Sound practice: a relational economic geography of music production in and beyond the recording studio

by

Allan Watson

Doctoral Thesis

Submitted in partial fulfilment of the requirements

for the award of

Doctor of Philosophy of Loughborough University

6th September 2012

To Kate, for always being there.

Abstract

This thesis develops a relational geography perspective on creative work and practice, with a specific focus on the recording studio sector. Drawing on an extensive social network analysis, a questionnaire survey, and nineteen semi-structured interviews with recording studio engineers and producers in London (UK), the thesis reveals how recording studios are constituted by a number of types of relations. Firstly, studios are spaces that involve a material and technological relationality between studio workers and varied means of production. Studios are material and technological spaces that influence and shape human actions and social inter-actions. Secondly, studios are sites of relationality between social actors, including engineers, musicians and artists. The thesis reveals how the ability to construct and maintain social relations, and perform 'emotional labour', is of particular importance to the management of the creative process of producing and recording music, and to building the individual social capital of studio workers. Finally, the thesis argues that studios are sites of changing employment relations between studio workers and studio as employer. In the recording studio sector, a complex and changing set of employment practices have re-defined the relationship between employee and employer and resulted in a set of employment relations characterised by constant employment uncertainty for freelance studio workers. It is argued that the three types of relations revealed in this thesis, manifest at a multiplicity of geographical scales, construct recording studios as distinctive social and economic creative spaces. In conclusion, it is argued that a relational perspective is central to progressing geographical accounts of creative work and of project-based industries in general.

Acknowledgements

Producing a PhD thesis part-time over a period of more than five years is not a task that can be achieved without the help and support of others, and I owe much to a great number of people who have guided and supported me over this period. Above all others, my love and thanks go to my wife, Kate, whose unwavering love, patience, support and encouragement have been of immeasurable importance. She will be even more relieved than I am that this thesis is finally complete. During the completion of the PhD, I have been blessed with the arrival of two beautiful children, Harry and Jack, who have brought with them bundles of love and laughter. This is dedicated to my wonderful little family. I love you so very much. My thanks also go to my family and Kate's family for their continued love and support.

It also goes without saying that I owe much to my supervisors, Phil Hubbard and Michael Hoyler. I cannot thank them enough for their advice, support and encouragement, and above all their patience. My thanks also go to my examiners, John Harrison and Andy Pratt, whose comments during the viva subsequently helped me to bring the arguments presented in this thesis into sharper focus. I am also extremely grateful for the funding provided by a studentship from the Department of Geography. My sincere thanks in this respect go to Jon Beaverstock, who not only had the confidence in me to put forward a case for the award of a studentship for part-time research, but also for his encouragement and sound advice, mostly given over a beer. I am also grateful to the anonymous referees who gave such insightful and constructive feedback on the parts of this thesis that have been, or will soon be, published

as journal articles. My thanks also go to Christoph Mager for his insightful comments on Chapter 2 of this thesis.

My thanks also go to my colleagues at Staffordshire University for their support; in particular my heartfelt thanks go to Fiona Tweed for her constant encouragement, sound advice, and many much needed cups of coffee. Special thanks also go to Janet Wright and Derek Pratts for coffee and cakes in Barcelona; and to Janet and Steve Williams for giving me time and space amongst an otherwise busy workload to finally get this thesis finished. Thanks also to John Ambrose, Liz Young, and Paul Barratt, amongst many others, for their encouraging comments.

Finally, my sincere thanks go to the studio owners, producers and engineers who have so generously and enthusiastically given their time to this research, fitting me in around their erratic and uncertain patterns of work. It is their amazingly creative work that has inspired this research, and without them this research would simply not have been possible, or conceived in the first instance. It has been an honour to meet engineers, producers and musicians who have worked on some of my favourite recordings of all time.

Publications and presentations

The research detailed in this thesis has been published, or is to be published, in the following journal articles and book chapters:

- **Watson, A. (Forthcoming)** "The world according to iTunes: mapping urban networks of music production" *Global Networks*

- **Watson, A. (Forthcoming)** "Sociological perspectives on the economic geography of projects: the case of project-based work in the creative industries" *Geography Compass*

- **Watson, A. and Hoyler, M. (2012)** "Materializing the digital commodity: recording studios in transnational project networks of digital musical production" in Krätke, S., Wildner, K. and Lanz, S. (eds.) (eds.) *Transnationalism and Urbanism.* Routledge

- **Watson, A., Hoyler, M., and Mager, C. (2009)** "Spaces and networks of musical creativity in the city" *Geography Compass* **3** (2), pp. 856-878

In addition, at the time of writing, the following publications are either in review or in preparation:

- **Watson, A (In review)** ""Forget it. No one's going to work with you again": reputation building, emotional labour and active networking in the recording studio sector of the music industry" *Economic Geography*

- **Watson, A (In review)** ""Running a studio's a silly business": precarious work and exploitation in the contemporary recording studio sector" *Area*

- **Watson, A and Ward, J (In review)** "Creating the right 'vibe': transient emotional journeys in the recording studio" *Environment and Planning A*

The research has also been presented at the following conferences:

- **Watson, A. (2012)** "Relational work in the cultural economy: a case study of creative practice in and beyond the recording studio" RGS-IBG Annual Conference, Edinburgh University, 3rd-5th July 2012

- **Watson, A. (2011)** "'We're not solving the Middle East peace crisis. We're just trying to make music here': examining emotional labour in the recording studio" Moral Economies of Creative Labour, University of Leeds, 7th -9th July 2011

- **Watson, A. (2010)** "Recording studios in urban networks of music production" Invited seminar presentation at the School of Geography, University of Nottingham, 18th October 2010

- **Watson, A. (2009)** "The World according to iTunes: creative project ecologies and the global urban networks of digital music production" Global Cities Now? Current Perspectives in Global Urban Studies, Urban Geography Research Group of the RGS-IBG Annual Conference, Centre for Urban Theory, Swansea University, 5th – 6th November 2009

Contents

Abstract

Acknowledgements

Publications and presentations

Contents

List of figures

List of tables

List of figures

List of tables

1 **Introduction**

Throughout recent history, recording studios and the skilled engineers and producers who work within them have played a central role in shaping the production of music as an economic commodity. In America in the 1940s and 1950s, many recording studios were little more than converted radiator shops (Sun Studio in Memphis) or fruit and vegetable refrigerators (J&M Studio in New Orleans). Although extremely modest facilities with very basic recording equipment, such studios provided "a space, a sanctuary, where blacks and whites labored daily as artistic collaborators" (Cogan and Clark 2003: 12). They would see the production of some of the most well-known rock n' roll recordings of all time, including "Great Balls of Fire" (Jerry Lee Lewis, 1957, Sun Records) and "Blueberry Hill" (written by Vincent Rose and Al Lewis, first published in 1940). In the 1960s in Jamaica, the recording studio and record label 'Studio One' would become central to the development of the distinct sounds of reggae music. Its characteristic sound would come from the way the studio was engineered by producer Clement Seymour 'Coxsone' Dodd, who balanced sounds in a unique way based on the studio room and basic two-track analogue recording equipment, which meant that his sound could not be replicated elsewhere (Bradley, 2001).

Today, many recording studios are acoustically-engineered and purpose-built, featuring advanced digital recording consoles with multiple channels for recording that are operated by highly skilled sound engineers. Moreover, many incorporate technologies that allow for the networking of studios in geographically distant locations. In 1995 for the first time a single was recorded and mixed simultaneously between two geographical distant recording

studios, when Japanese guitarist Hotei, playing in Singapore's Form Studios, was linked to Jesus Jones at Real World studios near Bath, UK, a distance of over 7,000 miles and covering two different time zones, via Solid State Logic's WorldNet system (Cunningham, 1998). However, despite such technological advances, which allow for the mediation of creative actions and offer the potential for high levels of innovation and creativity (Warner, 2003), recording studios essentially remain discrete sites of collaboration between recording studio engineers, music producers, and artists, where maximum creativity requires a symbiotic relationship. As the musician Quincy Jones describes, recording studios are where:

> "…planned and unplanned collaboration happened. The genius of the musicians brushed against the genius of the engineers, producers and arrangers. You could go in expecting one thing and come out with something entirely unplanned." (Cogan and Clark 2003: 7)

This thesis deals with creative practice in the production of music and sound, and with recording studios as particular sites in which these creative practices occur, involving multiple social interactions and processes that foster and enable creativity. It is important to recognise at the very outset that 'creativity' is a widely contested concept, and, as Negus and Pickering (2004) suggest, defining what 'creativity' might be may be an ultimately futile and reductive task. Definitions of creativity have ranged from exclusive to inclusive, from being something that is limited to an elite set of individuals through to an emphasis on creativity as an everyday resource, and from common-sense practice to true ingenuity and art (Törnqvist, 2004). For McGuigan (2010) the idea of 'creativity' is at once both discredited and extraordinarily fashionable. It is discredited, McGuigan argues, because creativity was once held to be a special attribute, something unusual and rare and confined only to a select few. Yet, at the same time, he argues, it is a conventional wisdom to say that we are all creative now. Even if the definitional problems are ignored, there is only limited consensus on the variables that determine levels of creativity (Drake,

2003). There has been a large body of academic work on creativity focusing almost exclusively on the creative potential of individuals (Törnqvist, 1990, 2004). However, while the imaginative capacities of the individual are indispensable to the creative process (Scott, 2000), creativity does not reside exclusively within isolated individuals. As Hastrup (2001) asserts, creativity, as simultaneously structure and event, finds newness in both space and time through the mixing, encounters and contacts between people and cultures, across multiple spatial scales.

Therefore, while the imaginative capacities of an individual are indispensable to the process of creativity (Scott, 2000), this thesis begins from the perspective that creativity itself does not reside exclusively within isolated individuals: to understand creativity there is a need to understand the social and existential conditions that are its foundations (Friedman, 2001). Therefore, as Negus and Pickering argue, it is not only necessary to ask why people or actions are considered to be creative, but also to attempt to understand various creative experiences and the changing circumstances within which certain creative acts become possible:

> "…creativity is a social process, entailing a dynamic of according value and receiving recognition… it is never realised as a creative act until it is achieved within some social encounter." (Negus and Pickering, 2004: 23)

Despite definitional complexities, it is clear that certain places have a privileged history of creativity. For example, Peter Hall's (1998) historical account of creativity in cities suggests a link between cities of large size and episodes of extraordinary creativity. Hall demonstrates how, throughout history, the most creative cities have been the true global cities of their time.

As Scott (1999a) contends, even at their most intimate moments of birth, creative moments and episodes connect with concrete social conditions. For Negus and Pickering:

"…it is clear that new ideas are built upon a capital of experiences gathered through interaction with one's surroundings. Processes of renewal cannot develop in empty space for long without stimulation and new outside impulses." (Negus and Pickering, 2004: 4)

Consequently, in considering creativity within cities, it is crucial that the built environment, socio-economic context, and urban spaces and networks of creativity be studied in more detail.

For Florida (2002a, 2002b, 2002c, 2005), urban concentrations of creative workers and creative industries are a major source of economic advantage in the post-industrial knowledge economy. Drawing from the insights of human capital theorists such as Jane Jacobs (1961), Florida develops a 'creative capital theory', which identifies human creativity as being key to economic development. Florida argues that the future competitiveness within the economy depends now more than ever on human capacity for innovative thinking and renewal; in short their capacity for *creativity* (see also Törnqvist, 1990), and that creativity is dependent upon an educated knowledgeable workforce. For Florida (2002a), it is creative workers who give certain cities their cutting edge, allowing them to outperform their rivals, and he argues that competitive advantage has shifted to those cities that can attract, retain, and even generate the best creative talent (for critiques of Florida's creative class thesis see amongst others Montgomery, 2005; Peck, 2005; Pratt, 2008).

Krätke (2004) notes that the concentration of creative forces within the urban and regional system is highly selective. In the case of the global music industry, and more specifically in the case of the recording studio sector as the

main focus of this research, such concentration of creative forces occurs in a very small number of global cities, and in particular New York, Los Angeles, and London (see for example Scott 1999; Watson 2008). Such cities act as leading 'cultural metropolises' in the global urban network (Krätke, 2003; Krätke and Taylor, 2004). Their concentrations of music industry companies and infrastructure channel and articulate creativity from different (urban and non-urban) places, distributing these to consumers in other cities across the world. In a global media industry that is concentrated in and around the key cities of global capitalism, for musical output to be recognised as a creative product that has cultural and economic value it must pass through distinct spaces of production, characteristically located in specific cities. Brandellero and Pfeffer (2011), for example, in their study of the transnational geographies of world music production, note that certain cities act as key sites for mediation and cultural valorisation for both national and international cultural content.

