csikszentmihalyi & Csikszentmihalyi, 1988: 163).

The state of flow typically occurs when participants have a clear idea of their aims and objectives and a realistic understanding of how these aims and objectives can be accomplished (Larson, 1988). Those in the state of flow therefore know what they want to achieve and have a clear understanding of how they intend to achieve it. Furthermore, mechanisms of feedback are also important, whether they are internal or external, because the individual requires some direction in determining whether they are correct or incorrect. Fundamentally however, is the balance between the individual’s skill and the apparent challenge of the activity (Larson, 1988). If the activity is too challenging then the individual becomes anxious and the activity is not challenging enough then boredom sets in. These ideas have been illustrated as a model (Csikszentmihalyi, 1990) in which the state of flow is achieved by balancing the level of challenge and the level of skill as shown below:

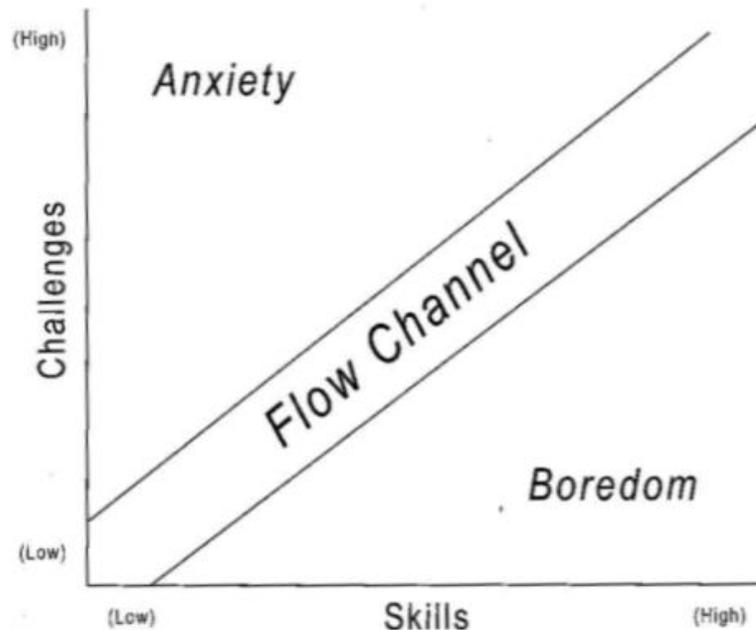


Fig. 12. ‘Model of Flow’ (Csikszentmihalyi, 1997: 74).

These ideas have also been illustrated as they relate to a group of individuals working towards an improvised group performance (Sawyer, 2003) but with a significant alteration from representing the state of consciousness of the individual to illustrate the: ‘emergent property of the entire group as a collective unit’ (2003: 167). By building upon the framework of Csikszentmihalyi’s model of flow, the model of group flow illustrates how: ‘group flow is more likely to occur when the degree to which the group must attain an *extrinsic collective goal* is matched by the number of *pre-existing structures* shared and used by the performers’ (Ibid). This idea of group flow has been illustrated as balancing the amount of shared structures and the level to which the goal is known as shown below:

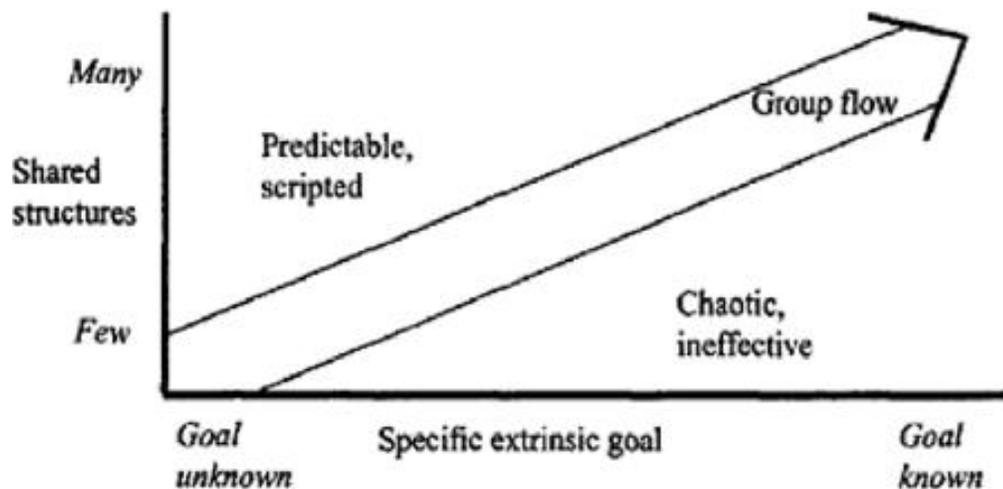


Fig. 13. ‘Group Flow’ (Sawyer, 2003: 168).

In relation to improvisational jazz performance the pre-existing structures include: ‘1. An overall flow or outline...2. A shared repertory of ready-mades...3. Clearly defined roles for each of the performers...4. Common agreement on the conventions- the set of tacit practices governing interaction in the group’ (2003: 168).

The shared structures during this study inside the recording studio were those of the song, and the domain of rock record production more broadly, with the specific extrinsic goal of capturing a harmonious and rhythmically cohesive musical

performance of the song. These structures were known by all the musicians in the band because of extensive rehearsal in pre-production and during a rehearsal room interview Mike stated:

I think the song needs to be rehearsed to a high standard before recording so the performer can play with confidence... A well-rehearsed, confident band will perform well and have a clear idea of the desired result of the recording.

Mike's comment also illustrates the agreed conventions of the group, in this instance that the songs must be well rehearsed, which further contributed to the shared structures of the group and helped to facilitate the conditions for group flow to occur. Attempting to create the right conditions for group flow to occur was also the intention of the record producer, and his direction during the live-tracking session of one performance of the song straight after another performance helped to move the musicians into the phase of 'interactional synchronicity' (Sawyer, 2003). This was illustrated in the conversational exchange after the musician, the engineer and record producer had finished listening to the selected takes of 'Last thing on my mind', This discussion was captured on the video camera in the live room between Phil, Paul, Marc and Rory:

Phil – You think too much about it when you play it too much.

Paul – I think we were definitely settled into it on that take, y'know four takes in, we were settled into it and wearing it a bit better.

Marc – But we had to do this to find the peak.

Rory – I would've kept going just like a sheep until someone would've said you're lulling a bit here.

Record producer Marc described the idea of group flow as finding 'the peak', which typically occurred around the fourth take of the performance of each of the three songs. After the fifth take, due to the more physical demands of their instruments, the saxophone and trumpet players became increasingly tired, which affected the

maintenance of group flow. During the later stages of ensemble recording, the performers showed properties of group flow, however, this raises a particular issue in relation to the agency of the performers. Specifically, that if the musicians were seemingly 'lost' in the performance, or in other words the performance appeared to be automatic; then agency appears not to be present during this state of group flow. However, the answer to this apparent problem is evident in the duality of agency and structure in which both are necessary in order for an individual to perform inside the recording studio (Giddens, 1979). Agency, or freedom, is therefore bound by the constraints, or the structures, that facilitate its operation. The constraints, in this case, were provided by the musical style of rock and the musical parts for the song and during performance, the musicians drew from the domain and referenced the selection criteria of the field in order to judge their performance. Therefore, during musical performance, the musicians were engaged in an internal feedback loop, which supports the idea that creative individual who has internalised the selection criteria of the field: 'can give feedback to themselves, without having to wait to hear from experts' (Csikszentmihalyi, 1997: 116).

The feedback loop of the participants, and subsequently the creative system, became more observable during overdubbing in the latter stages of production, as fewer musicians were involved in the performance process and their conversations allowed their thoughts to be externalised. For example, the final stages of tracking at Elevator Studios primarily involved adding individual instruments, such as acoustic guitar, doubling parts such as the brass, and adding more intricate musical passages such as the lead guitar solo and a saxophone part. Lead guitarist Mike began with his first run through of the guitar solo and after a tentative take singer Paul elected to go down to the live room to discuss some of the parts that he felt were not appropriate. He explained to Mike that the opening guitar riff at the beginning of the song was clashing rhythmically with the main riff of the brass. Paul asked Mike to make the riff more rhythmically simple but more 'bouncy' along with the other instruments. After explaining to Mike what he wanted he returned to the live room and Mike performed the parts throughout the entire song. This stage combined the two stages of micro and

macro judgement of the performance, principally because the rest of the musician's parts had already been captured and the lead guitar parts had to both fit into what had already been recorded, and, fit into the broader sound of the record. This involved auditioning the part once it had been played and, at times, changing its relative volume using the mixing console, modifying particular notes, changing the rhythm of phrases and moving particular parts higher up the neck of the guitar to avoid clashing with other instruments in that frequency range. The systems model could be observed in action most notably during the performance of the guitar solo in 'Hightime'. After a number of attempts, with some direction from the other musicians, the consensus was that the other takes had good passages but did not include a complete passage that developed in relation to the rest of the song. Paul decided to go into the live room again with Mike to discuss the lead guitar solo. In an interview after the recording session Paul explained his through process and expanded on his discussion with Mike:

From those first few takes we were able to see what worked and what didn't. We were then able to keep in mind the good bits and piece them together, well I already had something in my head and I tried to explain that to Mike. It was all about the shape of the solo, starting low, moving to the middle and then ending higher up to fit in with the buildup to the chorus.

Mike added:

It's sometimes difficult to remember what you've just played if you're being asked to improvise a part but Paul conducted me almost, he left me to sort out the notes but pointed where he wanted those notes to be on the neck of the guitar.

Paul explained how he conducted Mike during the guitar solo:

I told him to start lower down the neck and work his way up... In my head I could hear starting lower and then it gradually crept up the neck to something where it really builds and builds and builds. I think that's just from listening to songs that kind of do that, y'know if you listen to any great guitar solos like Bon Jovi's "Wanted Dead or Alive" that, to me, is one of the best guitar solos anyone's ever done. It starts, it makes an introduction, introduces motifs and then gradually gets more wild and I think that's what Mike did with his solo... I orchestrated it for him, as he was playing I was standing there showing to start lower, then moving to the middle and then as it got near the end I was just waving my arms and it came out great so it worked!' Sometimes I think with guitar solos, and Mike's brilliant with ideas, but sometimes you need another person or group of people to bounce ideas off or just to give you that little different way of thinking.

The example of the solo in 'Hightime' demonstrated how Paul and Mike drew from the domain, namely the solo from Bon Jovi's 'Wanted Dead or Alive', in order to dictate the 'shape' of the solo in which the solo begins with lower notes, works towards the middle of the guitar neck and then ends with higher notes. After Mike had completed the first take he asked to try one more. Paul conducted Mike again, beginning with the lower notes, moving up the fret board and then finishing the guitar solo with a crescendo on the higher notes. The other musicians in the control all looked at each other whilst Mike was playing, listening intently. They all cheered when Mike finished the second take of the lead guitar solo, which provided validation from the immediate field for Mike's contribution. Record producer Marc also shouted over the talkback: 'That was amazing!'

Performing in the studio also included the integrated use of recording software (DAW) in order to correct the mistiming of particular performances. In the following example, the ideology of rock record production can be viewed in action as the recording technologies take a more prominent role (Gracyk, 1996) and the processes of audio editing and performance combine to create the 'ideal performance' (Eisenberg, 2005).

After listening to the middle section of ‘Southpaw Billy’ record producer Marc pointed out the slight lagging of the brass part, which is played together with the rest of the band in a staccato fashion. He also noticed a slightly mistimed hit in one of the drum fills. The following conversational exchange was captured on the video camera in the control room as Marc listened to the brass part. He begins by pointing out the mistiming to the rest of the band:

Marc – It’s the second one, each time it happens it’s just a bit behind’

The part of the song is auditioned to listen for the mistiming:

Paul – I like that, it’s pushing along the rhythm again.

Rory – It’s expressive, I think it’s cool.

Marc – I think it would be better if it was a bit more on, it’d have more impact I think.

Rory- I think you’re right actually.

Paul – It’s not even a fraction though is it? But either way, if you want it on the beat I’m happy with that.

Marc – I just want to hear if any of that, you know the spillage shows up on the track if we move it, that’s all.

Paul – That’s fine.

Phil – I’ve got the same question for the drums, how much is the spillage everyone else’s instruments? I.e. is there any way you could drop anything in?

Because the band recorded as an ensemble in the live room some of the microphones invariably pick up the sound of other instruments. This is called ‘bleed’ or ‘spill’. Before correcting the timing of the brass part and the mistimed hit of the drum fill, the musicians and Marc had to determine if any of the sound from the other instruments had bled (or spilled) onto the microphones that were recording the brass and the drums respectively. The band then listened as the engineer auditioned the other musical parts in order to determine how much of the drums were being picked up by their

microphones. After it was decided that none of the drums had spilled onto the other instrument's microphones Phil asked:

Phil – Well, I'm ok to drop that fill in then aren't I?

Marc – It should be alright.

Phil – I'll go and do it now then...

Paul – It just slips on one beat, I love that me though to be honest, it's not meant to be perfect, it's raw energy.

Chris – You're saying it's not meant to be perfect but you can notice it.

Marc – It's worth doing mate, it'll sound better.

Once the mistiming on the brass had been corrected by adjusting the position of the audio inside the recording software, and the missing drum hit had been recorded, the musicians listened back to the entire recording of the song and they all agreed that it sounded better. This example demonstrated the varying amount of agency the performing musicians were able to exert in selecting their performances. The record producer's knowledge and experience, or in Bourdieu's terms cultural capital (1993), was acknowledged as the most important in arriving at a decision; particularly in correcting tuning or mistiming. These interactions further highlight the interrelated nature of the three tasks in the recording studio, that of performing, engineering and producing as each of the tasks were simultaneously undertaken during the correction process.

Because rock record production often involves both ensemble and individual musical performance there are some similarities to the way in which jazz performers interact between each other during improvisation. However, because decisions do not always have to be made instantly in the recording studio, there are also similarities to the way in which products interact with the field and the domain. Keith Sawyer refers to these interactions as 'synchronic' and 'diachronic' respectively (2003). In a similar fashion to Keith Sawyer's study of group creativity for synchronic interaction, in which the improvising jazz musicians work to produce the emergent performance, with each of

the previous interactions providing indexical entailments that both constrain and enable the possible actions available to the performers, the record production process too creates a similar situation for the performing musicians inside the recording studio. The musicians must perform the song in order to create the track and by replacing ‘the emergent’ in Sawyer’s study with ‘the track’, the track can be seen to enable and constrain the performing musicians by creating a range of possible actions or, in this case, musical parts, that can later be added to it. Each musical part must therefore be considered in relation to both the previous performance and the wider domain of record production in order to assess its suitability within the genre classification. Once it has been filtered by the immediate field it then enters the track. By analysing the interactions between the participants a two-dimensional model of musical parts entering the track can be illustrated as follows:

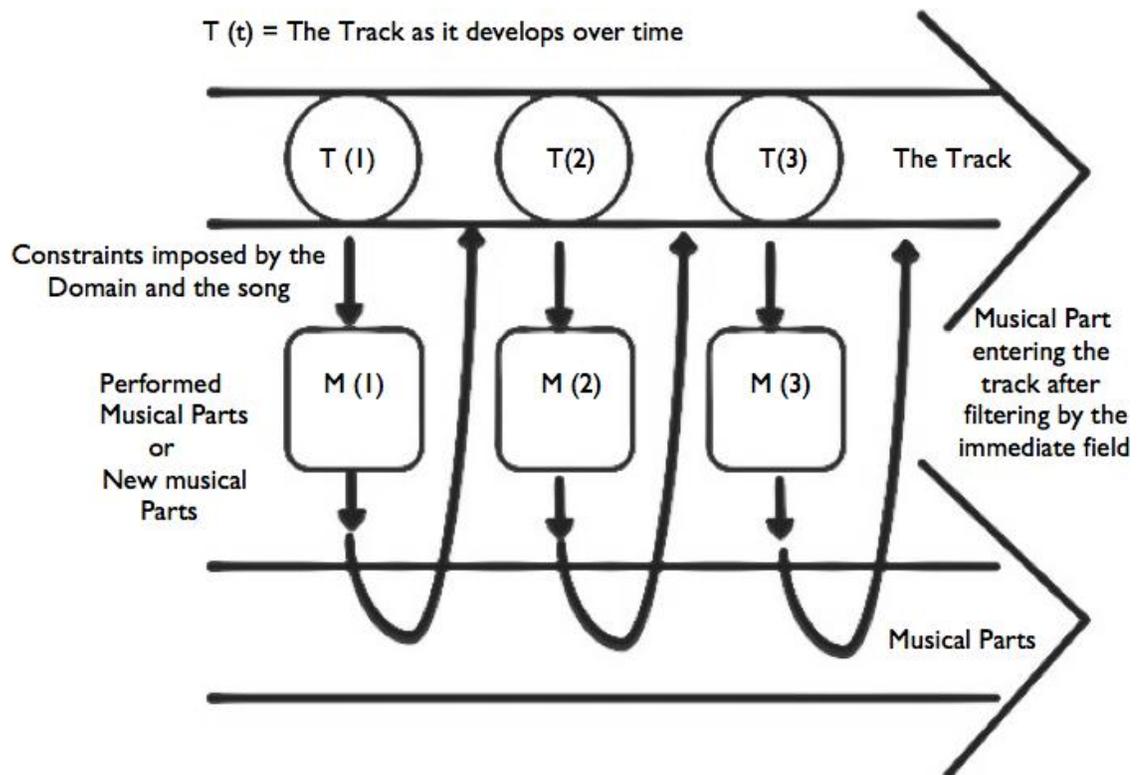


Fig. 14. ‘2D Model of the filtering of Musical Parts by the Immediate Field’.

Sawyer’s study of synchronic interaction with jazz musicians (2003) differs to the context of this study in a number of ways. Firstly, Sawyer’s ‘Vectors of Indexical

presupposition' (Sawyer, 2003) become 'Constraints imposed by the domain and the song' because the musical parts to be performed depend upon the genre in which the musicians are working within, which is in this case was rock, and the structure and arrangement of the song. With each addition of a musical part, the range of possibilities for further musical parts was either constrained or enabled by both the domain and the previous musical parts. This occurs in a similar way during jazz improvisation as: 'An improvising musician must both maintain coherence with the genre and the prior flow of performance, while creating something novel' (Sawyer, 2003: 88). It should be noted, however, that there are distinct differences between the interactions during performance in the recording studio and interaction during improvised jazz performance. Firstly, as Sawyer points out, record production is linked more closely to product creativity and as a result there is the option to revisit the track any number of times, with the possibility of composing new parts with almost no time constraints. And secondly, the musical part may not necessarily have to be novel as copying, referencing or sampling of well-known musical parts from the domain can sometimes be desirable. However, there are both synchronic and diachronic interactions in record production because of the interactions between the participants inside the recording studio group during collaboration. It has been argued that:

Csikszentmihalyi's domain concept corresponds to the (historically determined through diachronic creative change) genre constraints of chapter 3's model. Following Csikszentmihalyi's terminology, one could refer to the emergent as a "microdomain". Of course, this microdomain is at all times subject to macrodomain (i.e., genre) constraints. One could also think of the participants in the group as a "microfield", since they play an analogous role: Through a collective social process, they determine which creative entailments (or "microproducts") enter the emergent (Sawyer, 2003: 125).

In light of this, the previous model (Fig. 14) can be illustrated to include the interactions between the microdomain and the microfield in which the microdomain is

considered to be the song and musical style, and the microfield the participants inside the recording studio. As shown below:

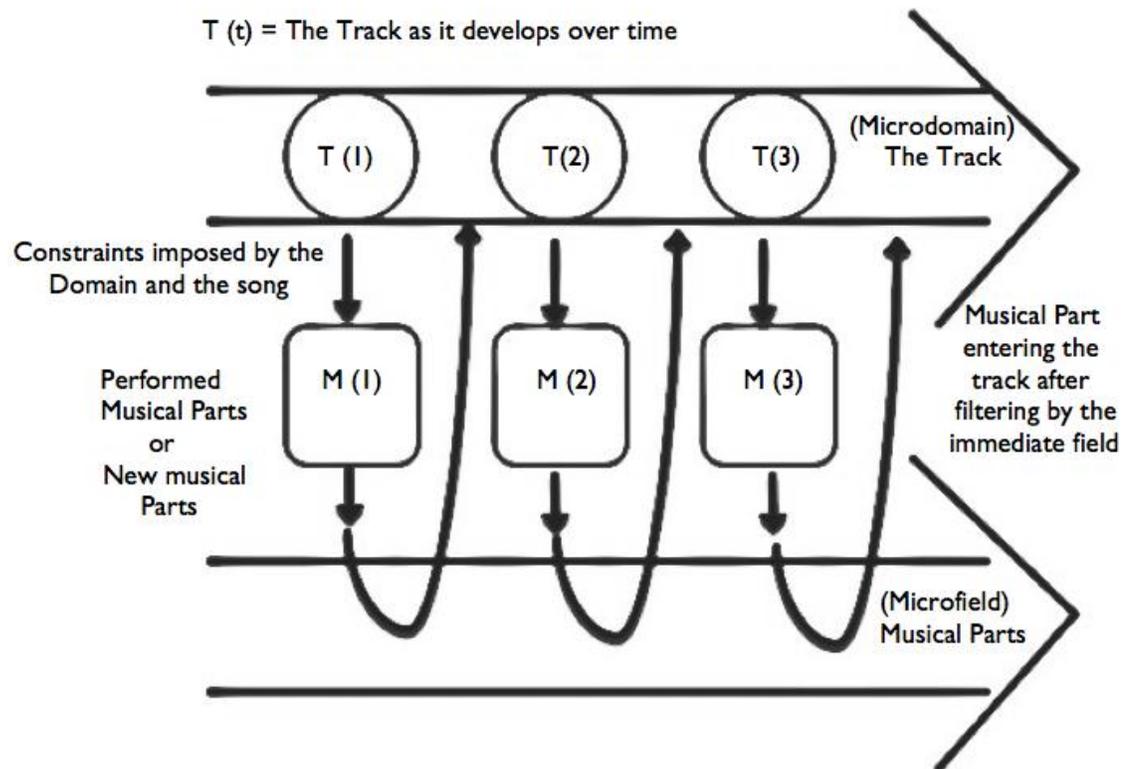


Fig. 15. 'Revised 2D Model of the filtering of Musical Parts by the Immediate Field'.

Examples of these interactions were captured on the sound recorder and on the video camera positioned in the control room where there were a number of instances in which some of the musicians sang or played along whilst the initial performance was played back over the studio speakers. These examples included vocalist Jess and singer Paul composing vocal harmony parts and the initial performances that had been decided as final provided the structure for the composition of these new musical parts.

Performing them along with the track allowed them to be filtered by the immediate field as either appropriate or inappropriate additions to the track. The constraining and enabling factors of the domain, the genre and the song were illustrated in the discussions between the participants in deciding on musical parts during the recording process. During an interview lead guitarist Mike further explained that:

A background knowledge of the genre in which you are performing, at least some level is important, but not crucial. On the other hand, this could also confine the performance in that it may bind performers into certain prescribed roles adherent to a particular genre... The order in which tracks are recorded can help from my point of view, as lead guitar is usually done last or towards the end. By this time the overall mood and setting will have been established.

Mike's comment above further illustrates that the constraining factor of the musical genre can also enable the performance inside the recording studio. In this instance, because the majority of the musical parts had already been decided Mike was enabled by the way in which the track's 'overall mood' could guide his part-writing process for the lead guitar.

Conclusion

Prior to performing inside the studio the musicians for this project were engaged with the stage of pre-production in which the songs were learnt and parts were composed. The systems model of creativity could be observed in operation in the discussions relating to the composition of individual musical parts in which examples were drawn from the domain and the individuals performed the function of the field in testing the validity of their idea the following day. During rehearsals the musical parts were also further subject to assessment by the immediate field of the band with each idea developing from associations with the existing body of knowledge and symbol system, the domain of record production. During preproduction, the musicians are also engaged in defining characteristic sounds for their instruments by drawing from the domain and assessing the suitability within the associated style of music performed by the band. Principally pre-production was viewed by the musicians as an essential stage before entering the recording studio to avoid making major alterations to the structure or arrangement of the song.

During the phase of production, performance inside the recording studio began with setting up, positioning and tuning instruments ready for performance. Performing as an ensemble, through the mediation of microphones and headphones, altered the way in which the musicians usually perform and attention and focus was placed on different elements of the ensemble depending upon the instrument. For example, the bass player chose to concentrate on 'locking in' with the drummer to create a cohesive rhythm track with the other elements considered after the performance. The performing musicians were able to judge the feel of their performance, not as a purely emotional response, but in the way it created a good or bad fit (Schon, 1983: 52). Through continual performance, the musicians gradually entered a stage of 'interactional synchronicity' (Sawyer, 2003) or a state of group flow (Csikszentmihalyi, 1997b) in which the shared structures of the song, and the domain of record production more broadly, were balanced with the specific extrinsic goal of capturing a harmonious and rhythmically cohesive musical performance of the song.