1.1 The recorded music industry

Traditionally three main types of recording companies lie at the centre of the global recorded music industry. Firstly, there are the major corporations. Until very recently, four major multinational corporations had come to dominate the contemporary global music industry as a result of various mergers and acquisitions; Universal Music Group, Sony BMG Music Entertainment (a product of a joint venture between Sony Music Entertainment and BMG in March 2004, and a subsequent merger in October 2008), EMI Music, and the Warner Music group. Figures produced by the IFPI (International Federation of the Phonographic Industry) in 2005 estimated that Universal was the largest of these music divisions, with a 25.5% share of the world market, followed by Sony BMG with a 21.5% share, EMI with a 13.4% share, and finally Warner with an 11.3% share (IFPI, 2005). Further amalgamation took place in November 2011, when the Universal Group, already the dominant of the major music groups, consolidated this position with the purchase of EMI's recorded music division for a figure thought to be in excess of $2bn (The Guardian,

November 11th 2011). This purchase follows only five years after the rejection of EMI's \$4.5bn cash and shares bid for Warner Music in 2006 (The Times, May 24th 2006). These three corporations are strongly involved in technological innovation and are part of sophisticated global networks of marketing, promotion and distribution (Burnett, 1996).

Secondly, there are a large number of medium and large-size companies, many of which tend to be involved in medium to long-term production and marketing arrangements with the major corporations (Burnett, 1996; Hesmondhalgh, 1996; Negus, 1992, 1999). The major corporations have increasingly acquired smaller, more specialised independent companies to operate as 'autonomous' decision centres in de-verticalised and more flexible production structures (see Power and Hallencreutz, 2002). Examples include Island Record, Mercury Records, Polydor Records and Decca Records, all part of the Universal Music Group; and Columbia Records and Epic Records, part of Sony BMG Music Entertainment. Finally, there are an even greater number of small-size independent recording companies, operating as part of very localised independent networks of cultural production and distribution, often with little contact with the higher tiers of the industry, and using independent distribution networks. Examples, amongst many, include Independiente (London), Epitaph (Hollywood, California), and the Beggars Group - a British record company that owns or distributes several other labels including 4AD, Rough Trade Records, Matador Records, and XL Recordings.

A wide range of other specialised activities are organised around these recording companies. Figure 1-1, taken from Scott (1999b) provides a useful schematic overview of the specialised activities making up the networks of the recorded music industry. The diagram highlights the main functional inter-relationships within the industry, which form a complex web containing a 'wealth of actors' who act to stimulate industrial competition and trigger growth (Burnett, 2001, also Negus, 1992). Leyshon (2001) builds on the schematic diagram of Scott (1999b) to include consumption networks into the schematic (Figure 1-2).

Leyshon separates the schematic out into networks of creativity, reproduction, distribution, and consumption (see also Aksoy, 1992, on 'information' businesses). For Connell and Gibson (2003), these complicated trajectories reveal tensions between the economic and cultural value of music. Record companies remain the dominant element of these networks, the 'hub firms' (see Bathelt, 2005) that coordinate skills, expertise and 'talent' within networks of creativity and control networks of reproduction and distribution (Leyshon *et al.*, 2005).

Figure 1-1: Specialised activities in the recorded music industry (Scott, 1999b)
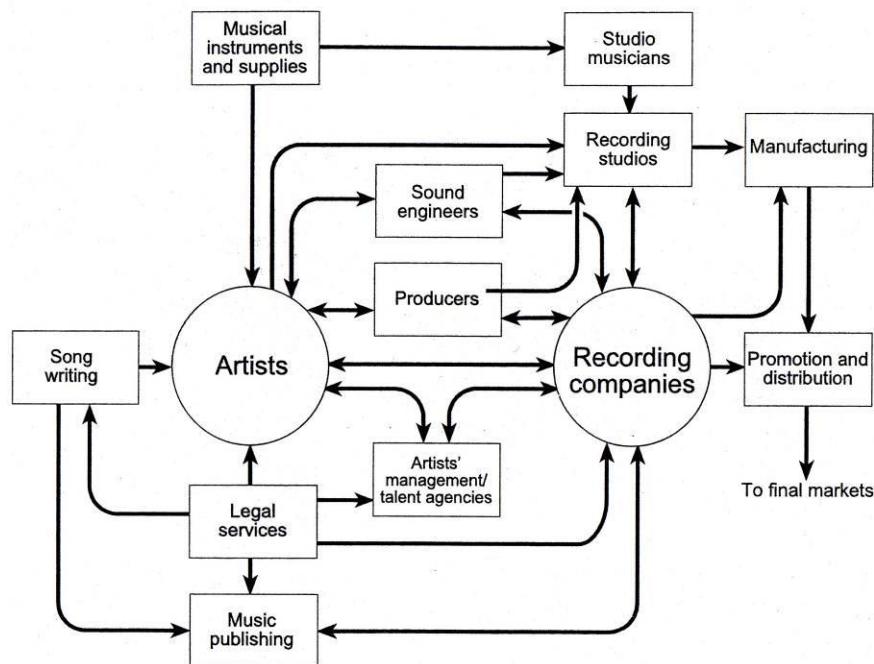
However, while the three 'major' corporations play an important role in musical production and distribution, as demonstrated in Figure 1-2 the music industry is made up of a number of complicated and over-lapping networks of creativity, reproduction, distribution and consumption (see Leyshon, 2001), consisting of many different firms, actors, spaces and services. Thus, this thesis begins from the standpoint that studies of the creative economy of the music industry cannot

and should not privilege the firm as the sole basic analytical unit of the economic process.

Figure 1-2: The music industry as a networked economy (Leyshon, 2001)
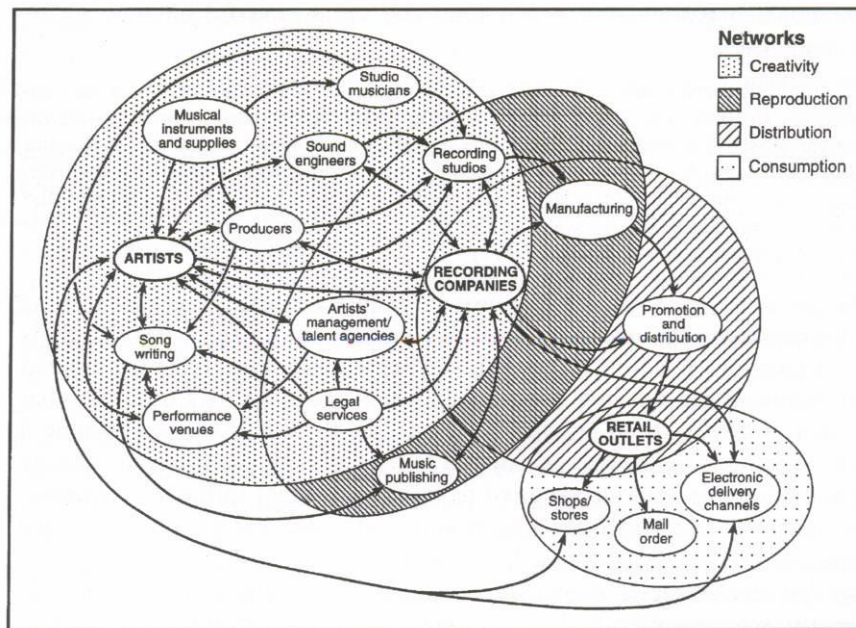
As such, the connections that exist between cities with concentrations of music industry companies and infrastructure through their production and distribution of music cannot be accurately captured and measured through an intra-firm analysis, for example the type produced by the Globalisation and World Cities research network for Advanced Producer Services (see Taylor *et al.* 2011, Taylor 2004). Rather, it is argued here that any analysis of production in the music industry, and in the creative economy more generally, must recognise the complexities of creative production networks and the relational nature of creative practice. Given the focus of this thesis on the production networks of, and relational creative practice in, recording studios, the next section provides a brief outline of the role of recording studios within the music industry.

Recording studios

As a basic definition, recording studios can be considered as sites in which "appropriate and available technologies are assembled and hired to musicians and producers for periods of time, for the purpose of sound recording" (Gibson, 2005: 196). These technologies include recording/mixing desks, often linked to music recording software on computers, as well as a wide range of effects processors and digital music-making machines, a range of microphones, and storage devices for capturing the recorded sound such as digital hard drives and tape machines (see Chapter 5 for a more detailed discussion of these technologies). Largely acting as an independent service within the contemporary recorded music industry, recording studios form the direct link between the record companies and artists and the creation of the final recorded musical product.

Recording studios are sites that are privileged to the most intimate moments of musical creativity and emotive performance; they are (relatively) insulated spaces that give musical creatives the required conditions in which to experiment and create music. These creative moments are produced not by the musician alone, but through relations between musicians, producers, and engineers. Therefore, while musicians are recognised as the creators of music, some commentators have termed studio producers and engineers, as well as song writers, marketers, and A&R agents as cultural intermediaries (see, for example, Hennion, 1989). The ability of musicians to make music is therefore dependent on these other industry personnel (Pinch and Bijsterveld, 2004; Shuker, 1994). Thus, for Gibson (2005), recording studios can be considered as *relational* spaces of creativity, that is to say that they constitute sites of relational creative practice. Relational creative practice is not however contained to the space of the studio alone; as Rogers argues, "even when creative practices are situated, they operate through networks and flows that link locations together" (2011: 663). Recording studios are at once insulated spaces of creativity, isolated from the city outside, and spaces influenced

directly by the wider urban contexts in which the studios operate. Furthermore, tools and techniques continue to be developed for networking studios in geographically distant locations, in complex and intimate ways (see Théberge, 2004), that allow the coordination of recording projects on a global scale. Thus, studios might be considered as relational spaces of creativity that operate across a multitude of spatial scales.

However, despite the evident importance of recording studios in global musical production networks, there is a significant gap when it comes to academic literature focusing on the recording studio sector. Two notable exceptions here are the work of Andrew Leyshon (2009) on the decline of the recording studio sector, and the work of Chris Gibson (2005) on recording studios as relational spaces of creativity. Outside geography, a limited body of work on recording studios has emerged from the fields of musicology, sociology, and science studies (Hennion, 1989; Horning, 2004; Kealy, 1979; 1990; Perlman, 2004; Porcello, 2004; Théberge, 2004). This dearth in literature is perhaps due in part to a view that recording studios lie on the 'periphery' of the recorded music industry (see Théberge, 2004) when compared to record companies, on which the majority of the academic literature on the music industry has focused. Given the complexity of musical production networks, Gibson (2005) argues that to assume that recorded music is essentially produced in the recording studio is a false assumption. While this assertion is undoubtedly true given the myriad of sites and actors involved in the production of recorded music, the real importance of recording studios within these networks of creativity and reproduction has not been explored or analysed in the academic literature; the exception is later work by Leyshon in which he acknowledges the recording studio sector to be "a crucial part of the overall value chain of the musical economy, producing commodities upon which large parts of the industry depend (2009: 1315).

The recorded music industry: a key UK creative industry

The UK music industry is one number of creative industry sectors that are becoming of increasing importance to the UK economy. A statistical release by the Department of Culture, Media and Sport (DCMS) in December 2001 suggests that in 2009, the creative industries accounted for 2.89% of gross value added (GVA) in the UK in 2009, an increase of 0.07% from 2008. Furthermore, the creative industries accounted for 10.6% of the UK's exports in 2009. In terms of employment, DCMS statistics show that 1.50 million people are employed in either the creative industries or in a creative role in another industry (5.14% of total UK employment), a small increase on 2008 (1.44 million employed). The UK music industry is an important sector within the UK creative industries, in terms of revenue, exports and employment. Figures reported by the Performing Rights Society (PRS) for music in 2010 suggest that the UK music industry generated £3.96bn in 2009 and £3.77bn in 2010 (PRS, 2010). UK retail spending on digital music has been in excess of £1tn since 2004. In per capita terms, the PRS suggest that the UK is one of the top three recorded music markets in the world, as well as being the leading market in terms of European digital music revenues, with the 2010 retail value of digital music estimated at £315.5m. With regards to the export of music, the PRS estimates that the UK trade balance for music increased from $35m in 2004 to $95m in 2010, an increase of 165 per cent, with UK artists' share of global sales estimated to be 12 per cent in 2011.

With regards to employment, figures produced by the British Phonographic Industry (BPI) for 2009 estimate that a total of 102,210 individuals were employed in the UK Music Industry, with live performance accounting for the greatest proportion (50,780) (BPI, 2009). The BPI figures suggest that employment in music between 2006 and 2008 increased by a total of 8 per cent. The statistical release by the DCMS (2006), quoted earlier, suggested that music and visual and performing arts combined were the largest employers in the UK Creative Industries with 300,000 employed in 2009 (1% of

the UK total employment) (DCMS, 2011). Furthermore, in 2011 the combined music and visual and performing arts had the greatest quantity of enterprises of the UK creative industries (30,500; 1.5% of the UK total).