Finally, performing in the studio also involved adding overdubbed musical parts, such as the lead guitar solo, which had to both fit into what had already been recorded and fit into the broader sound of the record. By developing previous ideas of synchronic interaction in improvisation (Sawyer, 2003), it was determined that musical parts were developed in response to the constraints imposed by the domain and the song and musical parts were included in the track after filtering by the immediate field. This empirically supports, and further illuminates, the idea that there is a system in operation inside the recording studio. Furthermore, the ethnographic data gathered during the recording sessions helped to identify the components of this system and observe it in action. During the process of making a record, the creative system can be viewed on a smaller scale in which the track can be viewed as a microdomain, and the immediate field (the participants inside the recording studio) can be viewed as the microfield. The simplified 2D model helps to illustrate the interactions that occurred between the microdomain and the microfield, which further operated inside the broader domain and field of record production. The following chapter now turns to the next interrelated task observed in the recording studio, engineering.

| 7 |

ENGINEERING IN THE RECORDING STUDIO

Introduction

The task of engineering, first undertaken by Darren and, subsequently, in later recording sessions by record producer Marc, required knowledge and understanding of the technical aspects of the domain of rock record production. This technical knowledge included the broad area of acoustics, knowledge of how sound behaves in the recording studio, the factors of room dimension and shape, absorption, reflection, diffraction, sound isolation, reverberation and echo. Technical knowledge and understanding further included the setup and use of other dedicated recording equipment, such as recording software and analogue audiotape, and various loudspeakers and amplifiers in order to listen to the recorded sound in the control room. Technical knowledge also involved the sonic characteristics of various instruments and the way in which they could be recorded to create particular sonic aesthetics related to rock record production. Finally, Marc demonstrated his technical knowledge of mastering, which included an applied understanding of frequency manipulation, audio editing and the technical constraints of the intended formats such as CD and MP3. Engineering in the recording studio also required knowledge of the musical and cultural aspects of the domain of rock record production which included specific musical and technical terminology (Porcello, 2004).

Darren had acquired the domain both formally, by studying a course in music production, and informally, through continued involvement in engineering records in the recording studio. Marc acquired the domain entirely informally, beginning by engineering his friend's bands. The expectations, mechanisms and criteria for selection of the field had also been internalised and Darren and Marc who had accomplished this

through prolonged immersion and socialisation into the context of studio recording, a process of enculturation.

The following chapter investigates the task of engineering undertaken first by Darren at Elevator Studios, and subsequently by record producer Marc at My Little Underground Studio. The data is drawn from extended participant-observation inside the recording studio, which included observing Darren in the control room and the live room as he set up the recording equipment and selected microphones before the musicians and record producer arrived. Interviews were conducted with both Darren and Marc before the musicians entered the recording studio, in-situ and after the recording sessions at Elevator studios and My Little Underground Studio. The CCTV cameras placed in both the control room and the live room captured the action and interaction throughout the process and the resultant video recording was used during interviews to help Darren and Marc commentate on their thoughts at that time. Their responses from the interviews have been included alongside conversational excerpts to help illustrate the processes inside the recording studio.

Beginning first by discussing the role of the engineer, this chapter explores the task of engineering during pre-production, which involved configuring the studio space, selecting and placing microphones across the musicians' instruments. During the phase of production the selection and placement of microphones was achieved collectively with the other participants inside the recording studio. The interaction between the elements of the creative system as the participants undertook these collective tasks is investigated on an individual level and on a group level. The chapter also scrutinises the engineer's application of cultural domain knowledge in maintaining a productive atmosphere inside the recording studio and facilitating the requirements of the musicians during the making of the record.

7.1 The Role of the Engineer

The role of the engineer has developed in response to social, political and economic changes in the field of record production from an: ‘emphasis on technical correctness, concert hall realism, strict division of labor’ (Kealy, 1990: 208) to being: ‘responsible for much of what we hear on a recording – from the quality of the sound colours to the refinement of the smallest details in the mix’ (Zak, 2001: 165). The engineer’s role in contemporary record production is that of a translator in which: ‘musical ideas, human presence, artistic personalities, the sounds of the instruments, voices and rooms must all be translated from their original state into the medium of the recording’ (Ibid).

Added to these technical and musical responsibilities, the engineer must also:

Afford performers a sense of well-being in the studio, keeping technical worries from impeding the creative flow and preserving the inspiration of the intuitive moment in the midst of what is often a tedious process (Zak, 2001: 166).

The engineer therefore has two specific tasks: to address the technical aspects of the record production process from selecting and setting up microphones to operating the recording equipment, and translating the musical intentions of the musicians and the record producer into ‘technical action’ (Zak, 2001). Darren initially undertook the task of engineering during production at Elevator Studios. Through Darren’s residency in Elevator studios he had acquired intimate knowledge of Elevator studio’s layout, the studio equipment and some of its inner workings such as signal routing and his role included selecting and positioning microphones, operating the mixing console and maintaining the flow of the recording session by facilitating the requirements of the performing musicians and the record producer. During the latter stages of production and post-production, record producer Marc performed the task of engineering inside the recording studio, which also included selecting and positioning microphones, operating the mixing console and maintaining the flow of the recording session, and

further included recording overdubs and overseeing the technical requirements during the stages of mixing and mastering.

During the task of engineering in the recording studio, the engineer must draw their knowledge from the domain of record production and reference the mechanisms of selection by the field. The process of viewing the creative system in action is possible by selecting specific moments in time (Csikszentmihalyi, 1988) and, as in the previous example of performing inside the recording studio, examples have been drawn from the ethnographic research undertaken inside the recording studio during the stages of pre-production, production and post-production. These examples form the basis for analysis of the creative practices that occurred during the task of engineering in the recording studio.

7.2 Pre-production

Typically, pre-production is the preparatory stage before the artist, band or record producer enters the recording studio and the task of engineering during pre-production requires a process of translation (Zak, 2001). The first stage of translation refers to the combination of musical, technical and cultural aspects of the domain in which a specific ‘sound’ of the record is discussed with the record producer as Darren mentioned in an interview below:

The producer will sometimes have a definite idea of the sound that he wants and it’s just figuring out how to get that kind of sound. Usually that’ll be over the phone the day before the session but every producer’s different, sometimes they’ll ask me to get the sound that I think works best.

Translating sonic references or descriptions of sounds into technical action requires musical, technical and cultural knowledge of the domain and an applied knowledge of the mechanisms of the field. ‘Figuring out how to get that kind of sound’ is a process of identifying the elements that contribute to that sound, which are often a combination

of musical and technical attributes. From the engineer's perspective a fundamental part of the translation process involves selecting appropriate microphones in order to capture the intended sonic aesthetic of a recording. The engineer therefore has to develop an applied understanding of a range of microphones, their individualities and: 'best applications' (Swedien quoted in Hatschek, 2005: 40). Engineer Darren acknowledged that this had been developed primarily through experience, from collaborating or assisting others in the recording studio. Darren further identified the use of experimentation and trial and error in developing his knowledge of microphone characteristics as in this example of microphoning drums below:

Usually the default thing for toms is the 421s¹³, that you see used, and quite often I just used them without even thinking, y'know that's what you put on a tom. But quite often I couldn't get the floor toms to sound right, the rack toms usually sounded pretty good. I remember trying out the mid-side technique on drums, y'know the Glynn Johns type thing with two overheads, two U87s or 67s¹⁴ I think, one was quite close to the floor tom and I remember it sounded great, it had everything I was missing from using the 421. It was a much bigger, more open, warmer kind of sound. So now I generally like those on both of the toms.

Selecting microphones during pre-production began with a telephone call between Darren the engineer and Marc the record producer. During an interview Darren described the conversation:

I spoke to Marc on the phone before the session and we chatted about the microphones but I don't think we chatted about sounds so I decided to set up in a way that would give us options from a close sound to a big, roomy sound. I think I went for the default drum-type of sound because I thought that's

¹³ A 421 is a large diaphragm dynamic microphone made by Sennheiser.

¹⁴ U87 and U67 are models of large diaphragm condenser microphones made by Neumann.

probably the safest place to start and then we'd go from there. If he [Marc] wanted something a bit different then we could work at it through the session.

The process of selecting microphones first drew from the technical aspect of the domain of rock record production by considering the way in which the microphone captured the sound of the instrument. It was then auditioned, considered and then verified by the immediate field, principally the record producer. The constraints of the domain, specifically the style of music also influenced the selection of microphones as Darren explained:

If I was working with a Hip-hop artist or a metal band, say, then that would have changed the microphones I'd chosen and the way I would set them up but because I knew it was a soul-rock band situation then I chose the microphones that I thought would complement that type of sound.

Engineering inside the recording studio therefore required an ability to alter perspective between the microdomain and the immediate field, which included the song and the participants inside the recording studio, to the broader domain and field of rock record production.

7.3 Production

The stage of production primarily involves the processes of recording, often termed tracking and overdubbing. The engineer, under the supervision of the record producer, typically records the performing musicians. However, the task of engineering inside the recording studio began before the other participants had arrived at Elevator studios as Darren had already addressed the layout of the room by placing microphones, guitar and bass amplifiers, and microphone stands in particular places in the live room.

Whilst setting up he explained that:

Darren – For a live-type of recording the band need to see each other so it's important that you set up in a way that can help that.

Darren had already connected the microphones to the wall boxes using microphone cables, which are in turn, routed to the mixing console in the control room and once the performing musicians had set up their instruments in the live room the task of 'microphoning' began. Microphoning involved selecting and positioning microphones on the instruments. Darren explained during an interview that microphoning began with the drums because:

If it's going to be like a live band session then the first thing I'll do is set up the drum mics. I'll usually do that because I want to get the drum sound right before we do anything else because if anything is going to be re-done it's usually going to be the other stuff like guitars or vocals. It's more often that you do guide tracks on other instruments rather than drums. It's usually the most important thing you're going for in those live takes is the drums so I use all the best mics I can on the drums.

Darren had already selected the microphones before the musicians arrived and once drummer Phil had finished setting up his kit, Darren started placing the microphones across the drum kit. He added microphones above the drummer's head (referred to as overheads), a close microphone pointing at the top of the snare drum, a microphone pointing underneath the snare drum and one at the side of the snare drum. Darren added a close microphone to each of the tom-toms and more distant microphones in front of the bass drum, in front of the drum kit and room microphones placed around the live room. Darren also placed a microphone both inside and outside the bass drum. Darren also used a piece of material and a number of microphone stands to build a tunnel at the end of the bass drum. He explained as he did this that it was to isolate some of the sound of the bass drum:

I'll use material around the kick drum to make a tunnel fairly often. It's just to cut some of the bleed of the cymbals off in the kick drum mics so I can get them [the microphones] a bit further out without too much of the shimmer from the cymbals being picked up.

During microphoning, the characteristics of the instrument were balanced against the way in which the microphone captured the instrument's sound. This was also done with specific reference to the 'sound' or sonic aesthetic of the song, a process termed 'getting sounds' (Zak, 2001: 168). Darren described his process of getting sounds during this study as he watched the video recording below:

I like to put a U67 outside the kick drum because I was trying to get a more open kick drum sound [Q - what do you mean by open?] Sort of like a bit more air to it so it's not like the dead, close sound that you get from metal style kick drum sound, y'know like a more vintage, more full kind of sound where you get all the air. I'd heard about using the one in and one out sort of technique so I just worked on gradually moving them further back...it just gives it a bit more depth to it. Having a few mics further back on the drum kit makes it sound like a whole instrument, if you only have just the close mics it can sound a bit separated or disjointed.

During this study, the creative practice of microphoning rarely involved a single microphone and the task of engineering further included the combining and balancing of signals from multiple microphones. This was done in order to capture the various characteristics from the same instrument such as the drums. Darren also used a combination of microphones on the electric guitar amplifier in which he used a dynamic microphone (Sennheiser 421) and a less sensitive ribbon microphone (Royer 121) to capture different sonic characteristics of the electric guitar sound. Whilst watching the video recorded in the live room, Darren explained his thought-process:

With the dynamic microphone you get the presence and the sort of like ratiness, (using his throat to create a scraping sound) and the ribbons give you a smoother, warmer kind of sound so between the two you can kind of dial in how much of that harshness you want. Quite often it sounds great with them both together, so I find that using a dynamic and a ribbon work quite well because they pick up a very different sound from each other so they can complement each other quite well.

Microphoning was an iterative process that first involved Darren placing the microphone on the instrument in the live room and then auditioning the recorded sound in the control room, a process that Darren explained had become automatic:

I've got so used to where they normally are now that I just put them in the general spot and then come up and listen to it and adjust them from there. From listening to the drums in the room I can sometimes instinctively know how far away to put them depending on what type of sound I'm going for or which area of the skin that the mic's going to be looking at, what angle and stuff depending on whether I want more overtones or if I want like a bit more bass out of it, y'know move them a bit closer to get some of that proximity thing.

Veteran engineer Bruce Swedien supports this view in his discussion of selecting microphones for recording vocals: 'after a bit of experience, you will be able to hear someone speak or rehearse a vocal part, and you will instinctively know what mic will be a good choice' (in Hatschek, 2005: 201). Record producer Marc further adds: 'I know that if I put that mic there then I know what it's going to sound like. Whenever I place a mic, I have a memory of what it sounds like'. Through experience, immersion and socialisation into the processes of the recording studio, the process of microphoning had become intuitive by unconsciously processing the multi-categorised information involved such as microphone characteristics and microphone placement (Bastick, 1982: 311). Intuition is the conflation of the first three creative stages of

preparation, incubation and illumination (Wallas, 1926; Csikszentmihalyi, 1997) into a single intuitive stage where knowledge and understanding of the domain has been absorbed over a long period of time and becomes part of the engineer's 'tacit knowing' (Schon, 1983). The creative system, in this instance, can be viewed in operation on an individual level in which Darren drew from his internalised domain knowledge and referenced the criteria for selection of the field in first selecting the appropriate microphones and then tentatively placing them across the instruments. The interaction between the internalised domain, the internalised knowledge of the field and its criteria for selection, and the engineer can be illustrated on an individual level as shown in Figure 16 below:

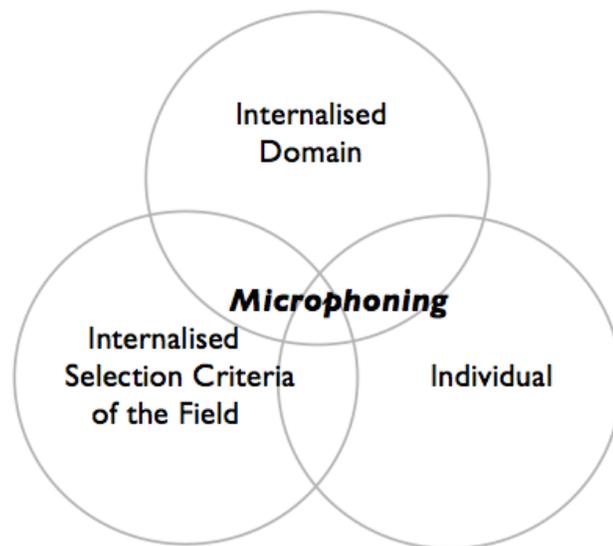


Fig. 16. 'The Systems Model Scaled to an Individual Level During Microphoning'.

The choice of microphone and its positioning still however required verification and it was during the microphone auditioning process in which: 'both the validity of the idea was tested, and the idea was reduced to exact form' (Wallas in Rothenberg & Hausman, 1976:70). Auditioning the microphones involved listening to the sound through the studio speakers with record producer Marc. As we watched the video playback, Darren commented on his process of microphoning and auditioning the microphones on the drums during the early stages of production:

With the overheads I measured them out so that they were equidistant from the snare to keep the snare in phase and in the centre. I started with them pointing at the centre of the skins and then adjusted them from there...[Q- What are you listening for when you audition the mics?] I'm listening to how other things are being picked up, that's another big thing, say how the tom mics were picking up cymbals or looking at where they are because you don't want it level with the cymbal, you want it kind of looking away from the things that don't want to be picked up so much.

I asked Darren what he was listening for specifically and he further added:

What I'm listening for is different every time really and it depends on what we're going for but more often than not I'm listening for the frequencies present, how well the mic's picking up the frequency range of things, what the top end's like, what the bottom end's like, are we getting enough bottom or top, is it harsh? I'm listening for transients because some mics pick them up better than others and also how they're working in combination with other mics, if we're using other mics.

Darren's comment of 'what we're going for' refers to the intended sonic aesthetic identified during pre-production and during the early stages of production by the musician's and the record producer. The intended sonic aesthetic is related to the domain, the style or genre of music, the song and the song's arrangement. Whilst auditioning the microphones, Darren continuously altered his listening perspective between the microdomain and the macrodomain in an attempt to verify whether the microphone and its position was first technically appropriate in the context of the microdomain, and then whether it was appropriate in the context of the macro domain. This process was enhanced through collaboration and the final decision was arrived at cooperatively with the record producer with some input from the performing

musicians. A notable example of the iterative and collaborative nature of microphoning occurred during auditioning the microphones on the bass drum, in the early stages of production. Darren had already selected and positioned the close microphone on the bass drum, an AKG D12, and the outer microphone a Neumann U67. Darren and Record producer Marc listened to each microphone and then both of them together in the control room whilst drummer Phil played the bass drum in the live room. The following exchange was captured on the video camera in the control room between record producer Marc and engineer Darren as they auditioned the microphones on the bass drum:

Marc – It's a bit full on there isn't it? It might be because he's using a felt beater or have you got it pointed in the centre?

Darren – Yes, it's pointed at the centre'

Marc – Ok, can you move the inside mic about two inches to the side mate and off axis a little bit'.

Darren entered the live room and repositioned the close microphone on the kick drum. He returned to the control room and Marc and Darren auditioned the microphone again:

Marc – What does the outside sound like?

Darren used the controls on the mixing console to listen to only the microphone on the outside of the bass drum:

Marc – Can you turn it down a little bit so the speakers aren't stressing?

Darren decreased the volume of the speakers:

Darren – Are you after something a bit more clicky?

Marc – No I really want something a bit more airy and smoother if you know what I mean? It just sounds a little bit hard, bit too punchy.

Darren – I could try pulling the close mic back a bit?

Marc – OK, let's try that.

Darren re-entered the live room and moved the close microphone inside the bass drum, further away from the beater. Darren and Marc then auditioned the microphone again:

Marc – That's a bit better, what do you think Darren?

Darren – It's hard to tell until it's in the track but it sounds good so far, I quite like it.

Once the other microphones on the drum kit had been auditioned individually record producer Marc returned to the sound of the bass drum and identified a phase issue between the bass drum and the snare. Phase problems are created when the soundwave from an instrument arrives at two separate microphones at different times. If the soundwave at one microphone arrives before it gets to the other microphone, then the quality of the recording can be severely affected. This is a common occurrence when using several microphones on the same instrument and generally manifests as a 'hollow' sound in which certain frequencies, or tones, appear to be missing. The following conversation was captured on the video camera as Marc and Darren auditioned the bass drum microphones:

Marc – That sounds a bit hollow now doesn't it?

Darren – Yes, it's phasing.

Marc – OK, let's try moving one of the mics.

Both Marc and Darren entered the live room and altered the positioning of the microphone on the bass drum. After some discussion they also added a further microphone on the beater side of the bass drum. After returning to the control room,

Darren auditioned the repositioned microphone and the newly selected and positioned microphone and Marc stated: ‘that’s much better sounding, it’s got presence, more body and it’s not honky anymore.’

Engineering in the recording studio therefore involved identifying a technical issue, in this case an issue with phase and the loss of mid-range frequencies respectively, and then providing a solution by repositioning one of the microphones and adding a further one. This process involved drawing from the technical aspect of the domain of record production, in particular knowledge of sound waves, acoustics microphone characteristics and monitoring. Engineering then involved verifying the validity of this knowledge by auditioning the result through the studio speakers. The example of auditioning microphones further provides evidence for the final stage of verification (Bastick, 1982) in which the original ideas were tested and then refined through an iterative process, in this instance the repositioning of the microphones. A final step of ‘elaboration’ is also evident here where the addition of the microphone on the beater side of the kick drum was ‘checked out’ (Csikszentmihalyi, 1997: 104) before it was included in the recording. The practice of auditioning microphones first required intuitive technical knowledge of the domain including a knowledge of the sonic characteristics of the instrument and the pickup characteristics of the microphones. Microphoning and auditioning were further completed in reference to the microdomain of the song and in collaboration with the immediate field. The participants, principally the record producer, provided verification in auditioning each microphone to assess first its technical appropriateness (if it was collecting the correct range of frequencies etc.) and then its appropriateness for the intended sonic aesthetic of the production. This collaborative process was necessary in order to build the contributing sounds that impact the sonic aesthetic of the record on both a micro and macro domain level because: ‘when engineers “get sounds”, they are not simply setting up microphones and monitoring record levels; they are balancing a complex network of interactive mediating elements that color the sound and may affect the musicians’ performance as well as the decision of the recording team’ (Zak, 2001: 168).

The creative practice of microphoning can therefore also be seen in operation on a group level in which the elements of a microdomain, a microfield and the participants inside the studio interact with each other as shown below:

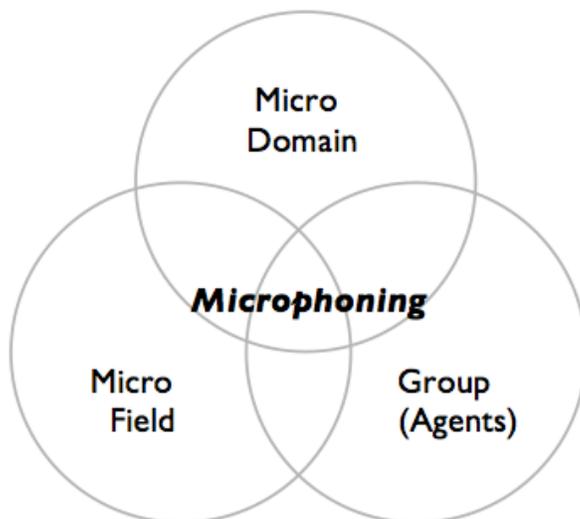


Fig. 17. ‘The Systems Model Scaled to a Group Level During Microphoning’.

In addition to using the technical and musical aspects of the domain, engineering inside the recording studio also involved drawing from the cultural aspect of the domain of record production to further facilitate collaboration. Darren explained that:

The first time you work with someone you spend the first couple of days just figuring out the social boundaries, where everyone is and where they fit into the process. What’s ok with some people isn’t with others so like you might work with a singer that wants you to stop them and say “sorry, that’s out of tune” and other times that can just be the worst thing to do for the session. So, I generally hold back on my subjective ideas until we’ve got to the stage where they’re comfortable and it’s going to help and improve what’s going on in the situation.

Darren further highlighted that the process of engineering inside the recording is so collaborative that:

You sort of become a band member for a short period of time while you are with them to a certain extent. It's a democratic thing where your opinion is no more important than anyone else's in the band but the engineer's job is to facilitate the record producer's and the band's vision wherever possible.

Mike Howlett supports this view explaining that:

The relationship between producer and engineer could be likened to that between film director and cameraman – the director usually has the creative vision of the outcome, but is heavily dependent on the cameraman to realise that vision, literally. Similarly, a producer needs to communicate his or her vision to the cameraman in order for the engineer to understand how to approach the task (Howlett, 2009: 38).

The engineer must therefore learn to balance the suggestions from different members of the immediate field and evaluate their respective criteria for selection. This involves fielding suggestions from the other participants as Darren explained during an interview:

I take all suggestions on board because I think that everyone's opinion is important. I would like to think that I don't deem a manager's opinion more important than someone that just listens to music for pleasure; their opinions should be just as important. Everyone's coming at it from a different angle and there's something to be learnt from all of those angles.

Evident from Darren's comment above is the internalisation of the structures and mechanisms of selection that are evident during the engineering process and necessary for creative practices to occur. Here, Darren, balanced the criteria of selection between

the immediate field of the musicians and the record producer, and the wider field that may include record label personnel or a general audience. The engineer has therefore developed an applied knowledge of the wider field, its associated personnel and the roles undertaken by them in order to understand, and subsequently internalise, their criteria for selection or validation. Some members of the field, such as the audience, may have a more peripheral involvement but their criteria for selection is still considered whilst engineering. Various members of the field may have a less marginal involvement, such as artist management or A & R representatives, in which their criteria for selection is more consciously identified and considered:

Darren – I do consider whether management or A & R reps like what we're doing but I don't actively change what I'm doing to fit what they might like. Having said that you do always need to have an idea of what they expect. For instance, there's a thing I'm working on at the moment for a record label, they went off and recorded pretty much the full album, came back and weren't happy with it. So, a record producer I work with a lot put me in touch with them and we are slowly re-doing the album in the artist's home to try and get a sound that was more true to the original demos, so I have been concerned that they like it, because it is important.