The main focus of this research is the city of London, the main hub at the centre of the UK music industry (Watson, 2008). BPI figures suggest that a quarter of all people working in the music industry do so in the city. Furthermore, London contains one of the world's most significant concentrations of recording studios. A study undertaken by the National Music Council (2002), reported in Leyshon (2009), found that of the approximately 300 'economically significant' studios in the UK, nearly 200 were located in London. If we were to include the hundreds of smaller project and home studios within this count, the number would be significantly larger. The National Music Council report estimated the number of employees in the recording studio sector to be in excess of 1000, as well as around 350 full-time producers. Assuming similar employment levels in 2009, this would equate to just over 0.3% of total employment in music and visual and performing arts. Furthermore, the sector generates around £70 million of value added to the national economy. Thus the recording studio sector is not only important to the UK music industry as a key part of music production networks, but is also in itself an important generator of income and employment.

However, Leyshon argues that the recording studio sector is undergoing a severe crisis, evidenced through "a spate of studio closures, redundancies, and underemployment within musical agglomerations" (2009: 1309). As a result, he argues that the institutional 'thickness' of key recording centres has been significantly depleted in recent years. The examination of the dynamics of this particular sector of the music industry therefore represents an important area for empirical research, especially where such research informs policy aimed at enhancing the economic competiveness of the sector.

1.2 The relational 'turn'

"…for human intentionality to take effect it must be mediated through heterogeneous actor-networks that are spatially and temporally constructed" (Dicken *et al.*, 2001; 93)

Following from the previous section, which introduced the idea of recording studios as being relational spaces of creativity, this section discusses the growing focus on 'relational' practice in Geography. Over the last two decades, a 'relational turn' (Storper, 1997; Boggs and Rantisi, 2003; cf. Bathelt, 2006; Bathelt and Glückler 2011) has occurred within geography, with relational approaches becoming ever more influential, not only in terms of *what* geographers study, but also *how* they study it (Murdoch, 2006). Such a turn has been particularly evident within economic geography (see Sunley, 2008), but also more widely across its sub-disciplines (see, for example, Massey, 2004, on relationality and identity). This turn has in part been brought about through the engagement of economic geographers with literature developed in economic sociology, in particular Granovetter's (1985) work on embeddedness (see Grabher, 2006) and Coleman's (1988) work on social capital. Within this 'turn', a number of shifts can be identified; a putative shift from structure to agency; a shift from macro-scale to micro-scale analyses; and a shift from analysis of the firm to the mapping of complex social networks.

Firstly, it is apparent that within economic geography there is now a broad concern with economic actors and how their social network relations at different spatial scales shape the geographies of economic performance. As Boggs and Rantisi (2003) outline, at an ontological level the relational turn ascribes a greater role to the agency of individual economic actors than to economic structures. As such, there has been a broad shift in emphasis from structure to agency. This challenges models of scales based on top-down vertical imaginaries, and instead emphasises an ontology composed of more complex, emergent spatial relations. Marston *et al.* (2005) argue for the

discarding of vertical ontologies and, in their place, propose a 'flat ontology' that requires "sustained attention to the intimate and divergent relations between bodies, objects, orders and spaces" (2005: 424) and which "must be rich to the extent that it is capable of accounting for socio-spatiality as it occurs throughout the Earth without requiring prior, static conceptual categories" (2005: 425). This social understanding of the economy is positioned in contrast to previous vertical conceptions of the global capitalist economy. Flat ontologies, they argue, consist of self-organising systems. However, they also recognise that moments always occur with varying degrees of organisation. This organisation, they contend, occurs within 'social sites', and that the inclusion of orders within sites:

> "…allows us to account for the presence and affective capacity of relatively stable objects and practices that continuously draw each other into relation and resurface in social life. Such a strategy avoids misrepresenting the world as utterly chaotic and retains the capacity to explain those orders that produce effects upon localised practices" (Marston *et al.*, 2005: 425).

Particular element movements and practices in social sites, they argue, are both enabled and delimited by ordering of material objects. As such, a site is an emergent property of its interacting human and non-human inhabitants, and is "materially emergent within its unfolding event relations" with other sites (Marston *et al.*, 2005: 426).

Leitner and Miller (2007) argue however that a flat ontology does not account for power hierarchies and the production of inequalities. Whilst also recognising that spaces exist in nested relationships to other spaces, they argue that these relationships create differential opportunities and constraints for practices of individual and collective agents. Actants, they suggest, are not only implicated in spatialities, they are also enabled and constrained by them.

Moreover, economic agents operate within a context of institutions, norms and rules that condition their choices and relations (Boggs and Rantisi, 2003; see also Sunley 2008). For Jones (2009: 498) socio-spatial relations are produced neither through structural determinism nor through a spontaneous voluntarism, but through a "mutually transformative evolution of inherited spatial structures and emergent spatial strategies within an actively differentiated, continually evolving grid of institutions, territories and regulatory activities". Thus, while in the relational turn there has been a broad shift from structure to agency, structure still matters, albeit it is viewed as the outcome of multiple actions and actants.

Secondly, and associated with the above, there has been a *methodological* shift (Boggs and Rantisi, 2003) from the macro-level of institutions and regulatory frameworks to the micro-level of agents and their inter-relations. In economic geography, the firm has generally been considered to be the elementary unit of collective commercial agency, largely unproblematised as unitary and coherent actors (Yeung, 2003; Maskell, 2001; Taylor and Asheim, 2001), with transnational corporations in particular assumed to be key actors in producing global shift (Dicken, 2011). However, more recently the relational turn has seen the centrality and reification of the firm being challenged. Grabher (2002a), for example, has argued that the integrity of the firm as a basic analytical unit is being undercut by organisational practices that are built around projects involving a multiplicity of organisational and personal networks. This given, he argues there is a pressing need for new relational conceptions of economic activity. For Yeung the 'firm' is hence a "messy constellation of multiple identities, contestation of power, and shifting representations" (2005a: 451), with Sunley asserting that "what we thought to be homogeneous units are, in fact, internally fractured and heterogeneous" (Sunley, 2008: 5). Yeung (2005a) argues that monolithic 'black box' conceptions of this crucial analytical category need to be revised, and there is a need for a relational conception of the firm as social networks in which actors are embedded in on-going power relations and discursive processes.

As Dicken *et al.* (2001) assert, networks are neither purely organisational forms nor structures – rather they are "*relational processes*, which, when realised empirically within distinct time- and space-specific contexts, produce observable patterns in the global economy" (Dicken *et al.*, 2001: 91). Thus, a relational perspective on economic geography explicitly draws attention to the importance of economic actors and how, when and where they act and interact in space (see also Bathelt and Glückler, 2003). Viewing networks as relational processes also requires us to recognise that while networks are manifested at a multiplicity of geographical scales, they do not consist of unbounded flows and connections; rather they are at the same time embedded within particular territories (for more on the debate regarding relationality and territoriality, see Amin, 2002, 2007; Jones, 2009). Dicken *et al.* (2001) argue therefore that an understanding of the global economy must incorporate multiple scales of economic (along with political, cultural and social) relations, and that too often a particular (for example local) or bifurcated (for example global-local) geographical scale is used in ways that "obscure the subtle variations within, and interconnections between, different scales" (2001: 90). In network formation and networking processes, there is a complex intermingling of geographical scales. A relational view of social actors and their networks, they therefore argue, must always be sensitive to the geographical scales at which they operate. As Jessop *et al.* (2008) argue, territories, places, scales and networks must be viewed as mutually constitutive and relationally intertwined dimensions of socio-spatial relations

Thirdly, then, the relational turn has seen a shift away from the firm, as an abstract entity, as the key analytical focus, towards a focus on social actors (Ettlinger, 2003; Yeung, 2005a), in particular individuals within firms and how their interests coincide with or diverge from the material interests of the firm, and the implications this has for firm practices (Boggs and Rantisi, 2003). Empirical work has demonstrated that individuals may form networks within and outside firms that can either advance the interests of their employers (see, for

example, Amin and Cohendet, 1999) or prioritise personal interests over those of their employers (see for example Christopherson, 2002). As Boggs and Rantisi (2003: 112) emphasise, "the logics that inform workplace practices cannot be understood solely in narrow economic terms or in terms of one single rationality, and accordingly, cannot be unconsciously equated or conflated with those of the 'firm'". However, as Granovetter (1985) argues, individuals do not act atomistically without context. Rather, their identities and resource capabilities are co-constituted by their relations with other actors (Boggs and Rantisi, 2003) and their decisions are always shaped by the structure of social relations with other actors and shared institutional conditions (Bathelt and Glückler, 2005).

These relational resource capabilities include both social capital and power. In the case of social capital (see Coleman, 1988; Bourdieu, 1986), Bathelt and Glückler suggest it cannot be attributed to individual actors or firms; rather it refers to "the opportunities that actors draw from the quality and structure of their relations with other actors in order to pursue individual objectives (2005: 1555; see also Bathelt and Glückler, 2003). Social capital, they argue, is a result of on-going social practices; it cannot be possessed or built without the active involvement of others – it is built collectively. Similarly, power is also a collective capacity, created and embedded through network relations, for which actors are dependent upon a set of related actors. Bathelt and Glückler (2005) outline how those actors who are viewed as having power are able to build and develop their networks by enrolling other actors; Allen (1997) and Taylor (1996) have termed this as 'power as relationships'. Dicken *et al.* (2001) and Yeung (2005a) suggest that a central component of a relational analysis is recognition of the existence of differential power relations within actor-networks. Powerful and active actors play a key role in driving networks and making things happen. Their ability to do so is dependent upon their control of key physical, political, economic, social, and technological resources. However, while the control of resources is necessary in order to have power, it is not a sufficient condition for the ascription of power to an actor. The increasing adoption of Actor Network Theory approaches in economic

geography has revealed how power is the relational effect of the capacity to influence, and the exercise of this capacity, through actor-specific practice (Yeung, 2005b Dicken *et al.*, 2001; Allen, 1997). Power can therefore be defined as a relational and emergent concept manifested through practice.

As Dicken *et al.* (2001) note, studies purporting to develop an understanding of the global economy have generally analysed one, or perhaps two, types of agents, such as firms or industrial sectors. Other agents and non-human intermediaries, they argue, have been "neglected or even dismissed as irrelevant and anachronistic" (2001; 91). In response to this, relational geography has gained further impetus from the influence of Actor Network Theory and its emphasis on the construction of diverse, heterogeneous networks involving both human and non-human actants (Sunley, 2008). In Actor Network Theory, it is considered that non-human artefacts (for example computers) enable social actors to "develop and maintain modern social relations; relations that span out across space at *all* scales via networks" (Dicken *et al.* 2001; 102; emphasis in original). These non-human actors, such as technological artefacts, are not however considered as simply resources or passive actors. Rather, for Callon and Law, they can "intervene actively to push action in unexpected directions" (1997: 178); unintended impacts can occur when non-human actors are used and employed by different actors in different ways and in different contexts (Dicken *et al.* 2001). Thus, within heterogeneous networks, it is argued that "non-humans play a critical role in embodying and shaping action" (Law, 1994: 383).

Shortcomings in the relational economic geography debate

It is perhaps surprising, given the recent 'relational turn' in economic geography outlined above, that most economic geography research on networks has tended to continue to focus on the meso-level of inter-organisational networks (Storper and Salais, 1997; Grabher (2004a) at the

expense of more detailed micro-scale examinations of networking practice. Although networks have become a major analytical concept in economic geography, it is typical of much research that overlapping social networks, and the individual actors that constitute them, are uncritically subsumed into inter-firm networks. Ettlinger (2003) argues that this top-down strategy excludes the people involved in the daily practices of work, and leads to an 'ecological fallacy' whereby it is presumed that what holds for firms in networks also holds for individual actors. Furthermore, recent critiques have argued that the networking paradigm in economic geography is inherently positive and associative (Vorley *et al.*, 2012), and does not recognise unequal power relations and the fragility of networks and social relations (see Markusen, 2003; Grabher, 2006). For Vorley *et al.* this associative paradigm "fails to recognise the full heterogeneity of network practices in economic geography" (2012 80).

Taking a relational approach to the study of networks would suggest the need for in-depth micro-level research focuses on actor's networks and inter-relations; what Ettlinger (2003) terms a 'microspace' approach to study of trusts, rationalities, networks and change. However, recent research that takes this perspective forward, such as that adopting a global production networks approach (see, for example: Coe, 2001; Coe and Johns, 2003; Johns, 2006, 2010; Yoon and Malecki, 2009), has retained a focus on the meso-level of intra- and inter-firm networks. Such perspectives have undoubted value in developing our understanding of the complexities of the structure, nature and form of organisational networks. However, 'microspace' approaches have much to offer to our understanding of the heterogeneous and political nature of social networks, and the tensions between these social networks and economic transactions, across a wide range of industries.