However, it was the musicians and the record producer that had the most direct collaborative role with the engineer and their criteria for selection was more directly considered whilst engineering inside the recording studio in this study:

Darren – I think it can be important to have an opinion sometimes but it is about creating this thing that the band wants to create and it's the engineer's responsibility to help that happen.

Engineering inside the recording studio in this study also involved encouraging collaboration in which the record producer and the musicians were invited to use the talkback button to communicate with the musicians in the live room:

Darren – Sometimes the rest of the band will ask me to pass on a message through the talkback and I'll say "tell them yourself" because it's good to get everyone involved in that way, rather than being this separate voice that's coming from nowhere, so if everyone's communicating on all levels then it'll feel more like a team.

A distinct sub task of engineering inside the recording studio is removing or reducing any obstacles to the flow of the recording session. The engineer draws from both the technical and cultural aspects of the domain and operates within the social expectations of the field in order to be ready to capture the 'intuitive moments' (Zak, 2001:166) that often present themselves during a recording session. Darren explained that:

It's important to be ready to record at any time. The musicians don't want to be waiting for you to mess with a compressor or try to get a plug-in working because it may ruin the flow of the session or you might miss a great performance! I'll try and read the band or the producer as much as possible and have everything ready to go all of the time.

This is because engineers inside the recording studio are expected to work: 'quickly and efficiently to get the session into tracking mode as soon as possible' (Zak, 2001: 167) and manage the technical requirements in an inconspicuous manner. Engineering in the recording studio therefore included drawing from the cultural aspect of the domain by maintaining the flow of the session, distancing technical difficulties from the other participants and facilitating and accommodating requests wherever possible.

7.4 Post-production

7.4.1 Mixing

Post-production is generally the stage where the recorded elements are finalised, mixed and mastered and the engineer is often involved in the mixing process. Here, the engineer must apply their knowledge of aesthetic and stylistic elements, and related musical styles, in conjunction with the artist, band or producer because: ‘some sort of benchmark is required that provides a sense of stylistic significance implied by specific choices’ (Zak, 2001: 171) as in the following example:

Darren – If someone has said “let’s make it sound like this particular record” then I’ll A-B it [compare it] between that and the recording but other than that I’ll just go with what I think sounds good at the time, which is influenced by all the stuff I listen to in my spare time; but subconsciously. Sometimes, it might be that I like it to sound a certain way but it might not be what the band or the producer wants so it’s a case of getting it to sound how I want it to sound and how I think the band or the producer want it to sound.

During post-production the record producer undertook the task of engineering inside the recording studio and Marc explained during an interview that:

I normally engineer and produce the records I work on so it was fairly normal that I mixed this record. It’s rare that I don’t mix a record that I’ve produced although I’ve recently started doing it and it’s quite refreshing because you’re coming at it without any preconceived ideas.

Engineering during the post-production stage, particularly during a mix, can often be where the roles of the engineer and the producer overlap, particularly in this instance where the same person undertook them. Traditionally:

The engineer and producer are responsible for different kinds of decisions, which each trusts the other to make – the producer focuses on songs, arrangements, and performances, while the engineer brings all of these together sonically. Of course, in keeping with the fluidity of the process, such neat assignments of duties inevitably give way to more complex overlaps (Zak, 2001: 170).

The initial tasks of engineering during post-production were primarily technical as it was first necessary to transfer the audio files that were recorded onto Protools, the recording software used in Elevator studios, to the recording software that Marc typically uses:

I mix using Cubase so I exported the tracks using the batch export function and then I don't have to worry about where things are if I need them when I'm mixing. I've been using Cubase a long time so it'd be weird to mix using anything else.

The task of engineering further included arranging the recorded audio to output to the specific channels on the mixing console and whilst watching the video recording in the control room, Marc commentated on his process:

I use stereo busses¹⁵ which are assigned to a group of instruments, so the drums have their own bus, the bass, guitars and so on. It makes the mixing process a lot less complicated, y'know so you don't have one fader for each track, you'd pretty soon run out of tracks on most projects anyway.

Once the audio files had been transferred, arranged and outputted, some of the technical processes such as editing and finalising performances, monitoring each track for distortion or sonic artifacts such as noise, and arranging the recorded musical parts

¹⁵ Busses, or auxiliary busses, are a useful way to route audio signals to external FX units, headphones or other audio devices (See also the Glossary in the Appendices).

inside the recording software were performed. The tasks involved with engineering in the recording studio during post-production were primarily to support the mixing process because within the recording software, each microphone had its own separate track and the: ‘the engineer needs to know at all times the location and status of all the elements of the track’ (Zak, 2001: 169). Engineering inside the recording studio during postproduction, in this instance, drew primarily from the technical aspect of the domain in which the audio was prepared for the producer to mix, with the primary task of removing unwanted technical obstacles and in reference to the musical and sonic aesthetic requirements of the recording context. In an interview Marc explained that mixing is:

Creating space for everything in the mix to work, which primarily involves EQ and getting rid of the mud. What I mean by that is rolling off the low end of stuff, even instruments with a high register like vocals or brass, you’re still going to record some low end and some form of noise and if you’re doing that time and time again over many tracks that noise will build up and make the recording sound muddy so it’s just the simple task of using a central frequency, say about 75Hz, and roll it off from there. I suppose you’d call that engineering the mix where you bring it to a space where it can then be mixed further. Engineering the mix might also include removing a nasty, a frequency that causes problems and preventing the whole mix from becoming lovely ear candy, and we did that with the vocal recordings removing 15.25kHz.

Engineering during the stage of mixing therefore involved contributing to a tonally balanced recording and one that was free from noise or extraneous frequencies. The task of engineering also included creating imperceptible edits in the sound recording in order to make it ready for the final stage of mastering.

7.4.2 Mastering

Mastering is the final creative stage in the production of a sound recording and provides the final opportunity to fix any issues under an 'audio microscope' (Katz, 2002: 11). Mastering includes the tasks of putting the songs in order: 'dynamics processing, leveling, equalization, noise reduction, even some mixing ... naturally the output medium of premastering is called the premaster but we usually label it master" (Ibid: 18). Mastering has been described as the stage in post-production:

Where the overall final product is adjusted so that it is intelligible, in audio terms, across all playback systems and, in this case, may be compared to the colour grading process undertaken in film work. Mastering may also be seen less positively as an attempt to compensate for possible losses of audio information during the manufacturing process. In accomplishing these tasks the role of the mastering engineer is one that has become increasingly important to record production (McIntyre and Paton, 2008: 66-67).

At this stage of engineering in the studio, Marc was able to apply his experience as a mastering engineer. He explained that a knowledge of mastering was also useful in maintaining a more holistic view of the recording process and suggested that this was also demonstrated by engineer and producer Ken Scott:

Crime of the Century is one of the best albums I've heard on vinyl and I think that's down to the fact that Ken Scott, who produced it, spent most of his early career in the cutting room, cutting to vinyl. He must have gained so much from doing that.

Marc explained that knowledge of mastering also aided him in making musical and technical decisions during the mixing stage of post-production:

Knowing a bit about mastering makes it feel like it's a bit more completing and I think I have been known to say "I don't think we should do too much of that because it'll really fly out at the mastering stage" and it's usually a frequency thing or a reverb, y'know if it's a reverb it may be a case of sounding like Phil Spector when it gets to mastering so it'll need taking back a bit. So yeh, there is a lot to be said for knowing how to master when you're producing because you feel that you can get the complete image in your head.

Mastering for this project involved drawing heavily from the technical aspects of the domain of record production in editing the tracks to remove any silence from the beginning and end of the mix. Multiband dynamic range compression was also used in order to control the loudest parts of the frequency spectrum and maintain a relative balance in level. Finally, frequency equalization was used in order to correct any tonal deficiencies in the recording. The primary task during mastering however was transferring the mix from the computer to a TASCAM two-track tape machine. Marc explained during an interview that this was completed because:

Some material benefits from being mastered to tape, obviously it depends on the tape and it depends on the machine as well. A lot of the time I don't bother mastering to tape because everybody wants stuff so bloody loud now, you spend so much time getting things to sound nice and then some bands will want it brick walled, y'know, so it's loud all the time.

From a technical perspective, the engineer must therefore know:

The difference between one brand of recording tape and another. (Ampex 456 tape had a characteristic "bump" in the low-frequency range, Scotch 250 had a characteristic crispness in the high frequencies, and Agfa 467 a luster in the midrange) (Levitin, 2006: 3).

Selecting the appropriate tape for mastering involved considering the characteristics of the tape and the machine in order to balance the aesthetic intentions of the record. I asked Marc why he mastered these recordings to tape:

Mastering to tape probably helped us get that warmer crush and there's a certain response at the bass end that you can't get with valve or solid-state compression. I used it for its compression more than anything...[it] acted as a really nice gelling agent as well because of the way it compresses. It kind of made everything feel like it belonged together.

Engineering during the stage of mastering therefore required Marc to draw from the technical aspect of the domain to edit, tonally balance and transfer the mix onto tape and consider the selection criteria of the field in creating a tonally balanced, dynamically controlled master recording ready for replication or digital distribution.

7.5 Developing a 'feel' for engineering

Each situation inside the recording studio presents a different set of technical, musical and social conditions but rather than approaching each situation entirely differently, the engineers in this study have developed a 'habitus' (Bourdieu, 1993), a 'feel for the game' or a 'practical sense' (*sens pratique*) that: 'is a set of dispositions which generates practices and perceptions' (Johnson in Bourdieu, 1993: 5). This disposition toward action, or habitus: 'is the result of a long process of inculcation, beginning in early childhood, which becomes a 'second sense' or a second nature' (ibid). It is from this process that a feel for how things work in the studio emerges and for the sound engineers in this study, the sense or 'feel' is established by first acquiring a body of knowledge through a process of deep immersion or inculcation into the socio-cultural context of the recording studio. Some of the tasks involved in engineering in the studio, notably the initial processes of microphone positioning involved in microphoning, have been absorbed to such an extent that the engineer's actions inside the recording studio have become instinctive. Engineering inside the recording studio

therefore occurred within musical, technical and cultural structures inside the domain of record production. This is where the engineer, domain and field intersect within the broader system of creativity. Through the development of habitus each engineer brings something unique to the systems of creativity and collaboration as Albin Zak explains:

The refined sense of sonic nuance and sonic meaning as it relates to musical expression that engineers bring to the project is the result of personal experience with recorded sound (Zak, 2001: 169).

While each engineer typically worked within the structures of the domain and field their own idiosyncratic background contributed something notable to the sonic aesthetic of the record. Darren contributed his intimate knowledge of the Elevator studio's live room, his intuitive knowledge of microphoning, his ability to maintain the flow of the live-tracking session and a well-developed sense of what particular the producers wanted. Marc contributed his understanding of the performing musician, a strong sense of musicality and a nuanced understanding of tonality to engineering in the recording studio. Each engineer's habitus is therefore unique to them but also shared by many others. While each share a similar knowledge system no two engineer's experience will be exactly the same and it is this level of individuality and complexity that gives creative practice in the recording studio its unique flavour.

Conclusion

The examples investigated here demonstrate a creative system at work in the task of engineering inside the recording studio. Creative practices occurred on an individual and group level. In addition, the examples demonstrate the complex relationship between agency and structure in which the engineer's agency (what he does) is intrinsically related to the cultural, musical and technical structures of the recording studio context. These structures function to both enable and constrain an engineer's agency because: 'all action, including creative or innovative action, arises in the complex conjunction of numerous determinants and conditions (Wolff, 1981: 9).

The majority of tasks undertaken whilst engineering in the recording studio predominantly involved drawing from the technical aspects of the domain of record production, for instance the creative practice of ‘microphoning’ required an applied knowledge of microphone characteristics, the acoustics of the room, the technique of the performer, the sonic properties of instruments, and the demands of both the immediate and peripheral field. These were all initially balanced on an individual level in which the engineer drew from their internalised knowledge of the domain and referenced the internalised criteria for selection of the field. These ideas were then tested and verified by the other participants inside the recording studio and the creative system could be viewed in operation on a group level in order to achieve the resultant recorded sound. Finally, engineering also involved drawing from the cultural aspects of the domain in order to maintain the flow of the session and communicate effectively with the performing musicians.

The final interrelated task inside the recording studio, producing, is now presented in the following chapter.

| 8 |

PRODUCING IN THE RECORDING STUDIO

Introduction

As previously noted, record producer Marc undertook the task of producing inside the recording studio and, in addition to the technical aspects of the domain of rock record production, Marc had also learnt the musical and cultural aspects. These musical aspects included a working knowledge of Western contemporary songs and their elements including lyrics, melody, harmony, arrangement, rhythmic components and song structure. Marc had also developed a working knowledge of melody and harmony and an acute ability to recognise the deficiency of specific musical elements in the performance of the song such as timing and tuning.

The following chapter investigates the task of producing inside the recording studio by selecting examples within each of the three phases of production: pre-production, production and post-production. The data is drawn from extended participant-observation inside the recording studio, which included observing Marc in the live room as he helped the musicians set up their instruments and sitting in the control room as he directed the musicians' performance. Interviews were conducted with Marc before the recording process began, in-situ and after the recording sessions. The CCTV cameras in both the control room and the live room captured the action and interaction throughout the process and the resultant video recordings were used during interviews to help Marc commentate on his thoughts and intentions at that time. His responses from the interviews have been included alongside conversational excerpts to help illustrate the processes inside the recording studio.

Beginning first by discussing the role of the producer, this chapter explores the task of producing facilitating the musician's vision for the recording or in Marc's terms 'helping the band to realise the sound they heard in their heads'. During the phase of production, the tasks of auditioning the sounds of the instruments, eliciting and selecting appropriate performances are all explored by examining the interaction between the creative system's contextualised elements on both an individual and a group level. The chapter concludes by illustrating how the elements of the creative system interact on an individual level and a group during the post-production phase and specifically during the mixing process.

8.1 The Role of the Record Producer

Particular historical, political and economic elements have altered the role and function of the record producer (Zak, 2001: 64) and in contemporary record production, the role and function of the record producer can vary considerably from production to production. Record producers are expected to fit the needs of musicians and the recording project and as a result they must be resourceful and adaptable (Burgess, 2013). Types of record producer have been categorised in relation to their function and include: artist-producer, auteur-producer, facilitative-producer, collaborative-producer, enablative-producer and consultative-producer (Ibid). These producer types can be seen to draw from different areas of the domain of record production to varying degrees in order to create a unique combination of skillsets and competencies. Each unique combination of knowledge and understanding of the domain contributes to the individuality of each record producer's production style but consistently; the role of the record producer has been identified as a cultural producer (Bourdieu, 1993) and an 'intermediary'. They are viewed as mediators of people, performances and technologies and act as: 'a bridge between different cultural groups' (Neuenfeldt in Green & Porcello, 2004: 89). Acting as an intermediary therefore requires a consideration of the field, its expectations, mechanisms and criteria of selection. The role of the record producer can vary considerably dependent upon the requirements of the record, the historical and industrial context, and the relative authority of the

recording artists involved. For the purposes of the UK Producer of the Year nomination, the Music Producer's Guild (MPG) describes the record producer as the person who:

Has overall creative and technical control of the entire recording project and the individual recording sessions that are a part of that project. He or she is present in the recording studio or at the location recording, and works directly with the artist and engineer. The producer makes creative and aesthetic decisions that realise both the artist's and label's goals in the creation of the musical content. Other duties include but are not limited to: keeping budgets and schedules, adhering to deadlines, hiring musicians, singers, studios and engineers (mpg.org.uk, 2015).

In the case of this project, Marc's role and function during the process altered as the project moved through the stages of production and, most notably, during the later stages of production and post-production as he also undertook the task of engineering. Primarily, Marc was chosen by the band to be an 'outside ear' as Rory and Paul explained during the pre-production meeting:

Rory – We don't get much of an outside influence really...

Paul – No, we really don't. We self-produce everything we do so we've got our own sound, and we know what we're going for, and what we're after, but this is why it's really interesting for someone who we don't know, who has got a lot of experience in doing this to come and have an input as well. That's what's really interesting for me is how it'll come out at the end.

During an interview Marc further explained:

My role was helping the band to realise what they heard in their heads and I think there's probably one person in the band who had the entire vision in their head and the rest were secondary. I think that's Paul, at the forefront but each person had their own thing to offer, for example Phil's drum sound, the way he sets up his drums and plays just suited the whole thing.

Marc's role therefore involved providing guidance, critique and authentication for the contributions of the musicians and engineer as a notable representative and operative within the field of record production. Marc's role also included applying his greater knowledge of the domain and the field during the task of producing inside the recording studio. As in the previous chapters of performing and engineering inside the recording studio, examples have been drawn from the ethnographic research undertaken inside the recording studio during the stages of pre-production, production and post-production. These examples form the basis of analysis for the creative practices that occurred during the task of producing in the recording studio.

8.2 Pre-production

During the making of a record, the stage of pre-production can serve as a fundamental preliminary stage before any of the participants enter the recording studio: 'Because consistency of expression and atmosphere – "vibe" – can be difficult to maintain in the studio' (Zak, 2001: 137). Producing during the stage of pre-production therefore involves helping to develop: 'An image of the record's shape and tone...even if only in rough form' (Ibid). These tasks may include: 'Spending time preparing songs, arrangements, and performances before entering the studio' and this: 'means that the project is already underway before tape ever rolls and the team enters the studio' (Ibid). Due to the financial constraints of the project, producing during pre-production began by arranging a meeting with the rest of the band in a pub close to Elevator

recording studios in Liverpool a week before the first session. During pre-production Marc explained that:

I usually get to hear a demo, which is often a rough recording of the band playing in the rehearsal room but, in some cases like this one, I don't. So then I'm just going on description and what they're about and where they're coming from musically and where they're heading to musically.

The pre-production meeting therefore served to introduce the record producer to the musicians and to set out the approaches to the recording process. The interaction during the meeting was captured on the digital Dictaphone and during the pre-production meeting, Rory asked if it: "would it be useful to bring some CDs in of some bands that we might like or want it to sound like at all?", Marc replied:

Well, normally I'll say to a band "no" because I tend not to go in there with any preconceived ideas ...so if someone says to me what's it gonna sound like, I'll say I don't really know. We're just gonna do our best and we don't know how the session's gonna go really, from day-to-day, how we do things, how we change things erm and to have a ruler or a gauge to work by, might become a hindrance to what we're trying to get with you guys; because it's about you guys really. It's all there really, it's in your heads (Paul and Rory both nod and agree), we've just got to work at that.

In an interview after the meeting, Marc further explained his position:

I refuse to listen to any of their influences or anything they're aiming at...like if it was Bruce Springsteen and I hear any Bruce Springsteen on the radio or anything I'll turn it off, I don't want to know. I don't work like that...I don't try to imitate people...It's about them who want to record, not Bruce Springsteen or Neil Young or whoever it is. In the Midnight Ramble's case it's probably Bruce Springsteen but we're not doing that, we're not doing a

Springsteen band we're doing the Midnight Ramble and we need to do an honest as possible recording of what they're about, who they are. That's them, that's they're character, that's what they're about and then other people can pick out those influences.

Producing during pre-production in this instance involved drawing from the musical and cultural aspects of the domain of rock record production, and referring to the criteria of selection of the wider field in order to manage the expectations of the immediate field of the musicians. The producer acknowledged the musical influences of the musicians on their musical style but underlined that the uniqueness of the band should be encouraged. Producing during pre-production also involved initiating and building relationships with the musicians in which elements of cultural and symbolic capital (Bourdieu, 1993) were deployed in order to demonstrate Marc's experience and social standing in the field of record production. The pre-production meeting also helped the participants to begin forming role boundaries in which symbolic capital was deployed to demonstrate notable experience in particular areas of the production process. The following exchange occurred during the middle of the meeting after record producer Marc had discussed the band's musical influences and previous experiences of recording. Here Marc used his symbolic capital to assure the band of his experience:

Rory – Are you going to master it as well?

Marc – Well I have done quite a bit of mastering, erm I've done a couple of Oasis albums and a few singles and err...Primal Scream and the Saturdays stuff like that (laughs from the band).

Mike – If my brother was here now and said you'd mastered Primal Scream he'd literally just explode on the floor" (the band laugh loudly).

Marc – (laughs) the thing is that because I've been doing recording and producing a lot more I've been tending to sort of like do my mastering less and less and giving it to somebody else. I've even been thinking about doing that with mixing but I'm still doing my own mixing

because it's just finding someone who can stay very dear [sic] to the way it's been captured (Paul – “yeh”), if you know what I mean? (Paul “yeh”).

Producing during pre-production also involved drawing from the musical aspects of the domain in discussing musical style, arrangements and methods of recording inside the studio in discussing the band's intentions for the sound of the record. The following conversation excerpt illustrated how this occurred during the pre-production meeting:

Paul – Have you been in this type of process with a band, like with our sound kinda thing..y'know a soulful rocky kind of sound? So we can draw from your experience and from you...

Marc – ...At the moment erm I can probably draw directly because I'm in a covers band, which is a six-piece soul band. We do all the soul classics basically and I suppose I can kind draw from that a little bit (Paul nods) so I know where you're kinda coming from with that kinda thing. It's very much in the Soul, Motown, er and almost blues really.

Rory – More blues than Motown.

Paul – Yeh, I think Blues but then it's not afraid of being quite daring, you know a little bit raucous (Chris agrees with 'yes')...the main thing for me is that when we're in the rehearsal room and play live, it's very, it's the energy. Energy, energy energy, (Rory agrees with 'yeh, yeh') that's all I ever think, that raw feel...

Marc – ...Well that's the important thing that I want to get out of the live thing see, (Paul – yeh) that's why I tend to go for at least drums, bass and guitar (Paul– yeh) 'cause there's that interaction..

Rory – That's what we did with our last record so...”

Marc – ...so you get that interaction, so because you're a six-piece y'know it sounds like it's just as important with the brass there...

Paul – Well that’s what I was kinda saying about all-in-one-room cos that’s what we know and so we record like our first EP where we did all the rhythm tracks, then we recorded the lead guitar separately and the brass separately. And then we did the album it was very much the same thing but I’m really interested in getting the lads in..you know like the brass lads so we all play together (Chris–“yeh”) and just get that *real* vibe because we all feed off each other...

Marc – How would you feel about overdubs on that stuff? Say like we could thicken the brass up a bit.

Paul – Definitely.

Rory – We’ve done that before.

Chris – As long as the vibe’s there, and the feel’s there, and the kind of live energy with the right kind of sound then.

This conversation excerpt captured on the Dictaphone during the pre-production meeting demonstrates how the participants drew from the musical aspects of the domain of record production and referenced the field in discussing their proposed methods of recording and production. The intricate link between the domain, musical style and methods of production were further reinforced in an interview with Marc after the meeting in which he explained:

When you’re tracking live as a band you get something that you just don’t get from recording things separately. I know because I’ve tried it and especially for this style of music, y’know blues or rock, then it fits into how so many of these other records were made.

Producing during pre-production further involved drawing from the cultural aspect of the domain of record production in order to define the social rules for collaboration. The pre-production meeting allowed the participants to define these rules and the following discussion occurred during the meeting between record producer Marc and trumpet player

Marc – If we're honest with each other and if somebody feels a bit uncomfortable about something we should talk about it and sort of like find out what it is...

Rory – ...and not take any criticism personally (the rest of the band agree with 'yeh')

Marc – It's got to be about the music, (Paul – 'yeh') it's got to be about the songs

Marc – Well, we'll just do it again and get it 'til it's right...The other thing as well, is I won't push if somebody's tired but on takes and takes I will try and stay on it if we're chasing after something pretty close (Paul – 'yeh') but I'll always try and bear in mind that if somebody's really tired then they're not really cutting it and we'll have a break.

Producing during pre-production also involved considering the selection criteria of the field. During an interview Marc referred to the selection criteria for radio, which included considering altering song arrangements or durations:

I try to think about unnecessary bars in music, there's four bars of music before the vocals, what's that about? Take it out. It's almost like a habit with some musicians and bands, they do that but until they get into the studio and work with a producer who says "don't put that in there because you're going to bore the f**k out of people and you'll lose your listeners"...I suppose that is my target that it is radio friendly because that's where the band want to get to isn't it? So, producing is tailoring their music to do that but still keeping it them, with their distinct identity.

Marc further added:

Producing music for the radio means avoiding long intros, keeping songs within a certain length which is probably under three and a half minutes and don't have any no-man's land, y'know four bars, or two bars, of nothing in

there...I didn't have to change anything [with the Midnight Ramble] because the songs were great, cracking tunes and producing was more about how we go about filling them out.

Finally, producing during pre-production included drawing from the technical aspect of the domain in liaising with the engineer and discussing microphone choices and configurations. During an interview Marc described his conversation with engineer Darren:

I spoke to him [Darren] quite a bit before on the phone and he was just so willing to help and we talked about the mics they had at the studio and that we'd be tracking live as much as possible.