Actor network theory approaches offer one framework for undertaking micro-level studies; however such approaches have been criticised for privileging the relational dimension of the web of connections in networks at the expense of considerations of the actors themselves (see Grabher, 2006; Dicken

et al., 2001). Another potential framework for undertaking micro-level studies of networking, which are able to capture the full heterogeneity of networking practices, is to draw on perspectives being developed in sociological studies of work and networking in the cultural and creative industries. This is one area of research in which micro-level studies have proliferated. Industry-specific examples of such research from across a range of academic disciplines include Blair (2001, 2009; Blair et al. 2001, 2003) on the film industry; Antcliff et al. (2007) and Lee (2011) on the television industry; Christopherson (2002, 2004) on new media; Norcliffe and Rendance (2003) on the comic book production industries; as well as Hesmondhalgh and Baker's (2010) study of three cultural industries.

The focus of much of this micro-level research on the cultural and creative industries can be explained through the increasingly pervasive effects of the neoliberalisation of work in these industries, which is reducing employment security and eroding working conditions in these industries. In particular, as patterns of project work have become more temporary and flexible, freelance has become increasingly common (see McRobbie 2002; McGuigan, 2010); in some sectors, such as film and television, fragmentation and deregulation have resulted in almost universal freelance working (Davenport, 2006; Saundry and Nolan, 1998; Ursell, 2000). As stable notions of careers have given way to more informal, insecure and discontinuous employment (Jones 1996), increasing numbers of cultural and creative workers are engaged in insecure, casualised, or irregular labour (Gill and Pratt 2008) - 'precarious' employment (see Murdock 2003; Neilson & Rossiter 2005; Ross 2008) marked by "structured job insecurity" (Blair et al. 2001, 174).

Related to this, one particular aspect of the heterogeneity of networking practices that has received little attention in economic geography is that of emotion. The importance of informal, 'softer' personality characteristics and symbolic attributes, and the performance of emotional labour, for example, in the building of trust and reputation, and therefore to winning work in a

precarious environment, has been little-recognised in economic geography literature (although see Ettlinger, 2003) or indeed academic literature more widely (although see Hesmondhalgh and Baker 2008). The issues above issues are examined further in Chapter 3.

1.3 Aims and objectives of the research

For Dicken *et al.* (2001), relationalism is not seen as a rigid analytical framework, but rather as a methodology and point of departure for empirical work (see also Dicken and Malmberg, 2001). They suggest the task of a network methodology must be to identify actors in networks, their power and capacities, and the ways in which they exercise their power through associations within networks of relationships. A relational epistemology therefore seeks to understand the potential of different human and non-human actors to affect one another, and how these capacities are enacted in particular ways through webs of actions (Thrift, 1996). This thesis is concerned with developing a relational perspective on economic activity in one particular sector of the creative economy, namely the recording studio sector.

The overall aim of the research is to examine the validity of a relational economic geography framework for researching and understanding this particular sector of the music industry. In particular, the research seeks to address the two key shortcomings in literature on the relational economic geography framework briefly identified in the previous section; namely the rather too limited focus networks at the macro-scale; and lack of recognition of the role of human emotions to relational work. It will achieve this aim by undertaking a detailed micro-scale examination of recording studios as relational spaces, considering the way in which this relationality is developed and maintained through the creative, social, economic and networking practices of the social actors who work within them. The research will address a number of specific research objectives:

- First, to analyse the importance of both technologies (i.e. mixing desks, recording instruments) and actors (i.e. engineers, producers) in enabling creativity within the space of the recording studios.

- Second, to critically examine the role of emotional labour in facilitating and encouraging creativity, and in building creative and personal relationships in and beyond the insulated space of the recording studio.

- Third, to critically examine the working conditions and employment relations to which record producers and recording engineers are subject and which shape individual practices and attitudes towards creativity, reputation and networking.

- Finally, to critically interrogate the components, practices and networks which constitute recording studios as relational creative social and economic spaces.

1.4 Research Design

In discussions of methodology within the social sciences, the distinction between quantitative and qualitative research is most frequently evoked. For Bryman (2008), quantitative and qualitative research form distinctive clusters of research strategy, linking theory and research, and epistemological and ontological considerations. Quantitative research is principally conceptualised as having a logical structure, whilst qualitative research is characteristically more exploratory, fluid, and flexible (Mason, 2002). Most quantitative analyses are undertaken from a positivist epistemological orientation (see Bryman, 2008) and are based on a deductive approach to theory and a hypothesis is developed. This is tested through the collection of data. Frequently the ontological orientation is one of objectivism, with social phenomenon deemed to occur independently of social actors. In qualitative analyses, the imposition of a pre-ordained theoretical framework is often considered to be a constraint (Bryman, 2000), and rather than a hypothesis being drawn from an established

body of literature, an inductive approach to theory is taken. The epistemological approach is one of interpretivism, attempting to "grasp the subjective meaning of social action" (Bryman, 2004: 13). The ontological orientation of qualitative studies tends to be constructionalist, highlighting the role of actors in accomplishing social phenomenon.

As methodological strategy is epistemologically positioned (Sayer, 1992), different methods do have particular strengths for answering research questions and hypotheses developed in various forms of research design (Valentine, 2001). However, Johnston *et al.* (2003: 160) argue that any polarisation of quantitative and qualitative research is "not only misleading but also creates a dualism that is both unrepresentative of much social science research practice and potentially very limiting to its development". For de Vaus (2001), a particular research design does not intrinsically require any one particular method of data collection, and quantitative and qualitative methods should not be equated with a particular research design. For Johnston *et al.* (2003: 160) "a unified approach which integrates the logic of good quantitative and qualitative research designs and analyses should show that the two do not fundamentally differ."

Starting from this principle, this study combines methods that are most often separated within the quantitative-qualitative polarisation. The specific methods employed in this research consist of an extensive quantitative social network analysis, extensive quantitative questionnaire survey, and intensive semi-structured interviews. While adoption of intensive qualitative methods allows the gathering and analysis of in-depth, complex information (Mason, 2002), the ability of the research to fully achieve the stated aims and answer the research questions (see section 1.3) would be limited without the use of extensive quantitative information. In the case of this research, the intensive qualitative methods employed aim to allow the researcher to gain an in-depth knowledge of creative practice and work in and beyond the space of the recording studio. The extensive research methods, in particular the social

network analysis, allow the research to capture the more distanciated elements of cultural production, allowing the identification and mapping of global relational networks between recording studios, which could be achieved through qualitative analysis but with great difficulty.

Whilst the study combines methods, an inductive approach to theory is taken, the epistemological approach is one of interpretivism, and the ontological orientation constructionalist; these are generally associated with a qualitative research strategy. The data collected for this research is cross-sectional in nature; therefore as it is collected at a single point in time, the weakness is an inability to account for changes over time. This is unfortunate given that one of the main features of cultural production is its dynamic nature, changing to respond to fluctuations in consumer tastes and trends. However, the limits of the research made a longitudinal research design unfeasible. There were also limits on the type of the methods that could be employed as part of the research. For example, with sufficient time, more intensive ethnographic methods would potentially have allowed for the development of deeper insights into creative practice and work in the space of the recording studio.

With any research design, it is important to think critically about appropriate generalisations (Mason, 2002). The rigour of an analysis may allow for claims for wider resonance, and thick description can allow other researchers to judge the applicability of the findings to other contexts (Bryman, 2000). However, generalisations for other settings, based on the key explanatory factors of the processes occurring within a specific setting (in this case, within recording studios located in London), are inevitably going to be limited by the similarity or difference of these other settings (Mason, 2002)., e.g. differences in cultural practice and winder urban contexts in other cities. This issue is revisited in the conclusions of the thesis (Chapter 9).

1.5 Structure of the thesis

The following two chapters review two key areas of literature relating to the subject of this thesis. Chapter 2 argues that we are seeing the development of new relational geographies of music creativity operating across multiple spatial scales, in particular with relation to recording studios based in major cities. Written from a relational perspective that recognises the importance of multiple overlapping geographical scales, the chapter moves from the insulated spaces of recording studios, through the wider creative urban environment in which they are situated, to their more widely geographically dispersed networks of creativity. Recording studios, it is argued, are at once relational, material and technological spaces, emphasising the need to situate creativity more squarely in its material and embodied contexts of production and consumption.

Following this discussion of relational spaces Chapter 3 discusses project working as a form of relational practice. In this chapter, it is argued that too often in economic geography there is a narrow focus on projects as forms of organisational practice, at the expense of developing understandings of working conditions in project-based industries. It is argued that by drawing on literature from organisational sociology and related fields such as cultural and media studies on the experiences of workers in project-based industries, economic geographers can play an important role in researching projects not only as forms of economic organisation, but also in providing accounts and critiques of the conditions of work and experiences of workers in a wide range of project-based industries. Relating to the focus of this thesis on the recording studio sector, Chapter 3 draws specifically on literature on work in cultural industries.

In Chapter 4, a quantitative social network analysis is undertaken of the working flows that occur between recording studios, based in cities across the globe, when they are part of temporary creative projects that are brought together to produce recorded music albums. The chapter aims to provide a

measurement of the importance of particular cities, based on the relational project-based work taking place in and through their agglomerations of recording studios. The results of this analysis demonstrate how ties between recording studios, musicians, and individual record producers and recording engineers connect musically creative cities across the globe, resulting in the development of new relational geographies of creativity. This is set within a context of an analysis of the importance and centrality that these networks lend to the cities in which key recording studios are based.

Chapter 5 firstly examines the technical process of creating music, including practices of recording, the impact of digital technologies, and the relationship between technology and creativity. Following this, the second part of the chapter, evaluates the results of an extensive quantitative questionnaire survey of recording engineers and record producers working in recording studios in London. A number of different areas of studio work are examined, including employment and careers, the technical and creative process within the studio, and personal and professional networks.

Chapter 6 and Chapter 7 reveal and describe in detail the cultural, social and economic geographies of recording studios, through the analysis of the findings from nineteen in-depth qualitative semi-structured interviews with recording engineers and record producers working in recording studios in London. Chapter 6 undertakes a micro-examination of work in the studio specifically in terms of technology and its relationship with creativity and collaboration in and beyond the insulated space of the recording studio. Chapter 7 examines the social and emotional elements of work in the recording studio, and in particular the importance of emotional labour to the work of producers and engineers.

Chapter 8 presents a discussion that unpacks the components, practices and networks that constitute recording studios as relational creative social and

economic spaces. The first two sections of this chapter summarise and consolidate the findings of the research with reference to literature on creative and technological practice. The first section evaluates the relationalities of creativity in the recording studio, while the second section locates recording studios within relational networks. Then, in the final section of the chapter, the contribution that the research makes to theory is explicated through a discussion that positions the findings of the research within a wider relational geography framework. The discussion emphasises how recording studios operate as relational creative social and economic spaces, operating across multiple geographical scales.

Chapter 9 then goes on to conclude the thesis by emphasising the complex ways in which studios act as relational creative social and economic spaces. Here the chapter identifies three particular types of relationalities; *material and technological relationality*, *social relationality*, and changing *employment relations.* Finally, the thesis closes by identifying the potential directions for further research that are revealed through the empirical findings of this research.

2   Spaces and networks of musical creativity

The short discussion presented in the introductory chapter on creativity emphasised the need to study in more detail the place in which it occurs, its socio-economic context, and the wider networks of creativity within which it is situated. As also described in the introductory chapter, this thesis is concerned with a particular type of creative practice – that of the production of music and sound. Recording studios are considered to be particularly important spaces for these creative practices, being privileged to the most intimate moments of musical creativity and emotive performance. In the previous chapter, drawing on the work of Gibson (2005) it was argued that recording studios can be considered as *relational* spaces of creativity; that they constitute sites of relational creative practice. This chapter argues that we are seeing the development of new relational geographies of music creativity operating across multiple spatial scales, in particular with relation to recording studios. The chapter begins with a wider review of the geographical work to date on music, place and geography. The main section of the chapter then presents a discussion of musical creativity, organised into two parts; the first discusses recording studios as formalised spaces of musical creativity; the second discusses creativity and performance in its wider spatial context. The chapter closes by emphasising the need to situate creativity squarely in its material and embodied contexts of production and consumption.

2.1 Music, place, and geography

Geographers have had a relatively limited engagement with music, despite repeated calls to develop our understandings of the relationships between music, space and place (Smith, 1994; Leyshon *et al.*, 1995, 1998; Kong, 1995). Since the mid-1990s, there has however developed a body of literature from geographers who have attempted to tackle the complex social, cultural and economic issues surrounding music. The growing engagement of geographers with music has occurred in parallel with an increased interest in the field of popular music studies with the spatial, a field concerned with aesthetics, texts, production and consumption of popular music. The increased concern with the spatial in this field is demonstrated with the increased focus on local scenes and the particularity of certain places and spaces of musical production. For Krims (2002) such studies have produced some impressive results, "foregrounding music practices that might otherwise remain marginal" (2002: 166).

The literature being produced by geographers on music has provided a growing challenge to the visual biases of conventional geographical understandings of space and place and the ways in which they are made and remade (Ingham *et al.*, 1999; Leyshon *et al.*, 1995; Smith, 1994; Wood, 2002). It is important to note however that the exchange of ideas across disciplinary boundaries has been vital to the development of a geographical body of literature on music. There are a number of authors from other disciplines who have been particularly influential due to their regular boundary crossings into the traditional territory of geography. These include Sara Cohen's work on music in Liverpool (Cohen, 1991a, 1991b, 1995, 2007), Simon Frith and Will Straw's writings on popular music (for example Frith, 1996; Frith and Goodwin, 1990; Straw, 1991), Tony Mitchell's work on identity and rap music (Mitchell, 1996, 2001), and Andy Bennett's work on youth cultures and music scenes (Bennett, 1999a, 1999b, 2000a, 2000b, 2002; Bennett and Peterson, 2004).

Work on geography and music was firmly put on the agenda of geography during the first half of the 1990s with the publication of three key articles. Smith's (1994) paper *Soundscape* called for music to be "integral to the geographical imagination" (1994: 238), a call which *The Place of Music* (Leyshon *et al.*, 1995) aimed to 'amplify'. Kong's (1995) work on music in geographical analyses argued that "geographers' relative neglect of popular music…should not persist" (1995: 183). To many, these articles provided a source of inspiration, and an opening to combine a personal passion for music with geographical research interests. Although progress has been slow, there has developed a small but distinct body of geographical literature focusing on music. Leyshon *et al.*'s *The Place of Music* (1995) acted as an introductory paper to a special issue of the journal *Transactions of the Institute of British Geographers* (vol. 20, 4, 1995), a significant engagement by geographers with music. The articles in the volume demonstrated some of the ways in which music could be used to enrich geographical analyses. Topics ranged from the relationships between music and urban regeneration (Hudson, 1995) and the production of place (Cohen, 1995), to cultural politics (Kong, 1995) and transgressive spaces of sexuality (Valentine, 1995). These articles would form the basis of a book, also entitled *The Place of Music* (Leyshon *et al.*, 1998), a key point in the development of the topic.

Subsequent studies into music and geography can be broadly categorised, if not neatly defined, into sub-disciplines. Social and cultural geographers have produced a wide range of studies which have been concerned with the role of music in the social and cultural construction of place, space and identity, and associated with this, soundscapes, sonic environments, and the performative aspects of music (Anderson *et al.*, 2005). Not only does such work find overlap with spatially-orientated work in the field of popular music studies, as outlined earlier; it also finds overlaps with the field of 'sound studies' (see Pinch and Bijsterveld, 2004), a research field concerned with the *material* production and consumption of music.

Notable examples of work within social and cultural geographical traditions include Halfacree and Kitchin (1996) on popular music in Manchester; Smith (1997) on art, industrialism, and the cultural politics of music; Krims (2000, 2002) and Mager (2007) on rap/hip hop music and urban geography; Valentine (1995) and Skelton (1995) on music and sexuality; and Ingham *et al.* (1999), Smith (2000), Jazeel (2005), Knight (2006), and Wood *et al.* (2007) on sound and space. Significant bodies of work have also been produced by Lily Kong, mainly focusing on Singapore (e.g. Kong, 1997, 2006), and Chris Gibson, predominantly focusing on Australia. The works of Chris Gibson, along with John Connell, have made a particularly noteworthy contribution to the field of music geography. As well as writing *Soundtracks* (Connell and Gibson, 2003), a key book in the field, he has produced work on recording studios (Gibson, 2005), world music (Connell and Gibson, 2004a), and on the relationships between music, tourism (Connell and Gibson, 2004b; Gibson and Connell, 2005), place marketing (Gibson and Davidson, 2004) and urban redevelopment (Gibson and Homan, 2004). Other publications cover the relations between migration, rural transformation and popular music (Gibson, 2002); and culture, spatial politics and the Internet (Gibson, 1999). Work from related sociological and anthropological perspectives includes, for example, the edited volumes by Stokes (1994) and Whiteley *et al.* (2004).

Economic geographers meanwhile have built on the ground established through the cultural turn in economic geography, considering the music industry as a cultural industry, shaped by economies of culture and technological innovation. Examples of work by economic geographers examining the economics and spatiality of the music industry include the work of Dominic Power on the Swedish and Jamaican music industries (Power and Hallencreutz, 2002; Power and Jansson, 2004; Power and Hallencreutz (2007); the work of Alan Scott on LA, Nashville and New York (1999a); Richard Florida (Florida and Jackson 2010; Florida *et al.*, 2009) on the US recorded music industry; Cummins-Russell and Rantisi (2012) on the Montreal music scene; Sadler (1997) on the music industry as information industry; Klein (2011) on temporary music events (especially conferences); and Brandellero and Pfeffer

(2011) on world music production. Andrew Leyshon has continued to be at the forefront of this literature, with studies on digital music formats and the 'crisis' of the record company (see Leyshon, 2001, 2003; Leyshon et al., 2005) and more recently on the recording studio sector (see Leyshon, 2009).

Given that much of the above work has focused on the urban as the key site of music production and consumption, the remainder of this literature review chapter focuses on spaces and networks of musical creativity in the city. The following section presents an opening discussion of musical creativity in the urban environment. Given the focus of this research on the recording studio sector, the chapter then focuses in particular on recording studios as key formalised spaces of musical creativity. Finally, the chapter presents a discussion of creativity and performance in the wider urban environment outside of the formalised space of the recording studio.

2.2 Musical creativity in the city: spaces and networks

Musical creativity can spark in any city at any given time. Whether one thinks of classical music in 18th Century Vienna (Hall, 1998), New York's Tin Pan Alley (Furia, 1992), Nashville's Music Row (Kosser, 2006), Motown in Detroit in the 1960s (Quispel 2005), or the guitar music of Liverpool (Cohen, 1991a) and Manchester (Halfacree and Kitchin, 1996), specific types of music are associated inextricably with particular cities. More generally, the city provides the concrete places that offer spaces for musical creativity. Certain spaces, such as recording studios, are specifically organised for this purpose, although music is produced in many spaces, from the bedroom, garage or home studio (Connell and Gibson, 2003); to community and youth centres (Hoyler and Mager, 2005); to street corners (Toop, 2000) and clubs (Todorović and Bakir, 2005). However, music is not only made in urban spaces, but also for urban spaces. Specific sites link the production and consumption of music, for example night clubs and concert halls, but also abandoned and reclaimed

spaces such as empty warehouses and former factories (Gibson, 1999) and public spaces like the street. Urban geography, both material and imagined, is then a crucial mediating factor in the production and consumption of music.

Cities also sustain networks that foster and support musical creativity. These networks may persist over time, or exist only for a short creative episode. Thus, some cities are associated with one particular musical style, while others provide a constant stream of musical creativity (Kloosterman, 2005). These networks come together in locales of creativity and production, for example, live music venues, cafés and bars allowing networking, along with music industry infrastructure (see Watson, 2008; also Scott, 1999b; Power and Hallencreutz, 2002), and therefore find 'fixity' in the concrete spaces of the city (Connell and Gibson, 2003). Networks of musical creativity are, however, at the same time fluid. While mobility within musical creative networks has undoubtedly been enhanced by new internet technologies, allowing for the increased sharing of knowledge and for the wider distribution of musical products (Leyshon, 2001, 2003), there is a materiality to this mobility that stretches further back than the widespread introduction of the internet. Musical knowledge has always moved within and between cities through mobile creatives, including musicians and DJs, producers and music industry executives.

Individuals with unique skills and creativity are thus the main prerequisite for the maintenance and renewal of these creative networks (Törnqvist, 2004), with certain cities acting as magnets for talented individuals from across the globe (Scott, 1999a). City diversity is seen to be a significant factor in encouraging skilled labour to locate to a particular city (Jacobs, 1961; Hubbard, 2006), contributing to an open, dynamic, and cool 'people climate'. Nowhere is this more marked than in the buzzing, heterogeneous, ethnically diverse, and tolerant neighbourhoods of cities (Helms and Phleps, 2007). Musicians and other artists have a historical tendency to concentrate in the creative and bohemian enclaves of particular cities in search of inspiration and experience;

see for example Lloyd (2006) on the Wicker Park neighbourhood of Chicago, and Foord (1999) on the Hackney area of London. Therefore as Connell and Gibson suggest, a common element of literature on popular music is a "tendency to search for links between sites and sounds, for inspirations in nature and the built environment" (2003: 91). This literature has in particular focused on geographical roots in, and influences of, a particular 'scene' or 'sound' which musicians or producers identify with, thus attempting to locate them within a particular physical space:

> "Wild variants and cross blends, from major subcultural styles such as hip hop, reggae, punk, heavy metal, 'indie' rock and techno, to the specialised niches of acid house, speed garage, drum and bass, acid jazz, speed metal, dub, industrial techno, ragga, lounge and trance, occupy discrete social and material spaces in diverse settings…" (Gibson 1999: 20)

For Florida and Jackson (2010) a scene can be thought of as a geographic location that brings together musical and business talent (artists, producers, engineers, industry executives, audiences) across social networks and physical space (neighbourhoods, recording studios, bars, pubs, clubs, and live music venues). A scene arises once communities and subcultures begin to come together in particular niches focused around clustered creatives in a particular location (Currid, 2007a). For Straw (1991) local musical creativity is cosmopolitan yet fluid, loose, transitory and geographically dispersed in nature. Straw identifies scenes as created and produced through *alliances* of musical preferences, constrained or enabled by power relations across space, whilst Olson (1998) emphasises the *routes* over the musical *roots* in scene formation and creativity (for a more detailed discussion of music scenes, see Bennett and Peterson, 2004).

While certain cities have developed an intimate relationship with music, and are celebrated as distinctive sites of productions for particular forms of music, cities are not however single homogeneous entities. Certain neighbourhoods and spaces within these cities are identifiable places of musical creativity, containing specific spaces of musical production and consumption. This creativity will be influenced by the physical landscape and cultural diversity of particular neighbourhoods (Hubbard, 2006, see also Drake, 2003). It will also be influenced by the presence of supporting networks of musicians, other creatives, audiences, and music industry players, and by a presence of a cultural and economic infrastructure:

> "Large cities usually provide both the socio-economic context (clubs, recording studios, inner-city bohemian neighbourhoods) and, perhaps, the inspiration of musical creativity, though this may be less from urban cultural diversity or unique landscapes, and more from everyday links with audiences, other musicians and composers." (Connell and Gibson, 2003: 194)

Diverse neighbourhoods provide the opportunity for the mutual exchange of musical styles and practices amongst different cultural groups, increasing wider exposure to a set of *atonal ensembles* of diverse musical cultural expressions (Said, 1990). Musical creativity from cultural fusion in and across such neighbourhoods has produced some of the most successful and influential genres of music. Hip hop, for example, finds its roots in the Caribbean but materialised as a distinct genre when mixed with urban musical cultures in Western cities. Emerging in the deprived inner-city neighbourhoods of US cities, in particular the Harlem and South Bronx neighbourhoods of New York, hip hop was, and remains to be, intense in its territoriality, and in particular in its focus on the *ghetto* as both a real and imagined space (Connell and Gibson, 2003). Similarly, Allen and Wilcken (2001) describe how in New York Caribbean-American musicians have a history of interaction with African-Americans, which has resulted in the fusion of musical styles in the form of *Salsa* and *Soca,* as well as hip hop. Jazeel's (2005) examination of British-

Asian soundscapes emanating from the UK highlights the new soundscapes that develop when musical creatives draw on fluid, transnational cultural and technological influences in both their work and life. Jazeel draws on the example of the British-Asian musician and producer Talvin Singh to highlight how the mixing of cultures results in music that is difficult to place:

> "His sound combines tabla and turntable, sitar and sampler, it is a sound that emerges from his Brick Lane studio in London's East End, is played on the dance floors of hip UK and US clubs… His beats, tones, and chords, however, evoke geographical imaginations of Asia and elsewhere. Singh's sound belies easy placement." (Jazeel 2005: 234)

As Connell and Gibson (2003) suggest, 'cultural space' can be carved out of wider social space through musical praxis and the alliances that support musical scenes and performance spaces. The local infrastructure of production, including recording studios and live music venues, helps to embed diverse musical scenes in space, through the ways in which musicians, audiences, and music industry professionals make use of the infrastructure:

> "The most famous scenes have all built upon local support, and featured particularly vibrant combinations of venues, local production and methods of information flow and exchange. Infrastructures of musical exchange solidify the presence of scenes, providing concrete spaces and emphasising cultural meaning for participants." (Connell and Gibson, 2003: 102)

In Birmingham, UK, the British Bhangra music industry has grown due to a key concentration of music talent and expertise, the presence of key record labels, studios and distribution companies, and a culture of live DJ performance (see Dudrah, 2007). Similarly, in Manchester, the existence of local record labels, promotional facilities, venues, and clubs such as the Haçienda nightclub,

spurred the development of the 'Madchester' scene (Halfacree and Kitchin, 1996). In New York, a major commercial centre for Caribbean jazz and popular music has grown around an unparalleled network of record companies, recording studios, broadcasters and performance venues (Allen and Wilcken, 2001).