Producing during pre-production involved drawing from the musical aspects of the domain in order to discuss potential musical parts and recording methods, the technical aspects of the domain in discussing microphone choice with the engineer, and the cultural aspects of the domain in building relationships with the musicians and managing their expectations for the recording project. Pre-production further involved considering the selection criteria of the field, predominantly radio, in assessing the suitability of the arrangement and duration of the songs.

8.3 Production

As previously mentioned the stage of production principally includes tracking and overdubbing and in this instance the engineer, under the supervision of, and in collaboration with, the record producer, recorded the performing musicians. Producing during the stage of production first involved walking around the live room whilst the musicians were setting up their instruments. The video cameras in the live room captured Marc auditioning each instrument in the room, chatting to each musician and helping to adjust the instrument's tuning or tone. As he watched the video, Marc explained that:

It's an important thing for me, I want to hear how each instrument sounds in the room. It wasn't necessarily a case of knowing how they were all going to sound together it was more listening to them to see if there was anything that wasn't quite right. It was down to sort of like what I want coming out of the amps really and then, when that's right, it's just getting the mics in the right position...that's the Ken Scott thing isn't it? Get it right in the live room and it'll sound good in the control room.

In this example of auditioning the sounds of the instruments Marc drew his knowledge from the musical, technical and cultural aspects of the domain in order to achieve appropriate sounds of the instruments and amplifiers in the live room, using similar methods to other practitioners in the field of record production. The second stage of auditioning occurred once the engineer had selected and placed the microphones on the instruments. This process was achieved in collaboration with engineer Darren and microphones were auditioned and re-positioned as Marc saw fit. Marc explained that: 'Darren just sort of did his thing on the mic'ing up which is great but I still wanted to know what was where so we could make any changes'. Each microphone signal was outputted through the monitors in the control room so Marc could listen to how each microphone captured the tonal and sonic characteristics of each instrument. The type and placement of a microphone can alter the way it sounds in the live room and during an interview Marc explained that:

A good example of that is the snare drum, we [Darren and Marc] listened to it in the live room, looked at each other and thought mmm and then we trundled upstairs, listened to it and thought yes, that's OK it doesn't sound too bad.

As noted in the previous chapter, the bass drum (or kick drum) sound was considered to be inadequate, beginning as too 'boomy' and then creating an issue of phase with the adjacent snare drum microphone. Whilst the task of engineering primarily involved drawing from the technical aspects of the domain, producing further included the

musical aspects with reference to the selection criteria of the field. I asked Marc what he was thinking about as he was auditioning the microphones:

I'm always thinking about how it's going to sound on the radio so sometimes I'll use drum samples to support the recorded sound. In my head I was thinking that the bass drum sound wasn't smooth enough, it was almost jumping out of the speakers with too much bass but instead of relying on samples I wanted it to sound balanced with the rest of the kit.

After each microphone had been auditioned, producing in the studio then involved guiding the proceedings of the recording session, beginning first by ensuring all the musicians were comfortable once set up in the live room. Recording as an ensemble, or 'live tracking', was selected by Marc as a method of production because: 'it gives you the opportunity for listening to everything as closely as possible and all at once. Then you get a sense of what is working and what isn't'. Choosing to record the band as an ensemble allowed Marc to hear the arrangement in its entirety and identify musical parts or aspects of the recording that might not be appropriate.

The next stage in the process involved eliciting a harmonious and rhythmically cohesive performance from the performing musicians (Zagorski-Thomas, 2012). This involved drawing heavily from the cultural aspect of the domain in order to offer encouragement, support and guidance. Marc's primary goal was to remove any obstructions that could have inhibited the musicians' ability to attain interactional synchronicity or group flow (Sawyer, 2003). This was achieved through recording multiple takes, one after another. During the pre-production meeting Marc explained to the band that:

The more takes you do the more you forget about the recording and then all of-a-sudden you find that you're just moving into the zone. You're forgetting about what you're wearing on your head and stuff like that, y'know you're thinking more and more about what's going on with everybody in the band.

That's why it'll help having everyone playing together so you can forget that you've got headphones on and listen to each other basically".

Between each take Marc would communicate with the band over the talkback, typically only to say "Let's go again". After the fourth take Marc invited the band to come up and listen to the previous take after commenting that the takes had become a little "sloppy", which he explained is: 'a bit loose in terms of timing and energy'. Whilst watching the video recording playback, Marc commented that:

I wanted them to see that this isn't the take but everything's working, it's all there and now we can start working when we go back down there again. But you never know when you're going to get a good take, it could've been the first one...It just so happened that take 4 was the best one nearly every time....it might have been down to the brass because it's not easy and I was worried that Rory and Nick would have Mick Jagger lips at the end of the day from blowing down their instruments all day.

He further added that this method:

Builds trust with the band when you do it like that. I mean they probably really hated me at the time but then they come in and listen to it and think great, let's go back in there and do it again because we trust him now. If I'm saying do it again because this or that isn't quite right, then they're happy to do it.

The immediate, or micro, field also provided verification during live tracking in order to determine the quality of each performance. During an interview Marc explained that:

On that session there were moments when I was sat next to Darren at the mixing desk and we were nodding away and we'd just look at each other and I'd say "what do you reckon?" and he'd say "yeh, this is a good take this one isn't it? It feels good". That's just looking for confirmation I suppose.

Producing in the studio throughout the stage of production continued to involve drawing from the cultural aspects of the domain in order to capture, encourage and elicit an appropriate performance. This was highlighted during the latter stages of production in which the remaining musical parts were overdubbed at Marc's project studio 'My Little Underground' in Buckley, North Wales. Marc undertook the tasks of engineering and producing during the subsequent overdub sessions in which lead vocals, backing vocals, tenor saxophone and percussion were added to the arrangement. The most notable example when the task of producing drew from all three aspects of the domain occurred during the recording of bass player Chris's backing vocals. Chris had not recorded vocals in the studio before and after Marc had selected and placed the microphone, Chris began with two tentative takes. On playback, Marc then placed Chris's voice through a piece of software that is typically used to correct tuning but, in this case, Marc used it to completely alter the tone of Chris's voice, resulting in an extremely high-pitched cartoon-like voice Marc explained that: 'I did it to try and make him feel more relaxed because once you're having fun in the studio you usually forget about the pressure of performing a little bit more'.

Chris and the other participants in the control room burst into laughter and Chris continued to sing in the high-pitched cartoon-like voice. In this case the producer attempted to adapt according to the needs of the recording session, another unconscious process, that Donald Schon describes as 'reflecting in action' (1983: 55), which allowed the producer to adjust to a situation that they may have not previously encountered in the recording studio. After everyone had stopped laughing, Marc then removed the effect and asked Chris to record another take. Chris then attempted

another take and, at the end of the take, Chris asked to alter the balance of the mix in his headphones, or cans:

Chris – It sounds weird to me, I don't know why it sounds weird.

Marc – What kind of mix have you got in the cans, are you happy with it?

Chris – There's a little bit too much of me, I feel like I'm on top of myself!

Marc – There's too much of you in your headphones then mate?

Chris – Yeh.

Marc altered the balance in Chris's headphones:

Marc – How's that mate?

Chris – I think it's better, yeh.

After another take, it was clear that Chris was struggling to sing the backing vocal in tune with the main vocal. The rest of the band made suggestions over the talkback, telling Chris to warm up, and stretch and then Chris continued with a further two takes. Marc said nothing to Chris in between the takes in an attempt to keep the session flowing and explained: 'Chris had only done a few takes and I wanted to keep going so he felt a little bit more relaxed'. Lead vocalist Paul entered the live room to help Chris with tuning the notes, singing the harmony line to him, and when he returned to the control room Marc began to record straight away. After two further takes Marc suggested that he could correct some of the notes using pitch correction software. After the session he explained that:

I used Variaudio which is very much like Melodyne where you can mess around with the character of the vocals. I was looking for the best performance from Chris and then I was trying to make sense of that and the harmony he was going for by moving the notes around in the Variaudio but we had to do it very delicately and gently so as to not upset Chris. It was quite difficult and I wasn't sure how he was going to take it. I was feeling for him more than anything else.

Utilising the cultural aspect of the domain was also paramount in reducing the amount of anxiety Chris felt whilst performing his backing vocals, which was subsequently achieved by moving the microphone into the control room and asking everyone else to go out of the studio for lunch:

Marc – I kicked everyone out of the control room so I could help Chris concentrate on what he was doing. You could see after those first couple of takes he was getting more and more nervous so I decided that it'd be just me and him in the control room and we could work at it from there.

In this case, producing in the studio required technical, musical and social knowledge in tuning the backing vocal and working with the singer in considering the criteria of the field in making the corrected vocal sound convincing to the audience. This example also further highlighted the constraining factors of producing in the studio in which a performer's actions were constrained by the domain and the song. In addition, the producer's ability to elicit a performance was constrained by the performer's technique and their ability to perform in the recording studio. All of these actions take place within the wider structures of the domain and field of record production although:

Structures must not be conceptualised as simply placing constraints upon human agency, but as enabling. This is what I call the duality of structure. Structures can always in principle be examined in terms of their structuration as a series of reproduced practices. To enquire into the structuration of social practices is to seek to explain how it comes about that structures are constituted through action, and reciprocally how action is constituted structurally (Giddens, 2002: 230).

Whilst the producer, in this instance, was constrained by the domain, the song and the performing musician's ability, the domain of rock record production also enabled him to capture a performance using additional recording technologies to manipulate its tuning. This example also further illustrates the interdependency of each of the three

main tasks in the recording studio and their reliance on each other in the creation of a composite and acceptable performance.

Producing during the stage of production also necessitated the ability to alter perspective between micro to macro during the live tracking process in which the micro details such as nuances of performance, tuning and timing were typically assessed in parallel with the broader considerations of the arrangement and the sonic aesthetic, or sound of the recording. Marc explained that this ability was developed through experience and immersion into the context of the recording studio:

If you're an experienced producer or you've done a lot of work in studios then you acquire a tight perspective on tuning, and timing as well, so you notice timing issues, whether it's on or off, down to a fraction of a second and you tend to notice issues of timing or things that are slightly out of tune that no one else notices. It's utilising all of that when you're listening to a live performance so each take I'm listening for that.

Through a process of enculturation into record production, Marc explained that the methods of assessing the appropriateness of tuning and timings has become instinctive. This example provides further evidence for Bastick's explanation of 'intuition' and Schon's 'tacit knowing' (Schon, 1983). The mistimings and mistunings were further verified either through additional playback, where they could be assessed under closer scrutiny, or through corroboration with the immediate field in discussing the musical performance.

In summary, producing during the stage of production involved auditioning instruments, microphones and performances, which involved drawing from the musical, technical and social aspects of the domain and selection criteria of the field. Each performance was assessed for its timing and tuning, which referred initially to the microdomain, and then the overall performance and the overall sonic aesthetic, which refer to the broader domain of record production. Furthermore, producing during

production included drawing extensively from the cultural aspect of the domain of the record production in order to maintain a consistency of atmosphere, or ‘vibe’ (Zak, 2001), to elicit and encourage a performance from the performing musicians, to discuss performances and performance alterations, arrangements, musical parts and sounds.

8.4 Post-production

8.4.1 Mixing

After capturing the performances of the musicians inside the recording studio, the stage of post-production was where the recorded elements were selected and combined through the process of mixing, and then, finalised through the process of mastering. This process is far from straightforward and the record producer must approach it with: ‘a sense of the stylistic history of the genre and the artist’s previous work. This provides a context for approaching the myriad decisions that a mix entails’ (Zak, 2001: 171). The process of mixing therefore required knowledge of musical style, stylistic convention and an understanding of the aesthetic intentions of the musicians and, importantly, how all of these aspects interrelate and interact in the final mix of the record. For example, the staging and clarity of a mix refers to the way in which the recording is placed into a psychoacoustic space using room ambience, stereo positioning and audio signal manipulation to reinforce (or even create) a musical meaning (Zagorski-Thomas 2010: 587). In rock styles of music, this musical meaning developed from:

Rock artists whose audience experienced them in concert in large venues developed production techniques that were mimetic of that form of large-scale space. The consumption of recorded music by those artists in the 1970s centred around the playback of albums in the living rooms and bedrooms of their audience: a result of the oft cited growth in ownership of record players in the 1960s and 1970s (see for example Straw 2001, p. 60) (Zagorski-Thomas, 2010: 255).

The stylistic conventions of staging in rock therefore refer to the domain and the expectations and selection criteria of the field. Consequently, this impacts the way in which the musical elements are staged in the recording during the mixing process. In discussing the process of staging, and in particular placing instruments and musical elements across the stereo spectrum, Marc explained that:

With one of the other bands I've worked with, the guitarist wasn't happy with the way I'd panned his guitar to one side and I asked him, "Where do you stand on stage? Do you stand in front of the singer or behind the singer?" He said, "I don't, I stand to the side" and then I asked him, "where 's your amp on stage? Is it behind the singer?" he said, "No it's at the side". So I told him, there you go then, and his guitar is balanced out by the other guitarist's guitar on the other side.

Marc's comment above further points towards the complex relationship rock record production has with live performance as explored by Frith (1983), Wicke (1990) and Auslander (1999) and the way in which stylistic conventions have developed through the performance of rock music. Furthermore, it has been argued that the mixture of realism and surrealism in the development staging techniques is because the use of stereo was connected to notions of 'realism' (Morton, 2000: 42) and: 'in terms of musical reproduction, popular music records have used the stereo illusion and imaging to create surreal performances, performances that exist only on the record' (Moore & Dockwray, 2010b: 220). The idea of a virtual performance space has been illustrated as occurring inside a sound-box, which is: 'a four-dimensional heuristic model (consisting of the dimensions laterality, register, prominence and temporal continuity) for the discussion of the apparent locations of sound sources within recordings' (2010a: 182). The sound-box is shown in Figure 18 below:



Fig. 18. ‘The Sound-box template’ (Moore and Dockwray, 2010a: 184).

The variation in stereo mixes from 1966 to 1967 has been explained as the: ‘signifying uncertainty in stereo’s early years and a lack of convention in the practice of stereo mixing’ (Moore and Dockwray, 2010b: 233). It was also determined that from 1965 to 1972 the ‘diagonal mix’ emerged as the most prominent style of mix in rock record production in which: ‘the arrangement of the vocals, bass, and drums (in particular the snare) are on a very slightly inclined diagonal line, with other instruments placed to either side’ (Ibid: 222-223). The use of various instrumental staging during the mid-1960s in British Rock was highlighted in Marc’s discussion. He also discussed processes of certain types of staging and their stylistic transition:

Marc – There’s things that work better than others I would say. The kick drum, the bass guitar, the snare and the vocal I like to hear those things straight in the middle. I always feel like if the bass is too much on one side and the drums on the other then it makes me feel wonky or it’ll make me think, what is this? An Abbey Road or an EMI Beatles mix? Having drums on one side, and that kind of thing, that was the realisation and experimentation with stereo, when it was new, when it was a fad, “Oooh look we can have the drums over there and the bass guitar over there” and it’s very much an early stereo thing and we weren’t going for that.

The domain was therefore accessed during the staging of the mix through the application of stylistic conventions, such as the main vocal, bass guitar, snare drum and

kick drum placed in the centre. The requirements of the field were also addressed during the staging of the mix with a consideration for how the record will be consumed by the audience. During the same interview Marc explained his thought-process:

I tend to think that you don't know if someone's going to be playing this stuff in a pub or something, and if they've got a true stereo set up with the right speaker in the lounge and the left speaker near the pool table, and if that's the case then some of this stuff is going to sound weird so the vocal, the bass, the snare and the bass should be right down the middle.

Staging during mixing is not solely limited to the placement of instruments or musical elements across the stereo spectrum and Zagorski-Thomas notes that:

One key feature of staging is the perceived spatial relationship the 'performers', and between them and us (the listeners). There are two elements to this perception of spatial relationships: the nature of the environment in which the event is happening and everybody's position in that environment...For example, the staging on Miles Davis' (1959) *Kind of Blue* album utilises mimetic staging that is strongly suggestive of a band on stage, but was created using a separate microphone on each instrument and some additional chamber reverb that gives unnatural but perceptually "useful" clarity. Suede's (1996) *Coming Up*, on the other hand, uses a variety of artificial forms of ambience and close microphone placement that, for example spreads the drum kit across the whole stereo image and uses different amounts and types of reverberation on the different components of the drum kit (Zagorski-Thomas, 2014: 75).

In staging the mix, through the use of real and artificial reverberation Marc explained:

I always try to imagine it's in a nice balanced room so you can hear everything balanced how you would like to hear it balanced. That affects the types of reverbs that I use, the settings that I use on them. With Ninety percent of the bands I work with I use 'rooms' unless it's a shoegaze band then it's biiiig reverbs (laughs).

These stylistic conventions of staging, such as the placement of particular instruments or musical elements across the stereo spectrum and the use of particular effects such as reverberation, highlight that there are dominant styles of staging however: 'the details are specific to the track and are configured around the song to create a particular impression' (Zak, 2001: 159). This comment reinforces the idea that there are accepted norms in the staging of instruments when mixing rock but, importantly, it demonstrates that there are also elements that can be adapted or modified, dependent on the song. Highlighted here then is the balance of agency and structure during the mixing process in which particular configurations of staging are simultaneously constrained and enabled by the style musical style of rock. Whilst viewing the video recordings of staging the mix, Marc commented on his approach to staging the drums:

I always pan drums from the perspective of the listener and some people have argued with me that's it's a stupid idea they say it should be from the drummer's perspective but there's no rules! There are no rules in rock n roll (laughs) but it's always from the listener's point of view and I'll do everything visually like that.

Particular aspects of staging during the mix were customised, in this instance the way in which the image of the drums appear to the listener. Because of the individuality of particular elements on each record they are often identified and classified in relation to the artist or the individual who mixed them. I asked Marc if he was thinking about other records as he was mixing the record, he replied that:

When I'm mixing I don't necessarily think of other records but if the guitars are saying to me "I'm a bit Editors" I might go alright and change them, y'know if they're a bit twangy or dingy with a big room sound and that sound doesn't fit.

Methods of mixing are therefore individualised and each individual has his or her own ways of mixing. Marc began by mixing the drums first and explained that this was because:

Marc – If you're doing pop then it's sometimes best to start with the vocal because that's the main thing, although I'd say that with a lot of stuff, the vocal's the main thing. But for me I always begin with drums because that's the foundation, it's the foundation for track laying and it's the foundation for the mix. Get the drums right and everything else just falls into place.

Marc began by balancing the levels of the drums, listening to each one individually and then all together. He then listened to the drums and the bass guitar together. Marc then added the guitars, the brass and then finally the vocal. He then muted the drums and listened intently to the vocals, guitars, bass and brass. He explained that:

I think that you're building a picture, things will always need tweaking so it's important to revisit things as you go. I'll mix drums, then bass, then guitars, then the backing vocals maybe, or the main vocal and the backing vocal, and then I'll play around with the mix and levels then.

After staging and clarity had been considered in the mix, Marc then addressed the dynamic range of each of the instruments and voices and then listened to the tonal balance of them, making adjustments of their frequencies as he went. He then added reverberation to the snare drum, the electric guitars and the vocal to produce a sense of space in the recording. These stylistic conventions of staging, such as the placement of particular instruments or musical elements across the stereo spectrum and the use of

particular effects such as reverberation, highlight a system in action. Here, knowledge is drawn from the domain and balanced with respect to the expectations and selection criteria of the field. The interaction between the elements during the creative practice of mixing can therefore be demonstrated on an individual level as shown in Figure 19 shown below:

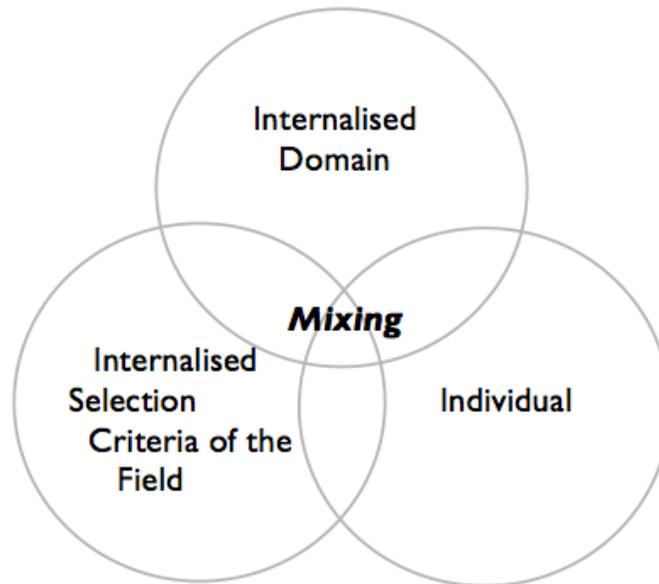


Fig. 19. ‘The Systems Model Scaled to an Individual Level During Mixing’.

Producing during post-production also involved balancing the expectations of the immediate field as Paul the songwriter, Rory the trumpet player and Chris the bass player, were present during the mixing process and contributed their thoughts and ideas. Marc explained his collective approach to mixing during a break in mixing:

With some producers there’s a certain amount of pompousness and an ego, that stands round like a guard of the image that’s in their head and how they perceive this is going to come out. Therefore “you must listen to everything I say” but I couldn’t do that and I like to have input from the band where possible because it’s their thing that I’m helping them to create it.

Paul, Rory and Chris (the immediate field) provided verification on decisions taken throughout the mixing process. After Marc had made an adjustment to the mix he often turned around and asked Paul, Rory and Chris what they thought. After watching a passage of the video recordings during the stage of mixing Marc noticed that Paul, Rory and Chris were notably impressed when Marc blended the sound of the brass recorded in the kitchen of elevator studios with the original recording of the brass. He commented that:

They really liked how the brass that we recorded in the kitchen added to the overall ambience in the mix, it really thickened out the brass sound with the double-tracking of the brass as well.

Once Marc's initial idea or action had been implemented in the mix, the other participants performed the function of the field by evaluating Marc's contribution. The interaction between the elements during the creative practice of mixing can therefore be demonstrated on a group level as shown in Figure 20 shown below:

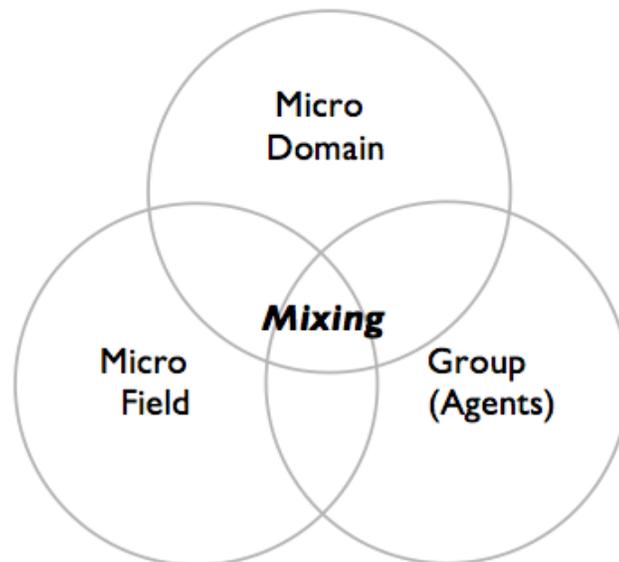


Fig. 20. 'The Systems Model Scaled to a Group Level During Mixing'.

Producing during the mixing stage fundamentally involved extended periods of attentive and repeated listening, altering the listening perspective from micro to macro, in order to determine the appropriateness of the mix for the musical style, the aesthetic intentions of the band, and whether or not the mix will stand up to the scrutiny of repeated listening. These sub tasks have been described as: ‘a continual process of simultaneous production/consumption in operation-by means of interposed representatives-until the final success’ (Hennion, 1989: 402). These sub tasks illustrate the creative system in action in which they all involved drawing from the musical, technical and cultural aspects of the domain of record production and the expectations and the selection criteria of both the immediate and the broader field.

8.4.2 Mastering

The final task of producing during post-production involved the decision to transfer the mix to a TASCAM two-track tape machine in order to provide a particular sound for the mixes. Producing during the stage of mastering therefore required the producer to draw from the technical and musical aspects of the domain in emphasising parts of the frequency spectrum and employing recording technologies, such as tape, to produce a master with a given sonic aesthetic; in this instance a more ‘vintage’ sound. This example further illustrates the creative system in action in which the stylistic tradition of rock is referenced through the use of particular technologies and practices.

Conclusion

Producing inside the recording studio during this study included a multitude of different tasks, which encompassed facilitating the musician’s vision for the recording or in Marc’s terms ‘helping the band to realise the sound they heard in their heads’. Producing inside the recording studio in this instance therefore primarily involved offering supervision, assessment and verification for the musicians’ and engineer’s contributions. Producing during pre-production involved drawing from the musical and social aspects of the domain of record production, and referring to the criteria of

selection of the wider field in order to manage the expectations of the immediate field of the musicians, consider song arrangements and build and maintain relationships with the musicians and the engineer. Furthermore, producing during pre-production involved drawing from the technical and cultural aspects of the domain of record production in order to select microphones with the engineer and define the social rules of collaboration and the methods of production with the participants. Cultural and symbolic capital was deployed throughout the process as a means to reassure the other participants and confirm the producer's role within the evaluation and verification process.