The local infrastructure extends to include the cafés, bars, pubs and clubs, and live music venues within particular areas of cities (see Luckman *et al.*, 2008; Watson 2008; Cohen and Lashua, 2010; Cummins-Russell and Rantisi, 2012). Musicians, for example, may meet, collaborate, and exchange creative experiences, through sharing practice rooms and studios, and appearing on the same live music bill, but also through chance encounters when drinking in the same bars and clubs. Music industry professionals may likewise meet and exchange experience and information in informal ways (see for example Currid, 2007a, 2007b), as well as within more formal music industry networks. The dynamics of social relationships are built around an informality that blurs the business–social divide (see Watson, 2008). These often fragile networks of links and relationships form creative *ecologies* that support creativity (see Shorthose, 2004; also Grabher 2001, 2002), and allow creatives to move unhindered across the lines of different professional fields (Törnqvist, 2004).

Music scenes are now not only being included in discourses of how art and culture function as tools for economic development, but are also being discussed in terms of being catalysts for urban redevelopment; see for example Seman (2010) on the Slowdown project on Omaha, Nebraska; and Hudson (1995) on music as an alternative regeneration strategies on Derwentside, UK. Such strategies reveal how developing successful local music scenes and industries requires more than an environment that is supportive of creativity; in examining local musical creativity and music industries, it is important to also recognise the role of supply and demand in the local economy. For local music industries and infrastructure to be economically successful or even viable, there

must be a sufficient number of customers, and density of human capital and resources to economise on production costs (Andersson and Andersson, 2006), to make production profitable. Recording studios, for example, can have large fixed costs from continuous investment in new technologies, and must be able to attract a sufficient number of musicians and producers to use the studio in order to cover these costs. Therefore the largest and most successful studios are predominantly located in cities, where the density of musicians is likely to be highest.

Furthermore, while new technologies may empower musicians within studios, it cannot guarantee commercial success. Almost all music that is commercially successful has to pass through urban spaces, in which cultural innovators practice their vocations on products for both localised consumption and also distribution to more remote places (Krims, 2007). Musicians may find it difficult to sell music without using the supporting industry infrastructure of such places. This infrastructure includes live music venues where consumers and record companies can see the music performed in a concrete space as opposed to the fluid space of the internet, serving to distinguish the authenticity of the musician or band and their musical product and giving value to local music in a global market. Pubs and clubs remain the main sites for engagement with live music, and are central to the development of local music scenes (Shuker, 1994); see, for example, Homan (2002) and Gibson and Homan (2004) on live music scenes in inner-city Sydney; Luckman *et al.* (2008) on the live music scene of Darwin, Australia; and Gallan (2012) on the live music scene of Wollongong, Australia. Live music performance, for example, is recognised as a key source of revenue in the music industry (Williamson and Cloonan, 2007). However, large live music venues have high fixed costs, and they must be able to attract a sufficient number of consumers within a distance that allows ease of travel to the venue. Larger music venues are therefore almost exclusively located in cities with considerable population density (Andersson and Andersson, 2006). Demand within local markets is then crucial to the economic viability of the music industry.

The process of producing music, in the first instance, involves small-scale creativity that often in itself has little instant economic value. This creativity involves musicians, along with skilled professionals, meeting and creating music in city spaces such as garages, pubs and clubs, and recording studios. Gibson (2005) argues for a relational understanding of these spaces of creativity. Such an understanding, he argues, must consider the ways in which creativity interacts with urban physical form, technology, and the various actors in networks of creativity and production, in complex ways. With this in mind, the following sections consider in detail some of the urban spaces where music is created; firstly recording studios as formalised spaces of musical creativity; and, secondly, as spaces bound into wider terrains of musical creativity and performance in the city.

Recording studios: formalised spaces of musical creativity

Recording studios are the most formal of all spaces of musical creativity in cities. Largely acting as an independent service within the contemporary recorded music industry, they form the direct link between the record companies and artists and the creation of the final recorded musical product. Many are owned and operated by entrepreneurial producers and engineers, whilst record companies maintain control over a very limited number of larger studios. Recording studios are privileged to the most intimate moments of musical creativity and emotive performance. Viewed from Gibson's (2005) relational perspective, these creative moments are produced not by the musician alone, but through relations between musicians, producers, and engineers. During the 1960s and 1970s in the recording studios of Memphis, Tennessee, for example, creative moments were produced between artists, producers, arrangers, and session musicians including string musicians. These recording sessions were characterised by the relaxed mood of the participants and an enjoyable, creative environment, with particular key figures central in co-

ordinating the recordings and interpreting styles between popular music arrangers and classically-trained string musicians (Brewer, 2000). Therefore, while musicians are recognised as the creators of music, some commentators have termed studio producers and engineers, as well as song writers, marketers and A&R agents as *cultural intermediaries* (see for example Hennion, 1989). The ability of musicians to make music is therefore dependent on these other industry personnel (Shuker, 1994; Pinch and Bijsterveld, 2004).

It is the insulated space of particular recording studios that gives musical creatives the conditions required to experiment and create music. As Cogan and Clark describe with reference to America in the 1940s and 1950s:

"The fact that these studios were little more than converted radiator shops (Sun Studio in Memphis) or fruit and vegetable refrigerators (J&M Studio in New Orleans) makes the recordings that came out of them, like "Great Balls of Fire" or "Blueberry Hill" all the more magical. Perhaps most significant, the studio provided a backdrop for more than mere hit making. It was a space, a sanctuary, where blacks and whites labored daily as artistic collaborators" (Cogan and Clark, 2003: 12).

Available technologies mediate creative actions and offer the potential for high levels of innovation and creativity (Warner, 2003). For Horning (2004), the recording studio is a site of collaboration between 'technologists' and artists, where maximum creativity requires a symbiotic relationship that requires skills that are at the same time both technical and artistic. As the musician Quincy Jones describes:

"The technology only goes so far: the studio was where planned and unplanned collaboration happened. The genius of the musicians brushed against the genius of the engineers, producers and arrangers. You could

go in expecting one thing and come out with something entirely unplanned…" (quoted in Cogan and Clark, 2003: 7)

Many studios have built a reputation based around the experience and skill of their staff, as well as the particular acoustic qualities of the studio space and the quality of recording equipment. Both Abbey Road Studios (Figure 2-1) and Air Studios (Figure 2-2) in London, for example, have large, purpose-built acoustic spaces for the recording of orchestras, along with custom-built recording consoles operated by highly skilled sound engineers.

Figure 2-1: Abbey Road studios, North West London

(Photo: Author)

Figure 2-2: Air studios, North West London

(Photo: Author)

Moreover, certain sounds may become associated with specific studios, particular producers or musicians, or through the studio's location with one particular place or scene (Pinch and Bijsterveld, 2004). In the 1960s in Jamaica, for example, the recording studio and record label 'Studio One' would become central to the development of the distinct sounds of reggae music. Its characteristic sound would come from the way the studio was engineered by producer Clement Seymour 'Coxsone' Dodd. Dodd balanced sounds in a unique way based on the studio room, which meant that his sound could not be replicated elsewhere (Bradley, 2001). He also chose key musical directors, and by keeping them on a wage helped to retain a distinctive sound. His studio was an open, creative environment, and the only studio in which musicians and singers could smoke weed (Bradley, 2001). It was therefore seen as an environment that was sympathetic to creative concerns of Jamaican musical talent.

However, it is important to note that studio work is very expensive and is often performed under severe time constraints. Orchestral arrangements are therefore fixed before going to the studio, much of contemporary music is pre-produced in home studios, and many inspirational lyrics are written prior to the studio session. Crucially, recording technology affects the social organisation of creative musical processes in the studio. For example, the magnetic tape enabled a certain degree of social and geographical diffusion of sound recording to different towns and cities in the U.S., contributing to the rise of rock n' roll in the 1950s (Gillett, 1996). During the following decade the introduction of multi-tracking allowed the construction of musical textures and the production of illusionary song-sounds resulting in gradually shifting relations between musicians, composers, producers and technicians in the studio, exemplified by the work of George Martin with the Beatles in London's Abbey Road studios, or Berry Gordy's extensive control over Motown's artistic production processes. Musical recording in the late 1960s was recentralised in cities and strongly reconnected to the music industry as the new technology demanded considerable investments in studios and skilled personnel that only major record companies could afford. Groups like Genesis, Pink Floyd, and Yes used these urban studio spaces to compose music and experiment with sounds in a bourgeois art sensibility by accumulating up-to-date technology and orchestral outfits for their 'bombastic' rock productions. Studios, then, could no longer be understood solely as enabling spaces of musical creativity but as spaces to centralise, control, and channel creativity (Toynbee, 2000).

Therefore, although recording studios are often regarded in the popular imagination as a closed and guarded environment (Warner, 2003), it should be recognised that it is not only the relationships operating *inside* the studio that affect creative moments. Recording studios are at once insulated spaces of creativity, isolated from the city outside, and spaces influenced directly by the wider contexts in which the studios operate. As Théberge (2004) asserts, studios exist in neither a musical or cultural vacuum, and music scenes, local aesthetics, musicians, and skilled labour play an important role in the development of approaches to recording and an influence on the resulting

sounds. For Scott (1999a) the recording studio is a sort of microcosm of a much more extensive domain of activities in the creative field. As Krims (2007) describes, the attraction of creative workers to a city supports a different infrastructure, which in turn may correspond to concomitant developments in musical life in those same places. The location of studios within large cities thus reflects the locational preferences of musicians and skilled workers from throughout the music industry including the producers and sound engineers critical to the studios. This creative talent is crucial to the performance of the recording studios, being required to know how to operate technical complex equipment, but also to have the tacit knowledge and *craft skills*, gained from experience, which are indispensable to artistic creativity within the studio (see Horning, 2004). In this sense the studio is a unique place of learning and knowledge transfer that may cut across artists, genres, and styles. Here lie the roots of the current artist-producers in popular music.

The technologies used by these skilled creatives to produce music are in a state of continuous development, particularly in the case of popular music (see Warner, 2003). These developments have often raised fundamental questions about the future relationships between recording studios and the cities in which they are embedded. Early recording technology, for example, was minimised to fit onto vans, allowing recording companies to send out mobile teams to record early blues artists in their hometowns in the countryside of the USA (Jones, 1963), with the post-production and distribution of the music centralised in cities. Today, tools and techniques continue to be developed for networking studios in geographically distant locations, in complex and intimate ways (see Théberge, 2004). These developments are, in part, aimed at reducing production costs, but also at servicing highly mobile musical creatives, both musicians and producers/sound engineers, who may want to co-ordinate musical recordings on a global scale. In employing such technology, recording studios can be considered as *local anchoring points* in the cultural metropolises of the global urban network (Krätke, 2003). However, there is an inherent contradiction here in scales; while some recording studios may enable certain mobile actors to create music on a global scale, they are also likely to be used

by more local independent actors to produce very localised sounds. Thus recording studios can be considered as articulating the local with the global, resulting in new relational geographies of music creativity and recording across multiple spatial scales.

The accessibility and diffusion of low-cost recording equipment throughout the world has encouraged independent and autonomous forms of local production (Théberge, 2004). Professional quality recordings can be produced by individual musicians and producers in modest recording facilities and home studios, enabling artists to control more aspects of the production process. For Warner (2003), this has resulted in the breakdown of the amateur/professional status in the production process. Connell and Gibson (2003), for example, examine the rise of 'Do-It-Yourself' production in Byron Bay, Australia, where home studios are used across a variety of styles of music, with artists only entering studios to mix their recordings. Another example is given by Bennett (1999b) on the 'Rockmobil' in Frankfurt, a mobile unit sponsored by the city council, equipped with instruments and recording devices, which brings the studio to the artists. For Bennett, this has played a crucial role in providing the resources that have enabled hip-hop to become a localised form of cultural expression. However, while such technological developments suggest the potential for democratisation and may act to decouple relationships between cities, recording studios, and technology, they will inevitably reconstitute them in new and exciting ways (Gibson, 2005).

In scenes where live performance in urban spaces is important to musical authenticity, such as in Austin, Texas (see Porcello, 2002), there is a particular challenge in making studio recordings of music. Traditionally, the mixing processes and technological calculation of recording studios discourage live performance, alienating musical performers from collective acts of music making (Porcello, 2002). In response to the challenge, studios in certain cities have developed recording practices that incorporate group performances on particular parts of the recording, allowing for the signification of live

performance and authenticity. It is inevitable that the more established recording studios will respond to technological developments to protect their interests in the industry. As Théberge (2004) notes, there has been a movement towards geographical *diversification* or *expansion* through acquisitions and joint ventures, which link studios globally across the major centres of music production. The UK-based Miloco Studios group, for example, is the UK's largest studio group and owns 19 recording and mastering studios across London, the UK and Europe. These allow studios to both consolidate their position in existing markets and to establish a physical presence in new markets. However, as Théberge suggests:

"…what may become the most significant issue for studios as they become more integrated with one another (whether via the Internet or by other means) is the quality of the musical and social relationships that are made with and through them" (Théberge, 2004: 779).

As such, perhaps the most interesting outcome from networked studios will not be to reinforce the position of the studio in the dominant global network of the music industry, but rather to allow the coordination of "…more autonomous forms of genuinely collaborative production that are at once local, regional and perhaps even global in character" (Théberge, 2004: 779).

Outside the studio: creativity and performance in the urban environment

While recording studios are amongst the most conspicuous spaces of musical creativity, urban creative spaces may take a variety of forms, from the bedroom and garages to street corners, clubs and dance halls. In the 1920s and 1930s in North America, big band swing music developed into a distinct genre through being played in large urban dance halls. As southern blacks migrated to northern cities, their dance traditions fused with European

traditional formal ballroom dancing, resulting in a new dance form known as the Lindy Hop (Rogers, 1998). As the best bands followed the dancers, and developed swing music suited to the dancer's needs, the dancers in turn followed the best bands and created dance moves that emphasised the musicality of the emerging 'swing' music. Harlem, with its dense concentration of speakeasies and dance halls, nightclubs and ballrooms, became the epicentre for this new dance form. In particular, it was the Savoy Ballroom, spiritual home to some of the most famous personalities of the time, such as the 'swing master' Chick Webb and dancers Norma Miller and Frankie Manning (see Ward and Burns, 2000), that acted as the key space for musical creativity and consumption.

Similarly, in the 1950s and 1960s in the Pacific Northwest Region of North America, a distinctive musical style called the Northwest Sound developed around the key social institution of teenage dance, as both a social event and an opportunity to hear live music. As Gill (1993) describes, the music at these dances captured and created the excitement, power and illicitness of the events, as well as reflecting the physicality of the work life of the Northwest. The urban spaces at the centre of these local social activities were 'big band'-era ballrooms, where promoters presented local groups. These groups developed local dance hall alternatives to the rock n' roll being written in a factory style in New York, which were produced in a layered and artificial style that made the music difficult to reproduce in a live setting. The creative process was driven by the need to produce music which young people could dance to when played live in the dance halls. The sound they created was necessarily elemental and energetic, loud and hard-edged with a driving dance beat (Gill, 1993). These examples show how dance-beat oriented people, through their preferences and demands from the dance floors of a specific set of urban spaces, directly influenced the development of the musical styles of big band swing and the Northwest Sound.

In Jamaica, from the 1930s to the 1950s, a vibrant big band jazz scene also thrived, amongst affluent city-dwellers. In high class clubs and hotels, bands played American jazz standards, as well as adapting pan-Caribbean forms (Katz, 2003). However, poor working class Jamaicans could not afford these smart venues. Instead, their entertainment came from 'sound systems', large sets of sound equipment that were played at high volume at dance events. Small areas accommodated an extraordinary number of open-air and dance hall venues (Bradley, 2001). 'Sound men' would confront each other with their sound sets, aiming to play the most exclusive music. From these battles, certain personalities, such as Tom the Great Sebastian and Duke Vin, would rise to prominence as legendary sound men through being adventurous and playing the most varied selections of music to attract the largest audiences. As Katz (2003) describes, sound 'clashes' were waged to establish dominance of an area, with the dancing public making clear which of the rivals they felt has a superior selection. For Bradley:

> "There was always much more of a connection between a Jamaican deejay and his crowd than the idea of a disco or night-club might imply. A good dance would be a group experience; a mutual-appreciation society between deejay and disciples" (Bradley 2001: 10).

Audiences had a direct influence on the music being played by the sound men and thus on the music being created in, and imported into, Jamaica's embryonic home-grown music industry. In Jamaican dance halls, systems of sound amplification would allow the development of a new genre of music known variously as dancehall, dub, and ragga, involving live talking improvisations against the background of recorded music. This genre developed as DJs adjusted lyrics and music in line with instant feedback from audiences (Cooper, 2004). The music of the sound systems would act to inspire the next generation of Jamaican music artists, and were crucial to the evolution of world-renowned reggae scenes. As Bradley surmises:

> "…everything that is Jamaican music today can be traced back to those first sound-system operations. Today, more than forty years later, the sound system remains the mainstay of the Jamaican music industry… Thus musical evolution remains, quite literally, by popular request" (Bradley 2001: 11).

The sound system technologies pioneered in Jamaica would have a fundamental technological influence on the evolution of rap and hip hop music in North America through migration. The hip hop music genre that emerged from the deprived areas of North American cities has become one of the most globally appropriated, resonating with urban social conditions across the world. Hoyler and Mager (2005), for example, examine the built environment of youth clubs and community centres as key sites of creativity and performance in the creation of 'first generation' hip hop communities in Germany. They highlight these spaces as being:

> "…multifunctional and palimpsestic – re-usable and re-writeable – for purposes as diverse as live concerts, theatre performances, exhibitions, lectures, discotheques or hip hop jams" (Hoyler and Mager, 2005: 252).

These clubs and centres facilitated cultural interaction and became the focal meeting points for hip hop artists in the same neighbourhood or town, allowing the communication of ideas about personal experience, creativity, musical production technologies, and also a space in which to perform. This led to the formation of sustainable networks in the form of friendships, information flows, musical collaborations, and joint cultural productions (Hoyler and Mager, 2005). These networks in turn were central to the establishment of infrastructures such as specialised magazines, stores, record labels and studios, which played a key role in creating, reproducing, and distributing German hip hop music (Hoyler and Mager, 2005).

The advent of club cultures, raves, and other forms of dance music, has predicated certain urban spaces being symbolically transformed by music (see, for example, Gibson, 1999, on the subversive sites of rave culture in Sydney, Australia, and Ingham *et al.*, 1999, on warehouse parties in Blackburn, UK). This is due to the ways in which dance music producers have traditionally been quick to embrace new technologies and modes of production. Dance music focuses on DJs using and mixing pre-recorded material in a live environment, mediating "fragments of other texts from diverse geographical contexts in re-combined forms" (Gibson, 1999: 25). Using available technologies to compose new sounds, dance music creativity links directly to the spontaneous moments of live performance, and spaces of performance are at once spaces of production and consumption of dance music. In such instances, as Wood *et al.* assert, "…music making is a material practice: it is embodied and technologised; it is staged; it takes place" (2007: 869).

However, as Gibson (1999) and Ingham *et al.* (1999) describe, unlike more commercial forms of dance music performance that have permeated more widely into many diverse spaces of production and consumption, rave and 'acid house' performances deliberately took place in large abandoned spaces, often previously used for industrial and manufacturing production such as old warehouses and factories, turning the cracks in urban landscapes into temporary *lived* spaces and *imaginative* landscapes:

> "While 'rock' and 'indie' scenes often mythologise particular performance and production sites in an historical context (Abbey Road, Woodstock, etc.), establishing fixed locations with rich traditions… the idealised 'rave' occupies space momentarily, before such industry narratives are solidified. Such events rely on the uniqueness of particular sites, and the transient ways in which otherwise ordinary spaces are transformed…" (Gibson, 1999: 22)

> "Briefly – usually for one night only – void spaces became venues, thus creating new spaces that were oriented around the aural; temporary autonomous zones that existed in a fleeting space-time of their own." (Ingham *et al.*, 1999: 291)

These spaces are more than simply containers of activity; they are symbolic resources (see Sarup, 1996). These unregulated spaces, when combined with music, and in many instances illegal drugs, particularly ecstasy (see Critcher, 2000; Glover, 2003), provide the setting for a temporary culture of hedonism, physical abandon, euphoria, and escape from everyday *real world* identities (McRobbie, 1994; Goulding *et al.*, 2002). They are at once spaces of fixity, making use of permanent spaces in the urban environment of particular cities, and spaces of cultural and technological flows, as DJs and audiences enter into these spaces to transform them into places of creativity, performance, and consumption. However, as Critcher (2000) describes, due to questions over the legality of place and measures to control raves and drug taking, by 1993 warehouse raves had virtually become extinct in the UK. Instead, rave culture diversified into legal venues and became incorporated into the structure of the night club industry and wider dance music culture (see for example Hesmondhalgh, 1998).

Fraser and Ettlinger (2008) provide an analysis of British drum 'n' bass (D&B) music, one of a number of musical forms that emerged from the rave scene in the 1990s. Characterised by a dub plate culture, in which music producers give unsigned records to DJs, innovation occurs again in a wide variety of spaces ranging from those that are physically fixed, such as recording studios and homes, to collaborations in virtual space. However, "learning also occurs on the dance floor in raves, which become a testing ground, a laboratory, even a marketplace in which new, often unsigned music is played and consumed" (Fraser and Ettlinger, 2008: 1649). The authors argue that "D&B events rarely occur in places designed for the music" (Fraser and Ettlinger, 2008: 1649), a conclusion that again underlines the importance of an

urban environment that provides multiple locations for the expression of alternative musical creativity.

However, this process of creativity in space is of course not limited to urban environments. In Goa, India, psychedelic rave music has agency in *natural* spaces where very different people come together as audiences and dancers, enabling the connection of bodies to the physical conditions of the environment (Saldanha, 2002). On Goa's beaches, music develops meaning through its spatial-temporal connection to the natural environment - the sun, the moon, the smells and noises of the beach – arranging and transforming the physical setting and taking bodies 'elsewhere' (Saldanha, 2005). In the mid-1980s, as electronic house and techno music were developing in North American cities, DJs were able to play and create new forms of music in Goa, which became known as 'Goa trance', enabling the audience to participate in drug-fuelled dancing and making Goa the 'rave capital of the third world' (Saldanha, 2002). As young people travel to hear and dance to the music in Goa, so they bring new music with them, participating directly in the development of the rave scene.

2.3 Concluding discussion

The above examples are demonstrative of the ways in which creativity in music involves much more than just production. In the warehouse and clubs of rave and D&B scenes, in the dance halls of big band swing, and in the open-air venues of sound system clashes, the creative process involves interaction between the DJs and their audiences, breaking down the distinction between production and consumption. Audiences are not merely passive consumers of music. They are part of a feedback process that shapes sound and ultimately the musical product. The urban spaces in which music is simultaneously produced and consumed are then crucial to creative processes that do not reside exclusively within isolated individuals, but finds newness through the mixing, encounters and contacts between people and cultures within and

across particular spaces and places. Certain spaces and particular neighbourhoods within cities have become identifiable places of musical creativity. It is in the more diverse neighbourhoods of cities that creative moments are more likely to spark, through the mutual exchange of musical styles and practices amongst different cultural groups. Diversity alone is however not sufficient to sustain creativity. The presence of supporting networks is crucial in this respect, fostering and driving creativity in such neighbourhoods. These networks include musicians and creatives, music industry players, and live music venues and audiences, as well as the cafes, bars, and clubs where musicians and music industry professionals may meet, collaborate, and exchange creative experiences.

Urban creative spaces may take a variety of forms, from the formal creative space of the recording studio, to the informal spaces of bedrooms, garages, community centres, pubs, clubs and street corners. In the case of recording studios, creative moments happen through the relations between skilled creative technologists and artists. The location of the most successful studios within large cities therefore not only reflects the locational preferences of musicians, but also those of the skilled workers (producers, sound engineers) who are crucial to the performance of the studios. As tools and techniques for networking studios in geographically distant locations continue to become more sophisticated, studios are able to service highly mobile musical creatives, enabling them to co-ordinate musical recordings on a global scale. Thus we are seeing the development of new relational geographies of music creativity across multiple spatial scales. In the case of rave cultures, urban spaces are shown to be important symbolic resources in the creative process. This creative process is a material and embodied practice that links directly to the spontaneous moments of simultaneous live performance and consumption. Large abandoned urban industrial spaces, such as old warehouses and factories, are transformed symbolically in imaginative landscapes through the material practices of musical creativity. This clearly highlights the need to situate creativity more squarely in its material and embodied contexts of production and consumption.