During the stage of production the task of producing involved drawing from the musical, technical and cultural aspects of the domain in auditioning the sounds of the instruments to achieve appropriate sounds of the instruments and amplifiers in the live room. Producing during the stage of production also necessitated the ability to alter perspective between micro to macro during the live tracking process in which the micro details such as nuances of performance, tuning and timing were assessed in parallel with the broader considerations of the arrangement and sonic aesthetic, or sound. Producing during production included drawing extensively from the social aspect of the domain of the record production in order to maintain a consistency of atmosphere, or 'vibe' (Zak, 2001), to elicit and encourage a performance from the performing musicians, discuss performances and performance alterations, arrangements, musical parts and sounds. Finally, producing during post-production involved extended periods of attentive and repeated listening, altering the listening perspective from micro to macro, in order to determine the appropriateness of the mix for the musical style, the aesthetic intentions of the band, and whether or not the mix will stand up to the scrutiny of repeated listening. Mastering involved the application of particular technologies to further add to the intended sonic aesthetic of the record. All of these tasks involved drawing from the musical, technical and cultural aspects of the domain of record production and the selection criteria of both the immediate and the broader field.

Having illustrated the interaction between the creative system's elements and the participants in the recording studio during performing, engineering and producing, the penultimate chapter illustrates the interrelationship between each of these tasks and the interaction between the individual and group level processes that occurred.

| 9 |

CREATIVITY AND COLLABORATION IN THE RECORDING STUDIO

Introduction

The creative contributions and the interactions between the individuals within each of the three observable tasks: performing, engineering and producing have been shown to operate within a creative system. In order to perform the tasks, the participants inside the recording studio drew on their domain knowledge and referenced the selection criteria of the field. The three observable tasks were so interconnected that each one was necessary for the other to occur and often, in turn, affected each other; in other words they formed an interactive and interconnected system. The record is therefore created at the intersection of the interactive and interconnected tasks of performing, engineering and producing as shown in Figure 8.

Like the interconnected elements of the creative system and the three tasks inside the recording studio, the participants also formed an interlocking system through their collaboration. The participants inside the recording studio therefore became a working group and their behaviour as a group emerged from the numerous actions and interactions between the individual members of the group. It has been argued that groups are complex and dynamic systems that: ‘exhibit emergent properties that cannot be assigned to a single individual or element’ (Sawyer, 2003: 166). For example, the participants inside the recording studio had acquired varying degrees, and different types of domain knowledge and therefore the domain knowledge to produce the record wasn’t held by a single individual. Rather, the process required all of the participants to collectively draw on each other’s domain knowledge and adopt different roles in order to undertake the primary tasks inside the recording studio. Collaboration was therefore

a necessary way to address any deficiencies in knowledge or skills.

The group creativity process has been illustrated using a generic model of group creativity (Figure 5. Paulus and Nijstad, 2003) and although the arrangement of the model is different to that of the systems model it has been argued that the exchange of knowledge, ideas and critical evaluation between the group is similar to that of the systems model because it acknowledges the: ‘individual, field and domain interactions necessary to produce artefacts’ (Kerrigan and McIntyre, 2010: 14).

The generic model of group creativity provides a useful overview of the collaborative process through the illustration of ‘individual level’ and ‘group level’ contributions, but falls short in demonstrating the complex, and often iterative, aspects of the creative process. Therefore, by using the principle areas of ‘individual level’ and ‘group level’, this chapter illuminates some of the complex processes that occurred during collaboration in the recording studio, and demonstrates the necessary adaptation of the systems model to incorporate scales of collaboration during the making of the record.

9.1 Collaboration in the recording studio on an individual level

Interviews with the participants in this study demonstrated that prior to collaborating in the recording studio on this project, the musicians, the engineer and record producer had all acquired particular skills, knowledge, abilities and expertise. They had acquired these through a process of domain acquisition before they arrived at the recording studio. Some of the participants acquired the domain formally through attendance at an educational institution in which the theoretical features of music such as melody, harmony and song structure were learnt and in some cases formally assessed. Some of the domain was acquired non-formally through one-to-one tuition during which more of the practical features of the musical domain, such as instrumental technique and performance, were learnt. Some of the domain was acquired informally through experience and immersion in the environment and culture of the recording studio, and in an earlier chapter... it was highlighted that all of the participants, apart from Marc

the record producer, had acquired some part of the domain of record production through formal education. Importantly, each participant had acquired knowledge and understanding of the domain in relation to their role and the tasks they were expected to undertake in the collaborative process, such as the technical aspect of the domain required in order to undertake the task of engineering, or the musical aspect of the domain required to undertake the task of performing in the studio. During the early stages of production at Elevator studios the labour was generally divided according to each participant's role within the process; for instance, engineer Darren undertook the task of engineering. In addition to the musical and technical aspects, domain acquisition also included the cultural aspects of record production, which provided the framework for: 'the set of tacit practices governing interaction in the group' (Sawyer, 2003: 168). All of this internalised domain information was called upon throughout the duration of the record-making process.

For instance, an individual's internalised domain knowledge was drawn upon on an individual level through a convoluted and iterative internal process. The complexities of this process were demonstrated during the writing of musical parts for the song 'Southpaw Billy', in which bass player Chris drew from domain examples in the composition of his bass part. Drawing on domain examples of Motown-style basslines, and those played by James Jamerson, allowed Chris to internalise Jamerson's playing style and incorporate it into the composition process, and a rearrangement of all of these elements appeared to Chris at a creative stage labelled 'illumination' (Wallas, 1926, 1976). Chris's ability and expertise in composing these musical parts, in which the creative stages of preparation, incubation and illumination were evident, only appeared to him as a single creative phase 'intuition' (Bastick, 1982). Chris's composition process also exhibited a final creative stage of verification where: 'Both the validity of the idea was tested, and the idea was reduced to exact form' (Wallas in Rothenberg & Hausman, 1976:70). However, during the process of generating ideas, or ideation, there is also evidence that a process of verification, or evaluation, also occurs. These stages don't necessarily occur in sequential stages but it has been argued that:

Evaluation must occur in part at the ideation stage; otherwise, too many ideas would be generated for the limited processing capability during live performance. The evaluation stage would be overwhelmed, unable to properly filter the large number of musical ideas (Runco, 1993). Several studies have shown that the ideas generated in the ideation stage are not unrelated, but instead reflect associative patterns (Mendick, 1962; Runco & Okuda, 1991). Thus, even if it is analytically useful to distinguish ideation from evaluation, both types of thought may be constant, ongoing components of the creative mind, moments of a unitary process (Sawyer, 2003: 174).

The idea that evaluation, or verification, must occur at the ideation stage points towards the operation of concurrent, and interacting, internal and external systems. In this instance, that Chris's internal and externalised ideas all drew their associations directly from the domain. It can be concluded, therefore, that the musical ideas and parts that were eventually presented to the other musicians during pre-production had already undergone a complex individual, internal verification process, which was associated with the existing body of knowledge and symbol system within the domain of record production, and considered to be the field's criteria for selection. This internal process of ideation and evaluation could also be viewed in operation within the task of engineering, during the initial task of microphoning. By drawing from the technical aspect of the domain, and referencing his internalised knowledge of the expectations of the field, engineer Darren selected microphones and placed them in various positions on the musicians' instruments. This internal interaction could also be viewed in operation during the mixing process. Marc drew his domain knowledge from all aspects of the domain and referenced this against the selection criteria of the field and the existing 'field of works' (Bourdieu, 1993). In all of these instances, the creative system could be viewed in operation on an individual level, at which Chris, Darren and Marc respectively interacted with their internalised knowledge of the domain and their internalised knowledge of the criteria for selection of the field. The systems model can therefore be scaled to the individual level as shown in Figure 21 below:

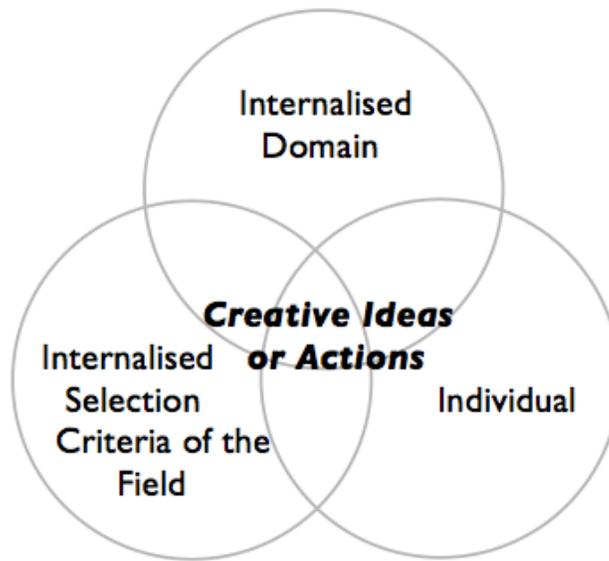


Fig. 21. 'The Systems model scaled to an individual level'.

9.2 Collaboration in the recording studio on a group level

Collaborating inside the recording studio, then, required individual ideas or actions to be outputted to the group for discussion, assessment, verification or rejection. If rejected, the process returned to the individual level where the participants either began the ideation and evaluation process again, or added to, or altered the initial contribution. During this study there were several examples of the group collectively scrutinising, evaluating and verifying an individual's ideas or actions. For instance, during the task of engineering in the studio, once the initial stage of microphoning had been completed, the auditioning of microphones underwent group scrutiny and verification. The participants in the recording studio therefore performed the function of the field.

Auditioning microphones involved working within the structures of the domain, the conventions of the style or genre of music, and also the structures of the song and the song's arrangement. During the process of auditioning microphones the perspective was continuously altered between the microdomain and the macrodomain in an attempt

to verify whether the microphone and its position was technically appropriate in the context of the microdomain, and also whether it was appropriate in the context of the macrodomain. Auditioning the microphones involved drawing from the technical aspect of the domain of record production, and in particular from knowledge of sound waves, acoustics, microphone characteristics and monitoring, and then verifying their validity by auditioning the result through the studio speakers. This process was undertaken collaboratively and the decisions to include particular microphones and their positioning were taken after consideration by the immediate field and, principally, the record producer.

Another notable example of group evaluation occurred during the task of performing in the studio in which the musicians composed new musical parts to add to the arrangement. However, unlike those parts composed during pre-production, which underwent a process of internalised ideation and evaluation (Sawyer, 2003), the majority of the composition process was externalised to, and verified by, the rest of the participants. In composing new parts the performing musicians had to operate within the structures of the domain, the musical style, the song and the current arrangement. The immediate field filtered these musical parts, judging them as either appropriate or inappropriate additions to the track, as shown previously in Fig. 15. This filtering process also occurred during the task of producing in the studio in which the musical performances were considered within the structures of the domain, the musical style, and the song. The producer then provided evaluation in deciding which performances were the most appropriate, often in consultation with the musicians and the engineer.

In each of these examples, the individual creative contributions are effectively dispersed within the process of collaboration; a process defined as distributed creativity, which refers to: ‘Situations where collaborating groups of individuals collectively generate a shared creative product’ (Sawyer, 2009: 82). The individuals inside the recording studio are working on a group level where individuals in the group drew from the domain in order to apply it to the immediate context of the record making process. In addition, the group are performing the function of the field,

assessing, accepting or rejecting ideas produced by the group. In this way the group can be viewed as operating within a micro system of creativity where the track is viewed as the microdomain and the immediate group as the microfield (Sawyer, 2003), and the ‘group level’ section of the generic model can be replaced with the model in Figure 22 below:

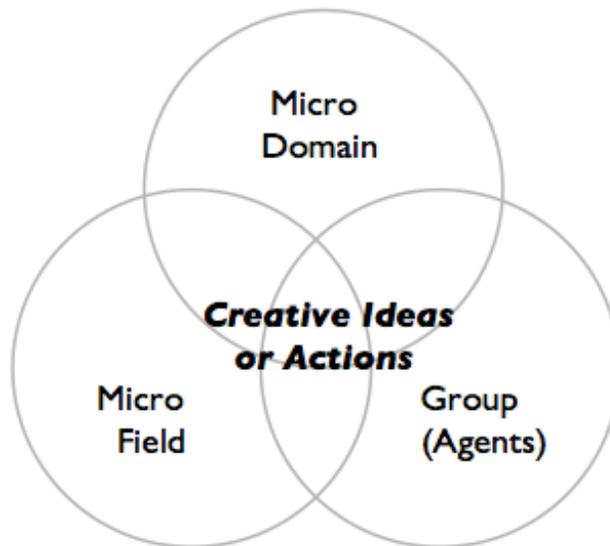


Fig. 22. ‘The Systems model of Creativity scaled to a Group Level’.

9.3 Group processes during collaboration in the recording studio

At the group level, a number of group processes were evident throughout the production of the record. One of these initial processes that occurred amongst the group was that of role definition, which provided the boundaries of operation for the individual and the necessary structures for co-operative action between the participants. Roles were undertaken inside the shared structures of both the group and the wider domain of record production, which could be further seen in the divisions of labour amongst the three main observable tasks in the recording studio, with each task primarily assigned to each individual. However, as previously noted, although specific roles were assigned to specific tasks, there were particular points of overlap and it was

the achievement of each of the three main observable tasks that was given precedence over the maintenance of specific roles.

Although they were discussed and analysed separately, each of the three main tasks were often completed simultaneously inside the recording studio. For instance, during the early stages of production the performing musicians were engaged in tuning and altering the tonal characteristics of their instruments through dampening, as in the case of the drums, or altering the controls on the guitar and bass amplifiers. At the same time, the engineer undertook the tasks of connecting microphones to the wall boxes using microphone cables, which are routed to the mixing console in the control room. Once the performing musicians had set up their instruments in the live room the task of ‘microphoning’, (positioning microphones on the instruments and auditioning them) began. During microphoning, the characteristics of the instruments were balanced against the capture characteristics of the microphones with specific reference to the ‘sound’ or sonic aesthetic of the song. This was an iterative process in which the producer or the engineer made adjustments to the tonal and sonic characteristics of the instruments as they were captured by the microphone and outputted through the monitors in the control room. This process was further enhanced through collaboration and the final decision on where to place a microphone was arrived at cooperatively with the record producer and, occasionally, with some input from the performing musicians. In this instance collaboration was necessary in order to draw from different areas of the domain to achieve a desirable result.

Another group process that emerged during the stage of production was ‘interactional synchronicity’ between the performing musicians, the producer and engineer whilst tracking live. This interactional synchronicity has been labelled as ‘group flow’ (Sawyer, 2003), which is concerned with a collective or group state of consciousness. Group flow is more likely to happen: ‘when the degree to which the group must attain an *extrinsic collective goal* is matched by the number of *pre-existing structures* shared and used by the performers’ (2003: 167).

This idea has been illustrated in Fig. 12 ‘Group Flow’, in which group flow is achieved by balancing the amount of shared structures and the level to which the goal is known. The shared structures in the case of this study were those of the song, and the domain of rock record production more broadly (including technical, musical and cultural aspects). Furthermore, each of the participants had clearly defined roles throughout the process. For example, each of the musicians had their role in the band and in the performance of the song, Darren undertook the task of engineering and Marc undertook the task of production. As previously mentioned, the participants all understood the specific extrinsic goal of capturing a harmonious and rhythmically cohesive musical performance of the song and had reached: ‘common agreement on the conventions- the set of tacit practices governing interaction in the group’ (Sawyer, 2003: 168). Rather than constraining creative action, these shared structures provided the conditions for collaboration and creativity to occur. This point has been argued in relation to the social production of art more broadly in which: ‘all action, including creative and innovative action, arise in the complex conjunction of numerous structural determinants and conditions...practical activity and creativity are in a mutual relation of interdependence with social structures’ (Wolff, 1981:9).

Interactions between the participants therefore took place within these shared structures and drew from the cultural aspects of the domain or, in Sawyer’s terms, ‘the set of tacit practices governing interaction in the group’ (2003: 168). For example engineering involved drawing from the cultural aspects of the domain in order to maintain the flow of the session and communicate effectively with the performing musicians and the record producer. The record producer also drew heavily from the cultural aspects of the domain in order to reduce or remove any anxiety, resolve any issues that arose during the recording process, elicit a performance from the musicians, and provide stewardship and guidance to the participants as the recording project progressed. Added to these understandings was an applied knowledge of language and terminology, with the participants using metaphoric, pictorial or interpretive linguistic devices in order to communicate their intentions and discuss sounds, performances and musical parts.

The primary social interaction that occurred between the participants involved discussing ideas and making decisions, which required participants to draw from the domain of rock record production and consider the criteria for selection of the field. However, this process also illustrated how roles and status, and the deployment of symbolic and cultural capital, could be used to influence or overrule specific decisions. Cultural capital is:

A form of knowledge, an internalised code or a cognitive acquisition which equips the social agent with empathy towards, appreciation for or competence in deciphering cultural relations and cultural artefacts (Johnson in Bourdieu 1993: 7).

It can therefore be seen that:

A producer's and an engineer's ability to wield power within the field, and therefore get things done in the studio, is dependent in many instances on the accumulation of cultural capital they hold as well as the maintenance of social relations within the field. These forms of capital don't operate in isolation from each other but are, of course, interdependent (McIntyre, 2008).

Out of all of the participants, record producer Marc had the most experience and had acquired the most cultural capital. However, he did not use this capital to categorically overrule the ideas of the other participants. Rather, he used it to help field suggestions from the other participants, maintain an atmosphere of openness in order to encourage suggestions and to facilitate the development of ideas that he deemed appropriate. Marc viewed his role in this process as a collaborative and facilitative one, however, in the studio there was evidently an implied hierarchy of participants in which the principal songwriter's judgment on particular occasions was considered to be more important than the other participants. However, as Paul explains, this was because: 'I've always written with a very clear vision in my head of how the song's meant to sound at the very end and I try and work towards that all the time'. Therefore Paul's

standing in the group was primarily related to his role as the principal songwriter, and the way in which he had written the lyrics and the chords of the song with the rest of the band adding their musical parts in collaboration with each other. The comments from Paul and Marc above also highlight the group’s primary objective during the record production process, that of realising the sound (and sounds) of the preconceived and imagined finished record. These were all in reference to other sound recordings that exhibited the characteristics that they wished to recreate on their recording.

9.4 Beyond the group level of collaboration in the recording studio

Once the group have evaluated and verified their contributions the generic model of creativity depicts the progression of the creative contribution out of the immediacy of the group. In due course, the collective creative contribution will be externally evaluated, verified or rejected by the field (McIntyre, 2009) as the record is released to the general public. The field (TV, radio, other musicians, engineers and producers etc.) decides upon its novelty and its relevant addition to the domain through a convoluted and non-linear process. The scale of the systems model is therefore altered throughout record production process and can be illustrated through the diagrams shown below:

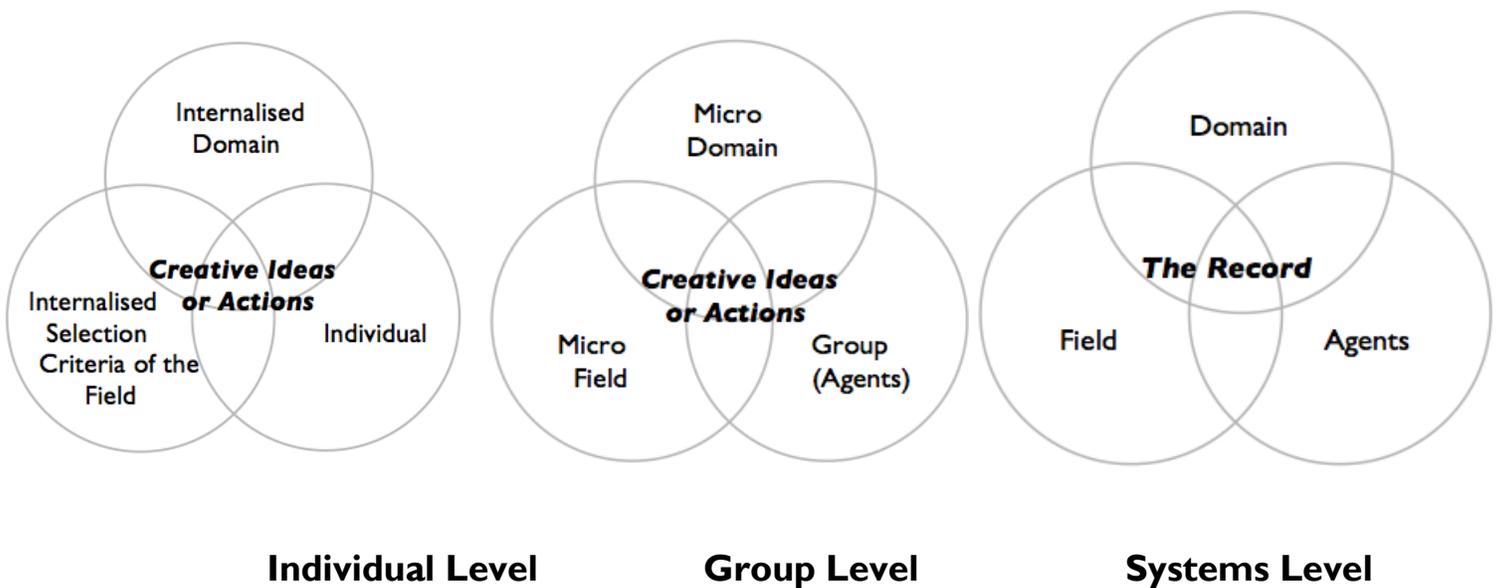


Fig. 23. ‘The Systems Model of Creativity at Individual, Group and Systems Level’.

The models can be illustrated as systems within systems by layering them as shown below:

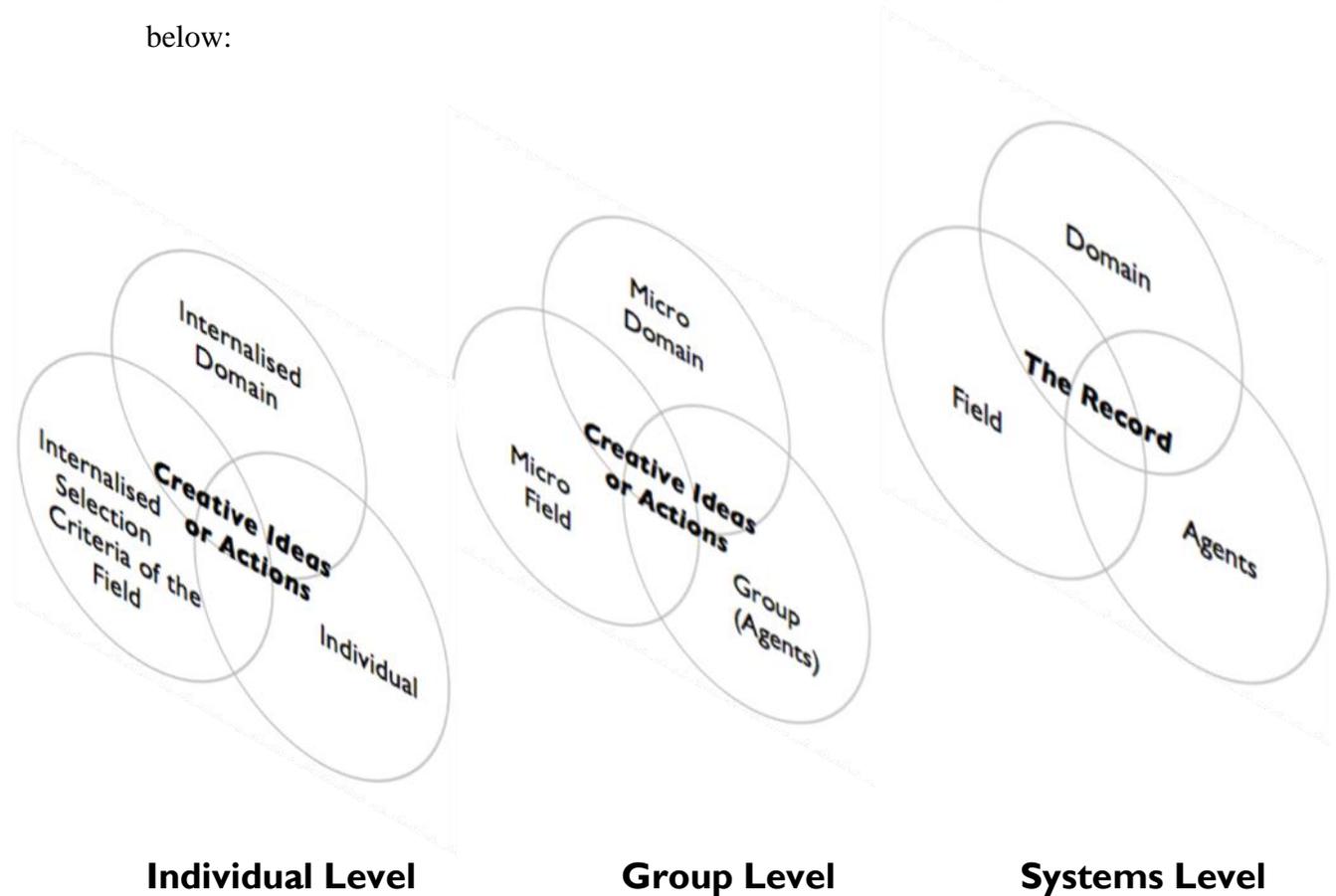


Fig. 24. ‘Layered Levels of the Systems Model of Creativity’.

No hierarchy of systems, or principal starting point, is implied in the depiction of the scalable models of the systems model. They are not intended to disregard the complex intricacies of group creativity, nor are they able to represent the complexity of the interactions between, and the interdependency of, each scaled level. For example, the individual level can influence the group level, which can then further influence the wider systems level. However at the same time, the wider system is influencing the group level and the individual level, producing a creative system of circular and ‘dynamic causality’ (Csikszentmihalyi, 1988). The concurrent interdependence and influence between each level only serves to further demonstrate the non-linearity of creativity, and the integration of dynamic causality between the agent, domain and field during the production of a record inside the recording studio.

Conclusion

During collaboration inside the recording studio the systems model of creativity can be viewed as scalable to an individual and group level. Nijstad and Paulus' generic model of group creativity (2003) provided a useful point of departure for re-scaling the systems model, and in a similar way to the systems model, 'information acquisition' was necessary to enable the research participants to collaborate and operate at the individual level. At the individual level, the participants' domain knowledge and skills contributed to a complex internal process that involved the interrelated and interactive stages of ideation and evaluation. These processes occurred whilst devising and composing new musical parts for the song. In this case, the interaction between the domain, field and individual was internal, and drawing knowledge from the domain and verifying the criteria for selection occurred inside the individual's mind. On a group level, some of these processes were externalised during collaboration, and examples of group scrutiny, acceptance, modification, rejection or verification of an individual's ideas were observed throughout the record-making process. In order to do this, individuals in the group drew from the domain so they could apply it to the immediate context of the record making process, and performed the function of the field, assessing, accepting or rejecting ideas produced by the group. The group could therefore be viewed as operating within a micro system of creativity where the record (or track) is viewed as the microdomain, and the group of individuals inside the recording studio is viewed as the microfield (Sawyer, 2003). Once the completed record is released it will then be externally evaluated, verified or rejected by the field (McIntyre, 2009), in this case operatives within the media, other musicians, engineers and producers, through a convoluted and non-linear process. The systems model can therefore be viewed in operation both on alternate scales that relate to the individual, the group and beyond, and at differing times throughout the process of making the record.

| 10 |

CONCLUSION

Building upon empirical studies into creativity inside the recording studio (Fitzgerald, 1996; McIntyre, 2008; 2012) this thesis has challenged Romantic notions of creativity by exploring the idea that creativity is a product of the interaction between three main elements of domain, field and agent (Csikszentmihalyi, 1988; McIntyre, 2012; Kerrigan, 2013). Furthermore, this study has underlined the highly collaborative nature of record production found in previous studies (Fitzgerald, 1996; Zak, 2001) and illustrated some of the processes that involved the contributions of multiple individuals, working together inside the recording studio. Importantly, this study has provided a unique insight into creativity within the context of rock record production by illustrating for the first time how the interaction between the creative system's three main elements can be observed on both an individual and group level during the principal tasks of performing, engineering and producing.

Employing a systems approach to studying creativity has historically been viewed as problematic because it appears to exclude creative ideas or products that do not alter the domain in some way or leave a trace in the cultural matrix. Secondly, the original model only refers to an individual and not a collaborative group. Finally, the apparent grandiose scale of the model presents the issue that it does not apply to the individual's generation of creative ideas and their internal evaluative processes as they undertake creative work inside the recording studio. This is because the interaction between the system's main elements is not immediately evident. A principal aim of this study was therefore to address these issues and find a useful application of the creative system in studying the creative processes inside the recording studio. Using Kerrigan's revised creative system as a framework (Kerrigan, 2013), the creative practices and actions of the participants could be studied by first re-contextualising the generic elements of the creative system to

specifically apply to the context of rock record production. By drawing on the concept of ‘holons’ (Koestler, 1975), or systems within systems, the creative system could then be scaled to an individual level and on a group level inside the recording studio.

Gathering empirical evidence was essential in order to observe the creative system in action and a number of ethnographic methods were used to explore this. Participant-observation was vital in witnessing the entire process and helped to develop a rapport with the participants in order to gain access to their thoughts and ideas that would not have been possible through observation alone. Participating as an engineer on one of the sessions proved useful in gaining a closer perspective on the dynamics between the participants. Field notes were used to record specific moments of conversation and interaction during participation and observation. In addition to field notes, video and sound recording were used to capture a more permanent visual and sonic record of the entire process. Finally, ethnographic interviews were conducted with each of the participants to help substantiate and commentate on their actions, interactions, intentions, thoughts and ideas during the creative process. Responses from these interviews also provided the necessary information to re-contextualise the generic elements of the creative system, the domain and field. Because previous studies inside the recording studio have not employed a systems approach in this way, they have often overlooked the knowledge necessary to creatively interact in the recording studio. Therefore mapping the domain, so it applies to the context of making a rock record inside the recording studio, and identifying the field’s mechanisms and criteria for selection, offers a unique and original perspective on the study of creativity in rock record production.

For ease of analysis, the contextualised domain was divided into three overlapping areas: Musical, Technical, and Cultural. The musical elements of the domain generally related to the components of contemporary western popular song, such as melody, harmony, rhythm and lyrics, and each of the participants demonstrated some understanding of these during collaboration inside the recording studio. The technical elements of the domain typically related to the engineer and engineering practices, and

included knowledge of architectural and instrument acoustics, microphones and their characteristics, and recording accessories such as cables, consoles and outboard equipment. The technical and musical elements of the domain overlap through the knowledge of how particular instruments and pieces of recording equipment combine to produce different timbres or characteristic 'sounds'. Finally, participants demonstrated their cultural knowledge of the domain through the use of different modes of communication, exhibiting an understanding of social context, language devices and terminology necessary to recognise, interpret and translate musical and sonic descriptions into technical action.

The field was also re-contextualised in order to illustrate the field of rock record production, its institutions and its: 'complex network of experts with varying expertise, status, and power' (Sawyer 2006:124). It was argued that personnel within the field of rock record production act as 'cultural intermediaries' (Negus, 1992) in applying their criteria for selection and evaluating the novelty of a rock record. This thesis illustrates that before entering the recording studio the participants had internalised the symbol systems of knowledge, or the domain of record production, and some of this knowledge had been absorbed to such an extent that the participants' application of it was instinctive (Bastick, 1982). Evidence was also presented that the participants inside the recording studio had also internalised the selection criteria of the field of rock record production. This internalised knowledge was deployed throughout the creative process of making a rock record inside the recording studio.

During each of the tasks undertaken, it was shown how the participants inside the recording studio drew from their internalised knowledge of the domain. At the same time they assessed their creative contribution in relation to the selection criteria of the field. This is the criteria applied by the social group that utilises the domain and includes personnel within the recording industry, the media and audiences who perform the function of cultural intermediary (Negus, 1996). During the making of the record, the participants inside the recording studio acted as both members and representatives of the audience and the field in order to judge whether their contribution was creative.

However, this was a complex process that involved the diffusion of agency, and the deployment of various kinds of capital, which were associated with a participant's status, power and influence within the shared structures of rock record production. A particular set of power relationships between the participants is therefore evident in this study, however these are not entirely unique to this particular situation in the recording studio. Decision-making is often always dependent upon who is making the decision and what their status is within the process (McIntyre, 2008). For example, principal songwriter Paul was identified as the leader of the band, however he entrusted the final decisions on the nuances of performances, such as timing and tuning, to record producer Marc. Different types of capital (cultural, symbolic and economic) can therefore all have a bearing on the creative process; however, they don't diminish the fact that creative ideas, actions and practices are the result of a creative system in action.

Using specific examples within each of the principal tasks of performing, engineering and producing, the creative system was observed in operation on an individual level and then on a group level. At the individual level, the participants' domain knowledge and skills contributed to the complex internal processes of ideation and evaluation, which could be seen as interrelated and overlapping in the example of the composition of new musical parts for the song. In these instances, the creative stages of preparation, incubation and illumination appeared as a single creative phase of 'intuition' (Bastick, 1982). The interaction between the domain, field and individual was internal in which the individual drew their knowledge from the musical aspects of the domain in order to invent a creative idea or action. This creative idea or action was then verified against the individual's understanding of the field's criteria for selection. The systems model scaled to the individual level is shown in Figure 21. On a group level, some of these processes were externalised during collaboration when individuals in the group drew their knowledge from the domain, applied it to the immediate context of the record making process, and performed the function of the field, assessing, accepting or rejecting ideas produced by the group. The group could therefore be viewed as operating within a micro system of creativity where the record (or track) is viewed as the microdomain, and the group of individuals inside the recording studio is viewed as

the microfield (Sawyer, 2003). The systems model scaled to the group level is shown in Figure 22.

The scaled systems models begin to demonstrate the complexities of studying creativity in a group context, because of the interactions between each of the participants and the mutual, dynamic interaction of the creative system's elements (agent, field and domain). This study has addressed some of the issues of employing a systems approach to creativity. In doing so, the creative system has been scaled to an individual level and a group level for the first time. Furthermore, this study has addressed some of the previously noted issues with group creativity research, most notably the deficiency in explaining how: 'the production of ideas contributes to creative solutions or innovations *after* the idea generation stage (Rietzschel et al, 2010: 4) and that idea generation can be affected by the environment, previous knowledge, group dynamics and importantly a shared context. The creative ideas of the participants, and then what happened when these ideas were externalised, during collaboration were explored within the framework of the creative system. Employing a system's framework acknowledged the specific relationship between the cultural context of the group's ideas and interactions.

This study also illustrated that shared structures and knowledge existed between the group prior to entering the recording studio and that this knowledge was not only employed in generating creative ideas, but it also helped to guide and facilitate the group's collaboration. These structures were both constraining and enabling. The participants were constrained by the domain, the style of music and the song. However, the domain, the style of music and the song were also enablers of creative action and therefore freedom of choice was considered in relation to the rules, traditions and structures given by the field and the domain in which the participants were operating. Like the three elements of the systems model, agency and structure are therefore also mutually dependent and operate to make creative action inside the recording studio possible.

Presented in this thesis is a particular set of interactions between a unique combination of people inside the recording studio. However, a significant number of these interactions aren't the preserve of these participants or unique to this particular situation. Rather they are representative of recording studio practice more generally and appear in other studies in this area (Bates, 2008; Fitzgerald, 1996; Meintjes 2003; McIntyre, 2008; 2012; Zak, 2001). For example, the opening scenario depicts a decision that all recording situations inherently include, "is this a good take?" Unlike other studies, this thesis has illustrated how one decides if it is a good take or not and that decisions are made, and performances are judged, with specific reference to a related domain and the criteria for selection of a related field. In short, ideas, actions and judgements are the result of a creative system in action, which can be seen to operate on different scales (individual and group), with varying degrees of agency, and within related structures.

This study has illustrated *how* the elements of the creative system interact on both an individual and group level during specific tasks during the record-making process. In applying these scaled models in different scenarios, the composition of the scaled models and the depiction of their interactive elements wouldn't change. However, a re-contextualisation of the creative system's elements and an investigation of the participants' domain knowledge would be necessary. For example, if the models were applied to the context of making a Hip-hop record inside the recording studio, the domain would have to be contextualised to apply to Hip-hop record production to identify the types of musical, technical, cultural and ideological knowledge necessary to make a Hip-hop record. The field would also have to be contextualised to acknowledge the cultural intermediaries of Hip-hop record production and their criteria for selection. The interaction between the creative system's elements could then be explored on both an individual and group level as the participants collaborate creatively inside the recording studio.

The implications for studying creativity from a scaled-systems perspective are wide-ranging and employing a scaled-systems approach to other recording studio scenarios could provide further insight into record production more generally. For instance, a

scaled-systems approach could be used to investigate how the generation of creative ideas differs between experienced and less-experienced engineers, record producers and recording musicians. Particular deficiencies in less-experienced practitioners are more easily highlighted because they can be analysed with specific reference to the elements of the creative system. For example, a more experienced record producer may be able to fulfill the criteria for selection of the field through their creative ideas because they have assimilated its mechanisms during the ideation and evaluation stages over a longer period of time. Conversely, a less-experienced record producer may have less knowledge of the field, and its criteria for selection, and may therefore generate ideas that do not adequately satisfy its criteria for selection.

The findings from this study also have implications for areas of formal education, educators and students. Focusing solely on domain acquisition (that is teaching the knowledge and symbol system of a given area) for example, will not on its own develop the ability to be creative. The selection criteria of the field must also be addressed. Rearranging the symbol system of a given area in a novel way must therefore be encouraged in equal measure to evaluating that contribution with reference to the criteria for selection of the field. Previous studies have shown that creators often unknowingly do this at the ideation stage in order to filter and evaluate their ideas (Sawyer, 2003) but a more overt focus on this process could help individuals generate ideas that involve a clearer interaction between the creative system's components (Thompson & McIntyre, 2013).

Using a scaled-systems approach could also be useful in other areas of music-making that involve collaboration such as performance or composition. For example, a scaled-systems approach could be applied to a team of songwriters as they collaborate during songwriting. Their domain knowledge and understanding of the field's criteria for selection can be explored initially to contextualize these elements of the creative system. The interaction of the creative system's elements can then be viewed in operation on an individual level (as they generate musical ideas for the song) and then on a group level (as they externalise those ideas).

CONCLUSION

Because this approach uses a comprehensive and specific definition of creativity, which is ‘an idea or product that is original, valued and implemented’ (Csikszentmihalyi and Wolfe, 2000: 81), a scaled-systems approach can be implemented beyond the field of music production. This approach can be used across the arts, the sciences and other disciplines in order to determine the ways in which individuals and groups interact with their related domains and fields. For example, using a scaled-systems approach could provide further insight into how teams of scientists collaborate on a cure for a particular disease or how a team of mechanics work together to build an engine.

Finally, a scaled-systems approach could also enable previous studies that have employed a systems perspective (e.g. McIntyre, 2012; Kerrigan, 2013) to gain a deeper understanding of the ways in which the creative system operates on an individual level and a group level during collaboration.

BIBLIOGRAPHY

- Adorno, T. (1941). On Popular Music. *Studies in Philosophy and Social Science, Vol. 9(1)*. pp. 17-48.
- . (1976). *Introduction to the Sociology of Music*. New York: Seabury Press.
- . (1991). *The Culture Industry: Selected Essays on Mass Culture*. London: Routledge.
- . (1992). 'On Popular Music' in Easthope and McGowan (eds.). *A Critical and Cultural Theory Reader*. London: Allen & Unwin.
- Alexander, V. (2003) *Sociology of the Arts: Exploring Fine and Popular Forms*. Malden MA: Blackwell.
- Amabile, T. (1983) *The Social Psychology of Creativity*. New York: Springer-Verlag.
- . (1996). *Creativity in Context*. Boulder, Colorado: Westview Press.
- Ancona, D., & Caldwell, D. F. (1992). Demography and Design: Predictors of New Product Team Performance. *Organization Science, Vol. 3*, pp. 321-341.
- Auslander, P. (1999). *Liveness: Performance in Mediatized Culture*. London: Routledge.
- Azerrad, M. (2001) *Our Band Could be Your Life – Scenes from the American Indie Underground, 1981-1991*. New York: Back Bay.
- Back, L. (2007) *The Art of Listening*. Oxford: Berg.
- Bahktin, M. (1981). 'The Dialogic Imagination: Four Essays' in M. Holquist (ed.), C. Emerson & M. Holquist (trans.). Austin, TX: University of Texas Press.
- Bailin, S. (1988) *Achieving Extraordinary Ends: An Essay on Creativity*. Dordrecht: Kluwer Academic Publishers.
- Bantel, K. A., & Jackson, S. E. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal, Vol. 10*, pp107-124.
- Barfield, R. (2011). *The Ancient Quarrel between Philosophy and Poetry*. Cambridge: Cambridge University Press.
- Barnard, S. (1989). *On the Radio in Britain*. Milton Keynes: Open University Press.
- . (2000). *Studying Radio*. London: Edward Arnold.

- Barthes, R. (1977). 'The Death of the Author' in *Image – Music – Text*. Stephen Heath (ed. and trans.), pp. 142-153. New York: Hill and Wang.
- Bartlett, B., & Bartlett, J. (2010). *Practical Recording Techniques: The Step by Step Approach to Professional Audio Recording*. 3rd Edition. Oxford: Focal Press.
- Barron, F., & Harrington, D. M. (1981). Creativity, intelligence and personality. *Annual Review of Psychology*, 32, pp.439-476.
- Bastick, T. (1982). *Intuition: How We Think and Act*. Chichester, UK: John Wiley and Sons.
- Bates, E. (2008). 'Social Interactions, Musical Arrangement, and the Production of Digital Audio in İstanbul Recording Studios'. Ph. D. Dissertation, University of California, Berkeley (Unpublished).
- Bayley, A. (ed.). (2010). *Recorded Music: Performance, Culture and Technology*. Cambridge: Cambridge University Press.
- . (2013). 'Discourses in the Recording Studio'. Available from: <http://artofrecordproduction.com/index.php/arp-conferences/online-pits-conference/26-performance-in-the-studio/pits-conference/151-amanda-bayley> [last accessed February, 2015]
- Bayton, M. (1990). 'How women become musicians' in *On Record: Rock, Pop and the Written Word*. S. Frith & A. Goodwin (eds.), pp. 201-219. London: Routledge.
- . (1997) 'Women and the electric guitar', in S. Whiteley (ed.), *Sexing the Groove: Popular Music and Gender*, pp. 37-49. London: Routledge.
- Becker, H. S. (1974). Art as Collective Action. *American Sociological Review*, Vol. 39 (6), pp. 767-776.
- . (1982). *Art Worlds*. Los Angeles, CA: University of California Press.
- . (1997). 'The Culture of a Deviant Group: The "jazz" Musician' in *The Subcultures Reader*. Gelder, K., & Thornton, S. (eds.). London: Routledge
- Belz, C. (1969). *The Story of Rock*. New York: Oxford University Press.
- Berg, B. L. (1989). *Qualitative Research Methods for the Social Sciences*. Needham Heights, MS: Allyn and Bacon.

- Berger, A. A. (1995). *The Essentials of Mass Communication Theory*. Thousand Oaks CA: Sage.
- Blier-Carruthers, A. (2013). 'The Performer's Place in the Process and Product of Recording'. Presented at the CMPCP Performance Studies Network International Conference, University of Cambridge, April 6, 2013.
- Boden, M. (2004). *The Creative Mind: Myths and Mechanisms*. 2nd edition. London: Routledge.
- Born, G. (2005). On Musical Mediation: Ontology, Technology & Creativity. *20th Century Music, Vol. 2(1)*, pp. 7-36.
- Boorstin, D. J. (1992). *The Creators: A History of Heroes of the Imagination*. New York: Vintage Books.
- Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge, UK: Cambridge University Press.
- . (1990). *The Logic of Practice*. Cambridge UK: Polity Press.
- . (1993) 'Field of Cultural Production' in R. Johnson (ed.). New York: Columbia University Press.
- . (1996) *The Rules of Art: Genesis and Structure of the Literary Field*. Cambridge, UK: Polity Press.
- Bransford, J. D., & Stein, B. S. (1984). *The IDEAL problem solver*. 2nd edition. New York: W.H. Freeman and Company.
- Brown, P (2010). *Are We Still Rolling? Studios, Drugs and Rock 'n' Roll - One Man's Journey Recording Classic Albums*. London: Tape Op Books
- Buchanan, D., Boddy, D., & McCalman, J. (1988). 'Getting In, Getting On, Getting Out and Getting Back' in A. Bryman (ed.), *Doing Research in Organisations*, pp. 53-67. London: Routledge.
- Bull, M. (2000). *Sounding Out the City: Personal Stereos and the Management of Everyday Life*. Oxford: Berg.
- Bull, M. & Back, L. (eds). (2004). *The Auditory Culture Reader*, Oxford: Berg.
- Burgess, R. (1997). *The Art of Record Production*. London: Omnibus Press.
- . (2013). *The Art of Music Production: The theory and Practice*. Oxford: Oxford University Press.

- Canby, E. T. (1956). The Sound-Man Artist. *Audio, June*, pp. 44-61.
- Cassell, P. (1993). *The Giddens Reader*. London: MacMillan Press.
- Carter, D. (2005). Well Past Time: Notes on a Musicology of Audio Recording Production presented at the 1st 'Art of Record Production' conference, University of West London, 17th-18th September, 2005.
- Cartwright, D. & Zander, A. (eds.). (1989). *Group Dynamics*. New York: Harper & Row.
- Chambers, I. (1985). *Urban Rhythms: Pop Music and Popular Culture*. London: Macmillan.
- . (1986). *Popular Culture: The Metropolitan Experience*, London: Methuen.
- Clifford, J., & Marcus, G.E. (1986). *Writing Culture: The Poetics and Politics of Ethnography*, Berkeley: University of California Press.
- Coffey, A. (1999). *The Ethnographic Self, Fieldwork and the Representation of Identity*. London: Sage Publications.
- Cohen, S. (1991) *Rock Culture in Liverpool: Popular Music in the Making*. Oxford: Clarendon Press.
- . (1993). Ethnography and Popular Music Studies. *Popular Music Vol. 12(2)*, pp. 123-138.
- Collingwood, R. (1963). *The Principles of Art*. Oxford: Clarendon Press.
- Collins, M. A., & Amabile, T. M. (1999). 'Motivation and creativity' in R. J. Sternberg (ed.), *Handbook of creativity*, pp. 297–312. Cambridge, UK: Cambridge University Press.
- Costa, P. T., & McCrae, R. R. (1992). 'Revised NEO personality inventory (NEO-PI R) and NEO five-factor inventory (NEO-FFI) professional manual'. Odessa, FL: Psychological Assessment Resources.
- Crissell, A. (2002). *Understanding Radio*. 3rd edition. London: Routledge.
- Csikszentmihalyi, M. (1988). 'Society, Culture and Person: A Systems View of Creativity', in R. J. Sternberg (ed.), *The Nature of Creativity: Contemporary Psychological Perspectives*, pp. 325-29. New York: Cambridge University Press.

- . (1997). *Creativity: Flow and the Psychology of Discovery and Invention*. New York: Harper Collins.
- . (1997b). *Finding Flow: The Psychology of Engagement with Everyday Life*. New York: BasicBooks.
- . (1999). 'Implications of a Systems Perspective for the Study of Creativity', in R. J. Sternberg (ed.) *Handbook of Creativity*, pp. 313-335. Cambridge: Cambridge University Press.
- Csikszentmihalyi, M. & Wolfe, R. (2000). 'New Conceptions and Research Approaches to Creativity: Implications for a Systems Perspective of Creativity in Education', in K. A. Heller, et al. (eds.), *International Handbook of Giftedness and Talent*. 2nd edition, pp. 81-93. Oxford: Elsevier.
- Dacey, J. & Lennon, K. (1998). *Understanding Creativity: The Interplay of Biological, Psychological, and Social Factors*. San Francisco, CA: Jossey Bass.
- Davidson, J. W., & Good, J. M. M. (2002). Social and musical co-ordination between members of a string quartet: an exploratory study. *Psychology of Music*, 30, pp.186-201.
- Davidson, J. W. (2004). 'Music as Social Behaviour' in *Empirical Musicology: Aims, Methods, Prospects*, Clarke, E., & Cook, N. (eds.), pp. 57-75. Oxford: Oxford University Press.
- Davis, R. (2008). Creative Ownership and the Case of the Sonic Signature or, 'I'm listening to this record and wondering whodunit?' *Proceedings of the 2008 Art of Record Production Conference*, University of Massachusetts, Lowell, USA, November 14-16, 2008. Available at: <http://arpjournal.com/creative-ownership-and-the-case-of-the-sonic-signature-or-%E2%80%98i%E2%80%99m-listening-to-this-record-and-wondering-whodunit%E2%80%99/> [Last accessed February, 2015].
- Donelan, J. H. (2008). *Poetry and the Romantic Musical Aesthetic*. Cambridge: Cambridge University Press.
- Dumont, J. P. (1978). *Under the Rainbow: Nature and Supernature among the Panare Indians*. Austin, TX: University of Texas Press.

- Eisenberg, E. (2005) *The Recording Angel*. London: Picador.
- Ellingson, L. (2009). *Engaging Crystallization in Qualitative Research: An Introduction*. Thousand Oaks, CA: Sage Publications.
- Emerick, G. (1983). 'Recording Techniques' in G. Martin (ed.), *Making Music: The Guide to Writing, Performing, and Recording*, pp. 256-265. London: Pan Books.
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing Ethnographic Fieldnotes*. Chicago: University of Chicago Press.
- Erickson, F. (1982). Audiovisual records as a primary data source. *Sociological Methods and Research*, *Vo. 11(2)*, pp. 213-232.
- . (1992). Ethnographic microanalysis of interaction. In M. D. LeCompte, W. L. Milroy & J. Preissle (eds.), *The handbook of qualitative research in education*, pp. 201-225. New York: Academic Press.
- Farra, F., & Parker, P. (1986). *How to Open Doors in the Music Industry: The Independent Way*. London: Starfield Press.
- Feist, G. J. (1998). A Meta-analysis of Personality in Scientific and Artistic Creativity. *Personality and Social Psychology Review*, *Vol. 2(4)*, pp. 290-309.
- Feld, S. (1994). 'From Schizophrenia to Schitzmogenesis: On the discourses and Commodification Practices of 'World Music' and 'World Beat'' in *Music Grooves*. C. Keil & S. Feld (eds.). Chicago: Chicago University Press.
- Feldman, D., Csikszentmihalyi, M. & Gardner, H. (1994). *Changing the World: a framework for the study of creativity*. Westport Conn: Praeger.
- Fetterman, D. M. (1998). *Ethnography: Step by step* (2nd ed.). Thousand Oaks, CA: Sage.
- . (2010). *Ethnography: Step by step*. 3rd edition. Thousand Oaks, CA: Sage.
- Fink, M. (1989). *Inside the Music Business. Music in Contemporary Life*. New York: Schirmer/Macmillan.
- Finnegan, R. (1989) *The Hidden Musicians. Music-Making in an English Town*. Cambridge: Cambridge University Press.

- Fitzgerald, J. (1996). Down Into the Fire: a case study of a popular music recording session. *Perfect Beat: the Pacific journal of research into contemporary music and popular culture*. Vol. 5 (3), pp. 63-77.
- Fonarow, W. (2006). *Empire of Dirt: The Aesthetics and Rituals of British Indie Music*. Middletown, CT: Wesleyan University Press.
- Foucault, M. (1979). *Discipline and Punish: The Birth of the Prison*. New York: Vintage Books.
- . (1980). *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977*. C. Gordon (ed.). Brighton. Harvester Press.
- Fox, R. C. (2004). Observations and Reflections of a Perpetual Fieldworker. *The ANNALS of the American Academy of Political and Social Science* 595(1), pp. 309-326.
- Frith, S. (1983). *Sound Effects: Youth, Leisure and the Politics of Rock 'n' Roll*. 2nd edition. London: Constable Press.
- . (1987). 'Towards an Aesthetic of Popular Music', in R. Leppert & S. McClary (eds.), *Music and Society*, pp. 133-149. Cambridge: Cambridge University Press.
- . (1988). *Music for Pleasure: Essays in the Sociology of Pop*. Cambridge: Polity.
- . (1996). *Performing Rites: On the Value of Popular Music*. Cambridge, MA: Harvard University Press.
- Furnham, A. (2008). *Personality and Intelligence at Work*. London: Routledge
- Galton, F. (1869/1950). *Hereditary Genius: An Inquiry Into Its Laws and Consequences*. 2nd edition. London: Watts and Co..
- Geertz, C. (1973). 'Thick description: toward an interpretive theory of culture', in C. Geertz (ed.), *The Interpretation of Cultures*, pp. 3-32. New York: Basic Books.
- Geertz, C. (1988). *Works and Lives: The Anthropologist as Author*. Stanford, California, USA: Stanford University Press.
- Gordon, W. J. J. (1961). *Synetics: The Development of Creative Capacity*. New York: Harper & Row Publishers.

- Gibson, D. (2005). *The Art of Mixing: A Visual Guide to Recording, Engineering and Production*. 2nd Edition. Boston, MA: Artist Pro Publishing.
- Gibson, C., & O'Connell, J. (2005). *Music and Tourism: On the road again*. Clevedon: Channel View Publications.
- Giddens, A. (1979). *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis*. London: MacMillan Press.
- Gillet, C. (1970). *The Sound of the City: The Rise of Rock and Roll*. New York: Souvenir Press.
- Glăveanu, V. P. (2010). Principles for a cultural psychology of creativity. *Culture and Psychology, Vol. 16 (2)*, pp147-163.
- Goffman, E. (1989). On Fieldwork. *Journal of Contemporary Ethnography, Vol. 18*, pp123-132.
- Gracyk, T. (1996) *Rhythm and Noise an Aesthetic of Rock*. London: I.B.Tauris.
- . (2007) *Listening to Popular Music*. USA, University of Michigan.
- Granata, C. L. (1999). *Sessions with Sinatra: Frank Sinatra and the Art of Recording*. Chicago: A Cappella Books.
- Green, L. (2002). *How Popular Musicians Learn: A Way Ahead for Music Education*. Burlington VT: Ashgate.
- . (2008). *Music, informal learning and the school: A new classroom pedagogy*. Surrey, U.K: Ashgate.
- Greene, P. D. & Porcello, T. (eds.) (2005). *Wired for Sound: Engineering and Technology in Sonic Cultures*. Middletown, CT: Wesleyan University Press.
- Greig, D. (2009). 'Performing for (and Against) the Microphone' in N. Cook, E. Clarke, D. Leech Wilkinson, J. Rink (eds), *The Cambridge Companion to Recorded Music*, pp.16-29. Cambridge: Cambridge University Press.
- Grimshaw, A. D. (1982). Sound-image Data Records for Research on Social Interaction: Some Questions and Answers. *Sociological Methods and Research, Vol. 11(2)*, pp.121-144.
- Gruber, H.E. (1988). The Evolving System Approach to Creative Work. *Creativity Research Journal, Vol. 1*, pp. 27-51.
- Hall, S., & Whannel, P. (1964). *The Popular Arts*. London: Hutchinson.

- Hambrick, D. C., Cho, T. S., & Chen, M. (1996). 'The Influence of Top Management Team Heterogeneity on Firms' Competitive Moves'. *Administrative Science Quarterly*, Vol. 41(4), pp. 659-684.
- Hammersley, M. (1992). What's Wrong With Ethnography? – Methodological Explorations. London: Routledge.
- Hammersley, M., & Atkinson, P. (1997). *Ethnography: Principles in Practice*. 2nd edition. London: Routledge.
- Haralambos, M. & Holbern, M. (1995). *Sociology: Themes and Perspectives*. 4th edition. London: Collins.
- Hargadon, A. B., and B. A. Bechky (2006). When collections of creative become creative collectives: A field study of problem solving at work. *Organization Science*, Vol. 17, pp. 484–500.
- Hatschek, K. (2005). *The Golden moment: Recording Secrets from the Pros*. San Francisco, CA: Backbeat books.
- Hebdige, D. (1979). *Subculture: The Meaning of Style*. London: Methuen.
- Hennessey, B.A. (2003). The social psychology of creativity. *Scandinavian Journal of Educational Psychology*, Vol. 47, pp. 253-271.
- Hennessey, B. A., & Amabile, T. (2010). 'Creativity', *Annual Review of Psychology*, No. 61, pp. 569–598.
- Hennion, A. (1981). *Les professionnels du disque*. Paris: A.-M. Métailié
- . (1989). An Intermediary between Production and Consumption: The Producer of Popular Music. *Science, Technology, & Human Values*, Vol. 14(4), pp. 400-424.
- . (1990). 'The Production of Success: An Anti-Musicology of the Pop Song' in S. Frith & A. Goodwin (eds.), *On Record: Rock, Pop and the Written Word*, pp. 185-206. London: Routledge.
- . (2005). The Pragmatics of Taste in M. Jacobs & N. Hanrahan (eds.), *The Blackwell Companion to the Sociology of Culture*, pp.131-144. Oxford: Blackwell.
- Hesmondhalgh, D., & Negus, K. (eds.) (2002). *Popular Music Studies*. London: Arnold.

- Hewitt, T. W. (2006). *Understanding and shaping curriculum: What we teach and why*. Thousand Oaks, CA: Sage.
- Higgins, A. (2007). 'Code talk' in soft work. *Ethnography, Vol. 8(4)*, pp. 467–484.
- Hinsz, V., Tindale, R., & Vollrath, D. (1997). The Emerging Conceptualization of Groups as Information Processors. *Psychological Bulletin, Vol. 121*, pp43-64.
- Hodgson, J. (2010). *Understanding Records: A Field guide to Recording Practice*. London: Continuum International Publishing.
- Horning, S., S. (2004). 'Engineering the Performance: Recording Engineers, Knowledge and the Art of Controlling Sound. *Social Studies of Science, Vol. 34(5)*, pp. 703–773.
- Howlett, M. (2009). 'Personal Takes: Producing a Credible Voice', in N. Cook, E. Clarke, D. Leech-Wilkinson & J. Rink (eds.), *The Cambridge Companion to Recorded Music*, pp.30-31. Cambridge: Cambridge University Press,
- . (2012). The Record Producer As Nexus. *Journal on the Art of Record Production*. Issue 6, June, 2012. Available from: <http://arpjournal.com/the-record-producer-as-nexus/> [Last accessed February, 2015]
- Hunt, M. (1985). *Profiles of Social Research: The Scientific Study of Human Interactions*. New York: Russell Sage Foundation.
- Isaksen, S. G., Dorval, K. B., & Treffinger, D. J. (2000). *Creative Approaches to Problem Solving: A Framework for Change*. Buffalo, NY: Creative Problem Solving Group.
- Jensen, C., & Lauritsen, P. (2005). Qualitative Research as Partial Connection: Bypassing the Power Knowledge Nexus. *Qualitative Research, Vol. 5(1)*, pp. 59–77.
- Jones, M. L. (2012). *The Music Industries: From Conception to Consumption*. London: Palgrave Macmillan.
- Jordan, B., & Henderson, A. (1995). Interaction Analysis: Foundations and Practice. *The Journal of the Learning Sciences, Vol. 4(1)*, pp. 39-103.
- Katz, B. (2002). *Mastering Audio: The Art and the Science*. London: Taylor and Francis.

- Katz, M. (2004). *Capturing Sound: How Technology Has Changed Music*. Berkeley, CA: University of California Press.
- Kaufman, J. & Sternberg, R. J. (2010). *The Cambridge Handbook of Creativity*. Cambridge: Cambridge University Press.
- Kealy, E. R. (1979). From Craft to Art The Case of Sound Mixers and Popular Music. *Work and Occupations Vol. 6(1)*, pp. 3-29.
- . (1982). Conventions and the Production of the Popular Music Aesthetic'. *Journal of Popular Culture Vol. 16(2)*, pp. 100–115.
- . (1990). 'From Craft to Art The Case of Sound Mixers and Popular Music' in S. Frith & A. Goodwin (eds.), pp. 207-220. London: Routledge.
- Keck, S. L. (1997). Top Management Team Structure: Differential Effects by Environmental Context. *Organization Science, Vol. 8(2)*, pp. 143-156.
- Kelley, S. (2001). Demonstrative concepts and experience. *Philosophical Review, Vol. 110*, pp.397-420.
- Kerrigan, S., & McIntyre, P. (2010). 'The Creative Treatment of Actuality': Rationalising and Reconceptualising the Notion of Creativity for Documentary Practice', *Journal of Media Practice, Vol. 11(2)*, pp. 111-130.
- Kerrigan, S. (2013). Accommodating Creative Documentary Practice Within a Revised Systems Model of Creativity. *Journal of Media Practice, Vol. 14(2)*, pp. 111–127.
- Kharkhurin, A. (2014). Creativity.4in1: Four-Criterion Construct of Creativity. *Creativity Research Journal, Vol. 26(3)*, pp.338-352.
- Knight, D., Pearce, C.L., Smith, K.G., Olian, J.D., Sims, H.P., Smith, K.A. & Flood, P. (1999). Top Management Diversity, Group Process and Strategic Consensus. *Strategic Management Journal, Vol. 20 (5)*, pp. 445–465.
- Koestler, A. (1964). *The Act of Creation*. New York: Dell.
- . (1975). *The Act of Creation*. 2nd edition. New York: Dell.
- Kozlowski, S. W. J., & Bell, B. S. (2013). Work Groups and Teams in Organisations. In N. W. Schmitt, S. Highhouse and I. Weiner (eds.), *Handbook of Psychology: Vol. 12, 'Industrial and Organisational Psychology'*. 2nd edition, pp. 412-469. Hoboken, NJ: Wiley.

- Kurtzberg, T. R. (2005). Feeling Creative, Being Creative: An Empirical Study of Diversity and Creativity in Teams. *Creativity Research Journal*, Vol. 17, pp. 51- 65.
- Larson, R. (1988). 'Optimal Experience: Psychological Studies of Flow' in Consciousness. M.Csikszentmihalyi and I. Csikszentmihaly (eds.), Cambridge: Cambridge University Press.
- LeCompte, M. D., & Goetz, J. P. (1982). Problems of Reliability and Validity in Ethnographic Research. *Review of Educational Research*, Vol. 52(1), pp. 31 60.
- Levitin, D. (2006). This Is Your Brain On Music. London: Atlantic Books.
- Lewis, L. A. (ed.). (1992). The Adoring Audience: Fan Culture and the Popular Media. London: Routledge.
- Leyshon, A. (2001). Time-Space (and Digital) Compression: Software Formats, and the Music Industry. *Wired Magazine*, Vol. 11(10), pp. 124-137.
- Loizos, P. (1980). Granada Television's Disappearing World Series: An Appraisal. *American Anthropologist*, Vol. 82, pp. 573-94.
- Lofland, J., & Lofland, L. (1984). Analyzing Social Settings. 2nd Edition. Belmont, CA: Wadsworth.
- Long Lingo, E., and O'Mahony, S. (2010). Nexus Work: Brokerage on Creative Projects. *Administrative Science Quarterly*, Vol.5, pp. 47-81.
- Lull, J. (1987). Popular Music and Communication. Newbury Park, CA: Sage.
- Macy, A., Hutchinson, T., & Allen, P. (2010). Record Label Marketing. 2nd Edition. Oxford: Focal Press.
- Malinowski, (1978/1922). Argonauts of the Western Pacific: An account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea. London: Routledge.
- Massey, H. (2000). Behind the Glass: Top Record Producers Tell How They Craft the Hits. San Francisco, CA: Backbeat Books.
- McIntyre, P. (2004). Creativity and Cultural Production: A Study of Contemporary Western Popular Music Songwriting. Ph. D. Dissertation, Macquarie University, Sydney (Unpublished).

- . (2006). Paul McCartney and the creation of 'Yesterday': the systems model in operation. *Popular Music*, Vol. 25(2), pp. 201-219.
- . (2008a) The systems model of creativity: Analyzing the distribution of power in the studio. *Journal on the Art of Record Production*, Issue 3, November 2008. Available from:
<http://arpjournal.com/686/the-systems-model-of-creativity-analyzing-the-distribution-of-power-in-the-studio/> [Last accessed February 2015].
- . (2008b). Creativity and cultural production: A Study of Contemporary Western Popular Music Songwriting. *Creativity Research Journal*, Vol. 20, pp. 40-52.
- McIntyre, P. & Paton, B. (2008) The Mastering Process and The Systems Model of Creativity. *Perfect Beat: The Pacific Journal of Research into Contemporary Music and Popular Culture*, Vol. 8(4), pp. 64-81.
- McIntyre, P. (2009). 'Rethinking Communication, Creativity and Cultural Production: Outlining Issues for Media Practice', in T. Flew (ed.) *Communication, Creativity and Global Citizenship: Refereed Proceedings of the Australian and New Zealand Communications Association Annual Conference*, Brisbane, July 8-10, available from:
www.proceedings.anzca09.org [Last accessed February, 2015].
- . (2011). Rethinking the Creative Process: The Systems Model of Creativity Applied to Popular Songwriting. *Journal of Music, Technology and Education*, Vol. 4(1), pp. 77-90.
- . (2012a). *Creativity and Cultural Production: Issues for Media Practice*. Basingstoke, UK: Palgrave MacMillan.
- . (2012b). 'Rethinking Creativity: Record Production and the Systems Model' in S. Frith & S. Zargorski Thomas (eds.), *The Art of Record Production*, pp. 149-161. London: Ashgate.
- . (2013). 'Creativity as A System in Action' in Thomas, K. & Chan, J. (Eds.), *Handbook of Research on Creativity*, pp. 84-97. Cheltenham UK: Edward Elgar.

- MacKinnon, D. W. (1962/1978). What makes a person creative? In D. W. Mackinnon (ed.), *In search of human effectiveness*, pp.178-186). New York: Universe Books. (Originally published in *Saturday Review*, Feb. 10, 1962, pp. 15-17, 69).
- Meintjes, L. (2003). *Sound of Africa!: Making Music Zulu in a South African Studio*. Durham, NC: Duke University Press.
- . (2004). 'Reaching Overseas: South African Sound Engineers, Technology and Tradition' in P. Greene and T. Porcello (eds.), *Wired for Sound: Engineering and Technologies in Sonic Cultures*, pp. 23-48. Middletown: Wesleyan University Press.
- Mixerman. (2009). *Zen and the Art of Mixing*. Milwaukee, WI: Hal Leonard Books.
- Monahan, T., & Fisher, J. A. (2010). Benefits of 'observer effects': lessons from the field. *Qualitative Research, Vol. 10 (3)*, pp. 357-376.
- Moore, A. F. (1993). *Rock: the Primary Text*. Buckingham, UK: Open University Press.
- Moore, A. F., & Dockwray, R. (2010a). The Establishment of the Virtual Performance Space in Rock. *Twentieth-century music, Vol. 5(2)*, pp. 219–241.
- . (2010b). Configuring the Sound-box 1965-1972. *Popular Music, Vol. 29(2)*, pp. 181-197.
- Moorefield, V. (2005). *The Producer as Composer: Shaping the Sounds of Popular Music*. London: MIT Press.
- Morton, D. (2000). *Off the Record*. New Brunswick, NJ: Rutgers University Press.
- Music Producer's Guild. (2015). 'Awards Categories'. [ONLINE] Available at: <https://www.mpg.org.uk/mpg-awards/awards-categories/>. [Last accessed February 2015].
- Negus, K. (1992). *Producing Pop: Culture and Conflict in the Popular Music Industry*. London: Edward Arnold.
- . (1996). *Popular Music in Theory*. Cambridge: Polity Press.
- . (1999). *Music Genres and Corporate Cultures*. London and New York: Routledge.

- . (2002). The Work of Cultural Intermediaries and the Enduring Distance between Production and Consumption. *Cultural Studies, Vol. 16, No. 4*, pp. 501-515.
- Negus, K., & Pickering, M. (2002). 'Creativity, Communication and Musical Experience' in Negus, K., & Hesmondhalgh, D. (eds.). *Popular Music Studies*. London: Arnold, pp. 178-190.
- . (2004a). *Creativity, Communication and Cultural Value*. London: Sage.
- Neuenfeldt, K. (2004). 'An Australian case study of producing "world music" recordings', in P Greene and T Porcello (eds), *Wired for Sound: Engineering and Technologies in Sonic Cultures*, pp. 84–102. Hanover NH: Wesleyan Press.
- Nijstad, B. A., & Stroebe, W. (2006). How the Group Affects the Mind: A Cognitive Model of Idea Generation in Groups. *Personal and Social Psychological Review, Vol. 10(3)*, pp. 186-213.
- Osborne, J. (2012). *Radio Head: Up and Down the Dial of British Radio*. 2nd Edition. London: Simon and Schuster UK Ltd.
- Passmore, J. (1991) *Serious Art: A Study of the Concept in all the Major Arts*. London: Duckworth.
- Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage.
- Paulus, P. B. (2000). Groups, teams and creativity: The creative potential of idea generating groups. *Applied Psychology: An International Review, Vol. 49*, pp.237-262.
- Paulus, P.B., & Brown, V. (2003). 'Ideational creativity in groups: Lessons from Research on Brainstorming' in P.B. Paulus & B.A. Nijstad (eds.), *Group Creativity: Innovation through Collaboration*, pp. 110-136. New York: Oxford University Press.
- Paulus, P. & Nijstad, B. (2003). 'Group creativity: An introduction' in P. Paulus & B. Nijstad (eds.), *Group creativity: Innovation through Collaboration*, pp. 3-11. New York: Oxford University Press.

- Pelled, L. H., Eisenhardt, K. M., Xin, K. R. (1999). Exploring the Black Box: An Analysis of Work Group Diversity, Conflict, and Performance. *Administrative Science Quarterly*, Vol. 44, pp.1-28.
- Petrie, D. (1991). Creativity and Constraint in the British Film Industry. London: MacMillan.
- Pope, R. (2005) Creativity: Theory, History, Practice. New York: Routledge.
- Porcello, T. (2004) 'Speaking of Sound: Language and the Professionalization of Sound Recording Engineers'. *Social Studies of Science*, Vol. 34, pp. 733–758.
- . (2005) 'Music Mediated as Live in Austin: Sound, Technology and Recording Practice' in P. D. Greene & T. Porcello (eds.), *Wired for Sound: Engineering and Technologies in Sonic Cultures*, pp. 103-117. Westport, CT: Wesleyan University Press.
- Priest, S. H. (1996). *Doing Media Research: An Introduction*. Thousand Oaks, CA: Sage.
- Punch, K. F. (1998). *Introduction to Social Research: Quantitative and Qualitative Approaches*. London: Sage.
- Ray, R. B. (1992) 'Tracking' in A. DeCurtis (ed.), *Present Tense: Rock & Roll Culture*, pp. 135-148. London: Duke University Press.
- Rice, T. (1997). 'Toward a Mediation of Field Methods and Field Experience in Ethnomusicology' in G. F. Barz & T. J. Cooley (eds.), *Shadows in the field: New perspectives for fieldwork in ethnomusicology*, pp. 101-120. New York: Oxford University Press.
- Richardson, L. (2000). 'Writing: A method of Inquiry' in N. K. Denzin & Y. S. Lincoln (eds.), *Handbook of Qualitative Research*, 2nd edition, pp. 923-943. Thousand Oaks, CA: Sage.
- Rietzschel, E. F., Nijstad, B., & Stroebe, W. (2010). The Selection of Creative Ideas after Individual Idea Generation: Choosing Between Creativity and Impact. *British Journal of Psychology*, Vol. 101, pp.47-68.
- Robinson, D. C., Buck, E., & Cuthbert, M. (1991). *Music at the Margins*. London: Sage.

- Rossmann, G. B., & Rallis, S. F. (2003). *Learning in the field: An introduction to Qualitative Research*, 2nd edition. Thousand Oaks, CA: Sage.
- Rothenbuhler, E. (1987). 'Commercial Radio and Popular Music: Processes of Selection and Factors of Influence' in Lull, J. (ed.), *Popular Music and Communication*, pp. 78-95. Newbury Park, CA: Sage.
- Rothenberg, A., & Hausman, C. (eds.). (1976). *The Creativity Question*. Durham, N.C: Duke University Press.
- Ruiz, A. G. (2013). 'The Concept of the Present and Historical Experience' in F. Thomas Burke & Krzysztof Skowronski (eds.), *George Herbert Mead in the Twenty-First Century*, pp. 37-50. Plymouth, UK: Lexington Books.
- Runco, M. A. (1991). *Divergent Thinking*. Norwood, NJ: Ablex.
- Runco, M. A., & Okuda, S. M. (1991). The Instructional Enhancement of the Flexibility and Original Scores of Divergent Thinking Tests. *Applied Cognitive Psychology*, Vol. 5, pp. 435-441.
- Runco, M. A. (1993) 'Giftedness as Critical Creative Thought' in N. Colangelo, S. Assouline, & D. L. Ambrosio (eds.), *Talent Development: Proceedings from the 1993 Henry B. and Jocelyn Wallace National Research Symposium on Talent Development*, Vol. 2, pp. 239-249. Dayton, OH: Ohio Psychology Press.
- . (1994). *Problem Finding, Problem Solving, and Creativity*. Norwood, NJ: Ablex.
- Runco, M. A., & Pritzker, S. (1999). *Encyclopedia of Creativity*. San Diego, USA: Academic Press.
- Runco, M. & Albert R. (2010) 'Creativity Research: A Historical View' in Kaufman, J. & Sternberg, R. (eds.), *The Cambridge Handbook of Creativity*, pp. 3-19. Cambridge: Cambridge University Press.
- Runco, M., & Jaeger, G. (2012). The Standard Definition of Creativity. *Creativity Research Journal*, Vol. 24(1), pp. 92-96.
- Sanjek, R. (1990a) 'A Vocabulary for Fieldnotes', in R. Sanjek (ed.) *Fieldnotes: The Makings of Anthropology*, pp. 92-121. Ithaca, NY: Cornell University Press.

- . (1990b) 'Fire, Loss, and the Sorcerer's Apprentice', in R. Sanjek (ed.), *Fieldnotes: The Makings of Anthropology*, pp. 34–44. Ithaca, NY: Cornell University Press.
- Sarmiento, J. W., & Stahl, G. (2008). Group Creativity in Interaction: Collaborative Referencing, Remembering, and Bridging. *International Journal of Human Computer Interaction*, Vol. 24(5), pp. 492–504.
- Sawyer, K. (ed.) (1997). *Creativity in Performance*. Greenwich, CT: Ablex.
- . (2000). Improvisational Cultures: Collaborative Emergence and Creativity in Improvisation. *Mind, Culture and Activity*, Vol. 7(3), pp.180–185.
- . (2003a). *Improvised Dialogues: Emergence and Creativity in Conversation*. Westport, CT: Ablex Publishing.
- . (2003b) *Group Creativity: Music, Theater, Collaboration*. Oxon: Routledge.
- . (2006a) *Explaining Creativity: The Science of Human Innovation*. Oxford: Oxford University Press.
- . (2006b). *Group Creativity: Musical Performance and Collaboration*. *Psychology of Music*, Vol. 34 (2), pp.148-165.
- Sawyer, K., & DeZutter, S. (2009). Distributed Creativity: How Collective Creations Emerge From Collaboration. *Psychology of Aesthetics, Creativity, and the Arts*, Vol. 3 (2), pp.81–92.
- Sawyer, K. (2010). 'Individual and Group Creativity' in James Kaufman & Robert Sternberg (eds.), *The Cambridge Handbook of Creativity*, pp. 366-380. Cambridge: Cambridge University Press.
- . (2012) *Explaining Creativity: The Science of Human Innovation*. 2nd edition. Oxford: Oxford University Press.
- Schatzman, L., & Strauss, A. L. (1973). *Field research*. Englewood Cliffs, N.J.: Prentice-Hall, Inc.
- Schon, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.
- Scott, A. J. (1999). The US Recorded Music Industry: On the Relations Between Organisation, Location, and Creativity in the Cultural Economy. *Environment and Planning*, Vol. 31(11), pp. 1965-1984.

- Scott G., Leritz L. E., Mumford M. D. (2004). The Effectiveness of Creativity Training: A Quantitative Review. *Creativity Research Journal*, Vol. 16, pp. 361–388.
- Scruton, R. (1998). *An Intelligent Person's Guide to Philosophy*. London: Duckworth.
- Seidman, S. (1994). *Contested Knowledge: Social Theory in the Postmodern Era*. Oxford: Blackwell.
- Shrum, W., Duque, R., and Ynalvez, M. (2007). Lessons of the Lower Ninth: Methodology and Epistemology of Video Ethnography. *Technology in Society*, Vol. 29, pp. 215-255.
- Shuker, R. (1994). *Understanding Popular Music*. London: Routledge.
- . (2006). *Understanding Popular Music Culture*. 2nd edition. London: Routledge.
- . (2008). *Understanding Popular Music Culture*. 3rd edition. London: Routledge.
- Signature Sound, (2010). 'Proper Studio Etiquette' [ONLINE]. Available from: <http://signaturesound.com/proper-studio-etiquette/> [Last accessed February, 2015]
- Silverstein, M. (1993). 'Metapragmatic discourse and metapragmatic function' in J.A. Lucy (ed.), *Reflexive Language: Reported Speech and Metapragmatics*, pp. 33-58. Cambridge: Cambridge University Press.
- Simonton, D. (2003). 'Creative Cultures, Nations and Civilisations: Strategies and Results' in P. Paulus & B. Nijstad (eds.), *Group Creativity: Innovation Through Collaboration*, pp. 304-325. Oxford: Oxford University Press.
- Skyttner, L. (2006). *General Systems Theory: Problems, Perspectives, Practice*. 2nd edition. River Edge, NJ: World Scientific.
- Small, C (1999). 'Musiking – The meanings of performing and listening. A Lecture'. *Music Education Research*, 1:1, pp. 9-22.
- Spano, R. (2006). 'Observer Behavior as a Potential Source of Reactivity: Describing and Quantifying Observer Effects in a Large-Scale Observational Study of Police'. *Sociological Methods & Research* Vol. 34(4), pp. 521–53.
- Speer, S. A., & Hutchby, I. (2003). From Ethics to Analytics: Aspects of Participants' Orientations to the Presence and Relevance of Recording Devices. *Sociology* 37(2), pp. 315–337.

- Stasser, G., & Birchmeier, Z. (2003). 'Group Creativity and Collective Choice' P. Paulus & B. Nijstad (eds.), *Group creativity: Innovation through Collaboration*, pp. 85- 102. New York: Oxford University Press.
- Sternberg, R. J. (ed.). (1988). *The Nature of Creativity: Contemporary Psychological Perspectives*. Cambridge: Cambridge University Press.
- Sternberg, R. J & Lubart, T. (1991) 'An Investment Theory of Creativity and its Development', *Human Development*, no 34, pp. 1-32.
- Sternberg, R. J. (1992). Buy Low and Sell High: An Investment Approach to Creativity. *Current Directions in Psychological Science*. Vol. 1(1). pp. 1-5.
- . (ed). (1999). *Handbook of Creativity*. Cambridge. Cambridge University Press.
- . (2006). Creativity is a Habit. *Education Week*, Vol. 25(24), pp. 47–64.
- Straw, W. (1990) 'Characterizing Rock Music Culture: The Case of Heavy Metal', in *On Record: Rock, Pop, and the Written Word*. Frith, S. & Goodwin, A (eds.). New York: Pantheon Books, pp.97–110.
- Straw, W. (2001). 'Consumption', in *The Cambridge Companion to Pop and Rock*. Frith, S., Straw, W., & Street, J. (eds.). Cambridge: Cambridge University Press. pp. 53-90.
- Swartz, D. (1997). *Culture and Power: The Sociology of Pierre Bourdieu*. Chicago: University of Chicago Press.
- Swedien, B. (2009). *In the Studio with Michael Jackson*. London: Hal Leonard Books.
- Swiss, T., Herman, A. and Sloop, J.M. (1998) *Mapping the Beat: Popular Music and Contemporary Theory*, Malden, MA and Oxford: Blackwell Publishers.
- Tardif, T. Z., & Sternberg, R. J. (1988). 'What Do We Know About Creativity?' in R. J. Sternberg (ed.), *The Nature of Creativity: Contemporary Psychological Perspectives*, pp. 429-440. New York: Cambridge University Press.
- Thompson, P., & McIntyre, P. (2013). 'Rethinking Creativity in Record Production Education: Addressing the field. *Journal on the Art of Record Production*, Dec, 2013. Available from: <http://arpjournal.com/rethinking-creative-practice-in-record-production-and-studio-recording-education-addressing-the-field/> [Last accessed February, 2015]

- Thompson, P., & Lashua, B. (2014). 'Getting It on Record: Issues and Strategies for Ethnographic Practice in Recording Studios'. *Journal of Contemporary Ethnography*, Vol. 43(3). pp. 746-769.
- Toynbee, J. (2000). *Making Popular Music: musicians, creativity and institutions*. London. Arnold.
- Van der Vegt, G.S. & Bunderson, J.S. (2005). Learning and Performance in Multi Disciplinary Teams: The Importance of Collective Team Identification. *Academy of Management Journal*, Vol. 48, pp. 532-547.
- Van Maanen, (1995). *Tales of the Field: On Writing Ethnography*. 2nd edition. Chicago: University of Chicago Press.
- Vignolle, J. (1980). Melange des Genres, Alchimie Sociale: La Production des Disques de Varietes. *Sociologie du Travail*, Vol. 22(2), pp. 129-51.
- Von Oech, R. 'The Creative Brain' [ONLINE]. Available from: <http://members.optusnet.com.au/charles57/Creative/Brain/vonoech.htm> [last accessed 8th July, 2014].
- Wallas, G. (1926/1976). 'Stages in the Creative Process' in A. Rothenberg, & C. Hausman (eds.), *The Creativity Question*, pp. 69-73. Durham, N.C: Duke University Press.
- Warner, T. (2003). *Pop Music – Technology and Creativity: Trevor Horn and the Digital Revolution*. Aldershot, UK: Ashgate.
- Watson, A. (2014). *Cultural Production in and Beyond the Recording Studio*. London: Routledge.
- Watson, C. J. (2006). *The Everything Songwriting Book: All You Need to Create and Market Hit Songs*. 2nd edition. Avon, MA: Adams Media.
- Watson, P. (2000) *A Terrible Beauty: A History of the People and Ideas That Shaped the Modern Mind*. London: Weidenfeld & Nicolson.
- Watson, P. (2005). *Ideas: A History from Fire to Freud*. London: Weidenfeld & Nicolson.
- Weiner, I.B., Schmitt, N., Highhouse, S.W. (eds.). (2013). *Handbook of Psychology: Industrial and Organisational Psychology*. Hoboken, NJ: Wiley.

- Wenger, E., McDermott, R., & Snyder, W. (2002), *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Boston, MA: Harvard Business School Press.
- Weisberg, R. W. (1988). 'Problem Solving and Creativity' in R. J. Sternberg (ed.), *The Nature of Creativity: Contemporary Psychological Perspectives*, pp. 148-76. Cambridge: Cambridge University Press.
- . (1993). *Creativity: Beyond the Myth of Genius*. New York: W.H. Freeman and Co.
- . (2006). *Creativity: Understanding Innovation in Problem Solving, Science, Invention and the Arts*. Hoboken N.J: John Wiley.
- Wicke, P. (1990). *Rock Music: Culture, Aesthetics and Sociology*. Cambridge University Press. Cambridge.
- Williams, A. (2007) Celluloid heroes: Fictional truths of recording studio practice on film. *Proceedings of the 2010 Art of Record Production Conference*, Leeds Metropolitan University, UK, 3-5 December, 2010. Available from: <http://arpjournal.com/1412/celluloid-heroes-fictional-truths-of-recording-studio-practice-on-film/> [last accessed February, 2015].
- . (2011). Putting it on Display: The Impact of Visual Information on Control Room Dynamics. *Proceedings of the 2011 Art of Record Production Conference*, San Francisco State University, USA, December 2-4, 2011. Available from: <http://arpjournal.com/1845/putting-it-on-display-the-impact-of-visual-information-on-control-room-dynamics/> [last accessed February, 2015].
- . (2012). 'I'm Not Hearing What You're Hearing: The Conflict and Connection of Headphone Mixes and Multiple Audioscapes' in S. Frith & S. Zagorski Thomas (eds.), *The Art of Record Production: An Introductory Reader for a New Academic Field*, pp. 113-128. Farnham: Ashgate.
- Williams, R. (1991). 'Environment and Creativity' in D.C. Robinson, E. Buck & M. Cuthbert (eds.), *Music at the Margins*, pp. 227-252. London: Sage.
- Wolff, J. (1981). *The Social Production of Art*. London: MacMillan.

- Wolfinger, N. H. (1995). Passing Moments: Some Social Dynamics of Pedestrian Interaction. *Journal of Contemporary Ethnography* Vol. 24, pp. 323–340.
- . (2002). On Writing Fieldnotes: Collection Strategies and Background Expectancies. *Qualitative Research*, Vol. 2(1), pp. 85–95.
- Zagorski-Thomas, S. (2010). The Stadium in your Bedroom: Functional Staging, Authenticity and the Audience-led Aesthetic in Record Production. *Popular Music*, Vol. 29(2), pp. 251-266.
- . (2012). Towards a Typology of Issues Affecting Performance in the Recording Studio. *Proceedings of the 2011 Art of Record Production Conference*, San Francisco State University, USA, December 2-4, 2011.
- . (2014). *The Musicology of Record Production*. Cambridge: Cambridge University Press.
- Zak, A. (2001) ‘The Poetics of Rock: Cutting Tracks, Making Records’. London: University of California Press.
- Zolberg, V. (1990) *Constructing a Sociology of the Arts*. Cambridge: Cambridge University Press.

Filmography

- ‘Ray’ (2004). Taylor Hackford (dir.). Los Angeles: Universal,
- ‘Sympathy for the Devil’ (1969). Jean-Luc Godard (dir.). Los Angeles: ABKCO
- ‘Tupac: Resurrection’ (2004). Lauren Lazin (dir.). Los Angeles: Paramount Home Entertainment.

APPENDICES

Glossary

Ambience	The use of reverb or early reflections to create an audible sense of an acoustic space.
Balance	The relative level between musical or sonic elements in a mix
Bus	A routing mechanism that allows the user to send or combine multiple audio signals to a single destination. Often used to route audio signals to FX units, such as reverb or delay.
Compiling	Often termed 'comp'ing', this is the process of choosing the best parts of a performance or take and combining them to create a complete take.
Compression	Audio processing procedure that controls the dynamic range of an instrument or voice.
DAW	A Digital Audio Workstation is a piece of audio production software. Examples include ProTools, Logic and Cubase.
Editing	A process of cutting, moving or removing audio.
Effects (FX)	Signal processors that alter the tonal characteristics of audio. Examples include reverberation and delay.
Ensemble recording	Often termed 'live tracking', this process involves recording a group of musicians at the same time, sometimes in the same acoustic space.
Equalisation	Often shortened to EQ. EQ controls can be used to affect the frequency content of an audio signal.
Fader	Volume control on a mixing console
Frequency	The measure of cycles per second produced by a vibrating source. The higher the frequency, the higher the perceived pitch.
Live Tracking	See 'ensemble recording'.
Melodyne	Audio software that allows the user to tune instruments
Monitors	Studio speakers for playback
Overdubbing	Recording a new musical part to an unused track in synchronization with the previously recorded material.
Splicing	Connecting two pieces of audio, often magnetic tape, together.
Transient	A rapidly materialising frequency that also quickly disappears.
Variaudio	Audio software that allows the user to tune instruments

Appendix I – Questions that Guided the First Round of Semi-structured Interviews

Domain Questions

What do you think are the elements that make a good song?

What do you need to know in order to write a song?

What do you need to know in order to produce a song?

What do you need to know about performing the song live or performing the song in the studio?

Do you think you need any technical knowledge of recording to perform the song inside the studio? If so, what?

Do you think you need to know anything about production to perform the song in the studio? If so, what?

When performing in the studio at the tracking stage are you thinking about how it will sound as a final record? If so, what helps you to do this?

What are the things do you think that make a good studio performance?

Are you thinking about other records when you are performing on a record? Are you influenced by other artists and musicians in the way in which you do this?

What do you think are the main differences between performing in the studio and performing live? Do you think there is a mutual influence between these two domains for rock bands?

Do you think about the audience when you are performing in the studio?

Domain Acquisition Questions

Did you learn music at school? If so, what elements of music did you learn at school?

Did you learn to perform music in school? If so, what did you learn about performance?

How did you learn musical elements such as melody, harmony and song structure etc?

Did you have music lessons, attend a course or learn from listening?

Did you begin by playing songs or playing pieces (Classical pieces for instance?)
How did you learn songs? Through using notation or listening and copying?
How did you learn song structure? Were you taught or did you learn this yourself?
When did you first start gigging? When you had mastered your instrument or as you were still learning?
What have you learnt from gigging? (Think about the musical, technical or social things you've learnt)
When did you first start recording? What did you learn when you first started?
How did you move into production? Did you assist first etc?
What do you need to know in order to produce a record? (technical, musical, social)

The Field Questions

Do you think performing is as important as recording?
Have you ever recorded under contract with a record label? If not, is this something you hope to do? Why?
Do you think record labels can influence the way records are made? If so, how?
Do you think the record may have been different if the band were signed to a record label? If so, in what way?
What do you think a record label offers a band in terms of record production and promotion?
Do you think bands need a record label?
Is it better being able to upload and sell the artist's music through bandcamp?
What do you think the band got from working with a record producer in comparison to working without one on their first record?
Do you think it allowed the band more or less creative freedom?
What type of input did the Marc, the producer; contribute to the way in which you normally work in the studio?
How do you think Darren contributed to the way in which you normally work in the studio?
When working in the studio, are you thinking about the audience? TV? Radio?

What do you think is important for Radio play? Do you think about Radio play when producing a song? Are there any radio stations that you prefer? Why?

Do you listen to Internet radio? Do you use Spotify? Do you think that Spotify is important? Does it give a band status? How about iTunes?

Did you ever watch TOTP? If so, what did you enjoy about it?

Do you watch channels like MTV? If so, which aspects do you like?

Do you think that videos can sell a song? Do you know any examples?

Do you ever buy Q magazine or NME? If so, what things do you take from them? DO you think they are important to promoting or marketing artists and their records?

Are there any other publications you read, buy or access? Fanzines?? What types of things do they inform you about?

Who is your favourite artist? Do you think they've influenced the way in which you perform or your approach to recording?

As a fan, what do you look for in an artist or band? As a fan do you often buy/access demo tapes, gig recordings etc? If so, why? What do you like about them and how do they differ from studio recordings?

Immediate Field Questions

When working in the studio do you rely on other people in the process to help with decisions?

How do you decide on a good take?

What are you listening for during a take?

Do you rely on the engineer to help make decisions?

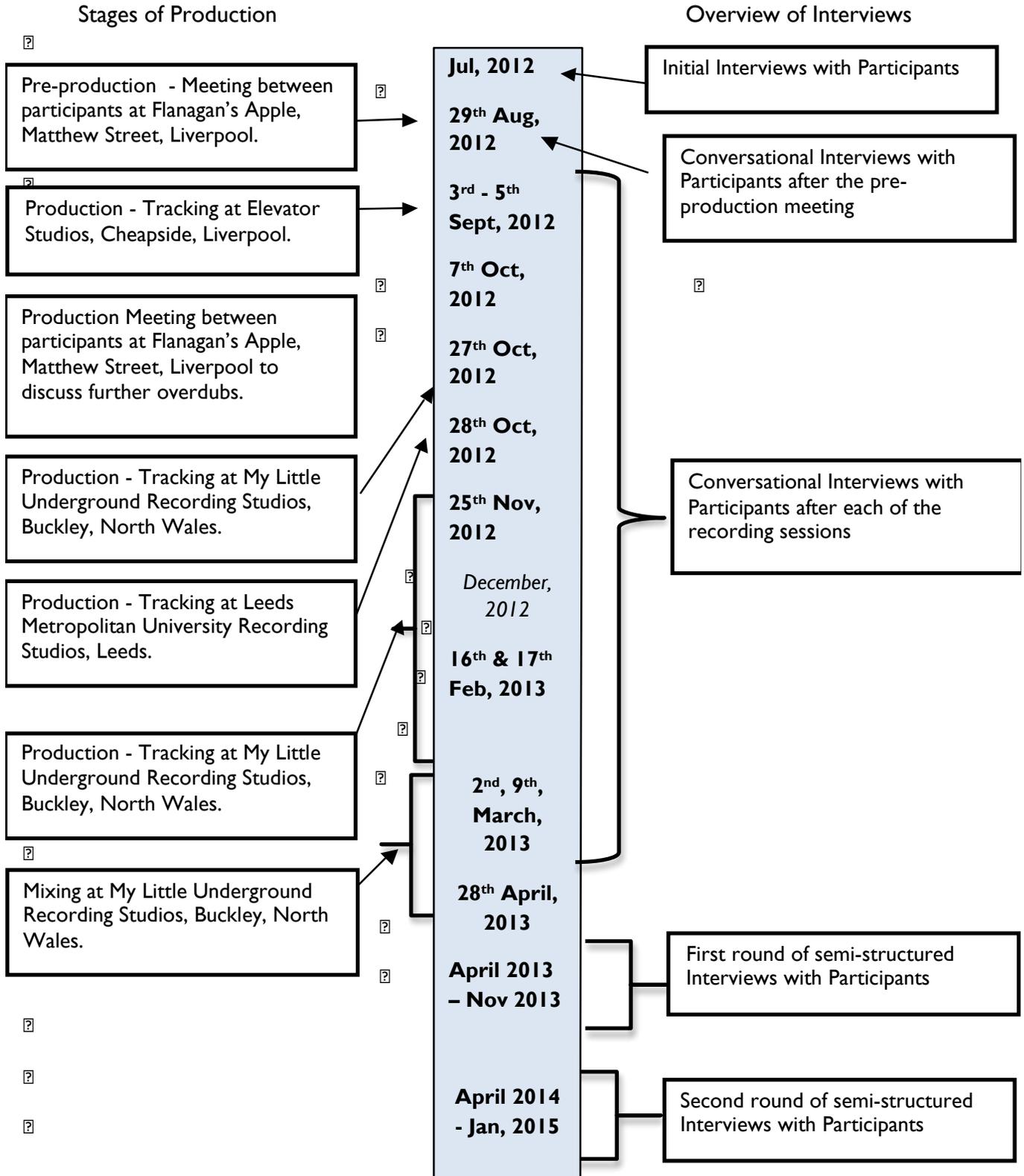
Darren had the microphones already set up but how did you decide on the final set up?

Watching you mix you normally start with mixing the drums, why is that?

How do you begin to work with a band...do you try and pick out characters or personalities? Humour seems to be a big part of how you work with a band, why do you think it's important?

What do you think happened with Chris and his singing backing vocals? How do you normally deal with this?

Appendix 2 – Interview and Session Details



Recording Session Overview

Date	Related Song	Instruments Recorded
3 rd September, 2012	Last Thing on My Mind High Time	Drums, Bass guitar, Electric Guitar (Rhythm), Electric Guitar (Lead), Trumpet, Saxophone Drums, Bass guitar, Electric Guitar (Rhythm), Electric Guitar (Lead), Trumpet, Saxophone **6 takes of each**
4 th September, 2012	Last Thing on My Mind	Drums, Bass guitar, Electric Guitar (Rhythm), Electric Guitar (Lead), Trumpet, Saxophone **4 more takes** Lead Guitar Overdub
	Southpaw Billy	Drums, Bass guitar, Electric Guitar (Rhythm), Electric Guitar (Lead), Trumpet, Saxophone **5 takes of each** Lead Guitar Solo
	Last Thing on My Mind	Trumpet, Saxophone recorded in the kitchen for added reverberation
5 th September, 2012	Last Thing on My Mind	Trumpet, Saxophone played through a speaker in the kitchen and then recorded. Acoustic Guitar and Handclaps
27 th October, 2012	Southpaw Billy Last Thing on My Mind High Time	Lead Vocal
28 th October, 2012	High Time	Hammond Organ and Piano
	Southpaw Billy	Hammond Organ
25 th November, 2012	Southpaw Billy Last Thing on My Mind High Time	Trumpet and Saxophone overdubs Tenor Saxophone Baritone Saxophone Backing Vocals (Paul) Backing Vocals (Chris)
16 th February, 2013	Southpaw Billy Last Thing on My Mind High Time	Backing Vocals (Jess)

APPENDICES

17 th February, 2013	High Time	Editing and Mixing
	Southpaw Billy	Editing and Mixing
2 nd March, 2013	Last Thing on My Mind	Editing and Mixing
9 th March, 2013	Southpaw Billy Last Thing on My Mind High Time	Editing and Mixing
28 th April, 2013	Last Thing on My Mind	Re-recording backing vocals (Chris and Jess)
	Southpaw Billy Last Thing on My Mind High Time	Editing, Mixing and Mastering

Participant One-to-One Interviews

Name	Role	Date	Location
Darren	Engineer	11 th April, 2014 & 27 th September, 2014	Elevator Studios, Liverpool
Jess	Backing Vocalist	7 th May, 2014	Oomoo Coffee Shop, Liverpool.
Paul	Principal Songwriter and Lead Vocalist	11 th June, 2014	The Philharmonic Pub, Liverpool
Marc	Record Producer	10 th June 2014 & 14 th July 2014 10 th September 2014	Ariel Studios, North Wales. & My Little Underground, Buckley, North Wales.
Rory	Trumpet Player	4 th August, 2014	The Albert Hotel, Aigburth, Liverpool
Chris	Bass Guitarist	7 th August, 2014	The Band's Rehearsal Space, Liverpool.
Phil	Drummer		
Mike	Lead Guitarist		
Nick	Saxophonist	10 th January, 2015	Online

Additional Interviews

Phil Harding	Record Producer	June, 2012	Cardiff, Wales
Vance Powell	Record Producer	July, 2013	Sputnik Studios, Nashville TN, USA
Dan Turner	Engineer	June, 2012	Cardiff, Wales

CD Track Listing

The tracks that were recorded during the production of the thesis ('Southpaw Billy', 'Last Thing on my Mind' and 'High Time') were released alongside a live recording of their concert at the Unity theatre in Liverpool. The first three tracks on the CD are the studio-produced recordings under the title 'High Time'. Tracks 4-10 are live recordings of their concert under the title 'Live'. The CD track listing and its artwork is illustrated below:

High Time

- 1 – Southpaw Billy
- 2 – Last Thing on My Mind
- 3 – High Time

Live

- 4 – Ballad of Four Eyes
- 5 – Black Dirt
- 6 – Lions
- 7 – High Time
- 8 – Last Thing on My Mind
- 9 – Southpaw Billy
- 10 – The Last Song
(Give and Take)