3 Project-based working in the creative industries

The previous chapter outlined a relational geography of urban spaces and networks in the production of music. In this chapter, a relational perspective is once again taken, but rather than focusing on the urban environments in which music is produced, the chapter is concerned with the working practices in the wider cultural economy, practices that produce cultural artefacts and commodities such as music. The chapter draws together two strands of literature; firstly that focusing on the organizational practices of project-based working, especially from economic geography; and second, that focusing on the practices and conditions of creative work, in particular from sociology. Despite the obvious overlap between these two strands of writing, little geographical literature has brought the two together.

The overall argument of the chapter is that doing so can shortcomings in the literature both on the economic geography of projects, and relational economic geography (see Chapter 1) in three ways; first it moves beyond structural analyses to allow for an understanding of the importance of agency in project work; second it allows us to move on from firm-level analyses to develop an understanding of the complex social networks involved in project-based working; and finally it moves on from research at the meso-level on inter- and intra-firm networks to provide micro-level analyses of project work.

3.1 The firm in economic geography

For Grabher (2002a), the integrity of the firm as the basic analytical unit of the economic process is being increasingly undercut by organisational practices built around projects involving a multiplicity of organisational and personal networks (see also DeFillippi and Arthur, 1998; Lundin and Midler, 1998; von Bernuth and Bathelt, 2007). Projects represent particular forms of temporal and spatial co-ordination between different actors. They can be defined as systems of production that are constituted by a variety of different economic, social and cultural agents often with specialised and complementary competencies. These agents collaborate over a pre-determined period in order to complete a pre-specified and usually complex task (Lundin and Söderholm, 1995), where the complexity of the task necessitates the coordination of multidisciplinary skills that it is not economically efficient to bring together on a permanent basis (Lorenzen and Frederisken, 2005), and where the task must often be completed under severe time constraints (Hobday, 2000; Staber, 2004).

It is argued by a number of authors that projects represent an efficient form of organisation for mastering tasks of high complexity, stimulating creativity and individual learning and adapting to changing economic and institutional conditions (see for example von Bernuth and Bathelt, 2007; Hobday, 2000; cf. Davenport, 2006). Although, in many industries, projects are organisational forms that are qualitatively different to those that have gone before (Ekinsmyth, 2002), such temporary project systems are not an entirely new phenomenon, having always been present in certain industries (Asheim, 2002). However, project-based work, it is argued, is becoming increasingly widespread as an organisational form (Jones, 1996; DeFillippi and Arthur, 1998; Ekstedt *et al.*, 1999; Gann and Salter, 2000; Blair *et al.*, 2001), and many

economic sectors are now following a trajectory that is resulting in an increase in freelance work, temporary jobs, self-employment, and greater job mobility.

Despite the increased interest amongst economic geographers in project-working practices, firms still arguably retain an ontological and epistemological primacy in economic geography. In research emerging from sociology and related fields such as cultural and media studies on the nature of project-based work in the creative industries, however, the firm does not have this primacy, with the focus on cultural work and those individuals performing cultural labour. For some time, sociologists have been developing productivist critiques of the cultural economy that focus on the politics of cultural work and emphasise the exploitative nature of capital and the demands placed on workers by the commercial imperatives of the firm (see for example Banks, 2007; Banks and Hesmondhalgh, 2009). More recently, these productivist critiques have developed into more nuanced, qualitative accounts which recognise the complexities of experiences of cultural work (see in particular Gill and Pratt, 2008; Hesmondhalgh and Baker, 2010).

However, despite the obvious links between these two strands of writing, and the fact that economic geography has progressed in recent years by being open to conceptual ideas emerging from the social sciences (see Ettlinger, 2003, on the relational turn), little economic geography literature has brought together economic geographical perspectives on project working with the wider perspectives being developed in other disciplines on the experience of workers in project-based industries. Indeed, while a range of geography literature has focused on the locational economic geographies of the creative industries (see for example Pratt, 2000, 2002; Power and Hallencreutz, 2002; Power and Jansson, 2004; Watson, 2008), surprisingly little work has focused on the nature of project-based labour within these industries, the notable exception being Susan Christopherson's work on the labour market and project work on the new media (Christopherson, 2002, 2004) and on the US motion picture industry (Christopherson and Storper, 1989). The aim of this chapter is

therefore to synthesize current geographical research on project-working with wider research on work in project-based creative industries, especially from sociology and related disciplines such as cultural and media studies, as well as business scholars, to bring a sociological perspective to bear on the economic geography of projects.

3.2 The economic geography of projects

In recent years, there has been a growing focus on organizational practices built around projects. A body of economic geography literature has emerged on this theme, much of it drawing heavily on research in organisational and management studies. Arguably the most important contributor to the literature on the economic geography of projects has been Gernot Grabher. Grabher (2001b, 2002a) identifies a number of paradoxes about project-working that challenge some of the key assumptions of organizing that have been pervasive in economic geography. Firstly, projects often entail high-risk and high-stake outcomes, yet they seem to lack the normative structures and institutional safeguards that minimise the likelihood of failure. Secondly, projects depend on an elaborate body of collective knowledge and diverse skills, yet there is mostly not sufficient time to clarify abilities and competencies of members in order to plan for a detailed division of labour. Finally, there is no time in project work to engage in the usual forms of confidence and trust-building activities that contribute to the development of trust in more traditional, enduring forms of organisation (see also Staber, 2004; Koskinen *et al.*, 2003).

Grabher argues that these paradoxes can be resolved, in part, by extending the view from the isolated project to the societal context in which projects operate. He argues that *networks*, *localities*, and *institutions* feed essential sources of information, legitimation, and trust that provide the very

preconditions for the 'projectification' (Midler, 1995) of economic organisation. Firstly, with regards to networks, Grabher argues that projects operate in a milieu of recurrent collaboration that, after several project cycles, provides a pool of resources and 'gels' talent into latent networks, forming "a latent reservoir of resources to be utilized when needed" (Staber, 2004: 32). Projects, he argues, are the realisation of a potential that is generated by the practice of drawing on a network of social contacts, ties, and core members of successful previous projects to serve on successor projects (see also Jones, 1996; DeFillippi and Arthur, 1998). As such, economic action becomes embedded in networks which are socially constructed (see Crewe, 1996). Possibilities to quickly set up a new project team for a specific task largely depend on existing inter-personal networks and access to a latent pool of specialists (von Bernuth and Bathelt, 2007), which helps to reunite actors and reassign resources in the face of changing demands (Staber, 2004). Interpersonal rather than inter-firm relations bind networks together and become the conduit for project assembly and operation (Ekinsmyth, 2002). Chains of repeated cooperation are held together or cut off, Grabher argues, by the reputation members gain or lose in previous collaborations. 'Know-who' plays an important role in selecting partners for a project team (Christopherson, 2002; Gann and Salter, 2000). Thus "project business is reputation business" (Grabher, 2001b: 1329), with reputation in this instance referring:

> "…first and foremost, to the techniques of the trade, particularly in settings like media, in which crucial skills are hardly codified into certificates. Second, the success of projects, more generally, depends on co-operative attitude, reliability and other inter-personal skills that, rather than objectivized in formal degrees, are bound to personal experience" (Grabher, 2002a: 209).

Secondly, with regards to localities, Grabher argues that repeated project collaboration quite often, although not necessarily, takes place in

densely-knit clusters. The co-location of project partners allows for significant savings on transaction costs, such as search costs, and the costs of supervising and enforcing contractual agreements. But perhaps more importantly, co-location provides favourable preconditions for rapid face-to-face interaction and local 'buzz' (see Storper and Venables, 2004; Watson, 2008). As Grabher argues, the tighter the project schedule is and the less clear separation of specific tasks, the stronger the imperatives for face-to-face interaction. Moreover, spatial proximity facilitates the continuous 'monitoring' of the relevant pool of resources, potential collaborators, and new trends (see also Bathelt, 2005). However, Grabher suggests that while notions of 'monitoring' and 'scanning' suggest intentional and strategic activity, this may not be the case. Rather he suggests that actors located in the pool are subject to '*noise*', such that rather than deliberately 'scanning' their environment in search of a specific piece of information, they are surrounded by a concoction of rumours, impressions, recommendations, and strategic misinformation. Co-location facilitates the emergence of 'interpretive communities' (see Brown and Duguid, 1991) that filter and transform this noise into meaningful signals. These processes of 'negotiated meaning', Grabher argues, tie project clusters together.

It is also argued that agglomeration of potential project collaborators provides favourable pre-conditions for hanging out in local 'communities of practice' (Wenger, 1988). Communities of practice serve as a sort of informal educational system for disseminating knowledge, knowledge which goes far beyond the technical competences of the trade and also includes codes of conduct and the 'habitus' (Bourdieu, 1984) of the community of practice, that is to say a set of acquired schemata, sensibilities, dispositions, taste, values, lifestyles and 'ways of doing' (McDowell, 1997) that are particular to a group of workers. Learning, Grabher argues, is therefore not simply about the transfer of knowledge, but rather about becoming an 'insider'. It is important, however, to note that these communities of practice are not necessarily geographically constrained: Asheim (2002), for example, argues that the continued importance of localised learning is being challenged by the increasing importance of

temporary project working. Personal and professional networks span the globe, resulting in geographically far-flung project collaborations. Cole (2008), for example, highlights how the spatially-extended project ecology of the European animation industry is a notable exception to the tendency for cultural industries to cluster in tight agglomerations.

Finally, with regards to institutions, Grabher argues that projects are embedded in an institutional context of normative structures that provide the very basis for coordinating complex tasks, and that facilitate the emergence of 'swift trust' (Meyerson *et al.*, 1996) (i.e. a category-driven trust where actors can deal with one another more as roles than as individuals). Consequently, expectations are more standardised and stable and defined more in terms of tasks than personalities, with conventions, norms and regulations accelerating and stabilising the formation of inter-personal, as well as inter-organisational, perceptions and expectations. Other forms of institutional interdependence exist between the character and content of project work and the politically crafted rules which Christopherson (2002) argues determine the grounds for competition in an economy; the degree to which labour is flexible in response to changing market conditions; and the ability of firms to move into and out of potential areas of capital accumulation.

Grabher (2001a, 2002b) argues that as projects are repeated over time, 'project ecologies' may emerge, involving a range of different firms and organisations, individual actors, technologies, spaces and places. Here project ecologies are understood as involving the interdependencies between a particular project and the firms, personal relations, localities, and corporate networks from which these projects mobilise essential sources. These ecologies, he argues, will form the backdrop to every subsequent project initiated, as new projects find their participants in the ecology. Thus, as DeFillippi and Arthur (1998) assert, fluid project working challenges the idea of core competencies existing as internal resources. Rather, in projects, essential resources and competencies are drawn into firms on a project-by-project basis,

involving interactions occurring across networks that crosscut formal organisation as well as informal organisations (Ettlinger, 2003). As such, activities in temporary projects, Grabher argues, are dominated by individual knowledge embodied in highly mobile project members. As these embodied creative knowledges are for sale on the labour market, any competitor can potentially draw on competencies that have developed, and individual skills are transferred between projects as project members typically collaborate simultaneously with a wide range of firms.

Thus core competencies in project ecologies, rather than internal resources in a strict sense, are "abilities to mobilise resources in a highly fluid organisational ecology… to recombine internal and external resources" (Grabher, 2002b: 1915). Lorenzen and Frederisken (2005), for example, highlight how in the music industry product innovation occurs via projects that are carried out mainly in the market, rather than inside the boundaries of firms, in order for projects to include new and shifting resources and skills, and to deal with tasks that render internal governance and planning inefficient. In 'market-based' projects participating skill holders are employed in different firms or may be freelancers, transcending the boundaries of firms. This particular form of project organizing facilitates experimentation and product variety in order deal with demand contingencies arising from ambiguous and changing consumer tastes. In order to produce successful products on global markets, music companies must be able to draw on relevant knowledge bases for the relevant part of the value chain in production (Asheim, 2002), and draw essential competencies into the firm as individual projects require, through freelance labour if necessary.

As noted above, in project-based work, the locus of knowledge production may extend beyond the boundaries of the firm (see Staber, 2004). Therefore, Grabher (2004a, 2004b) argues that, rather than occurring within firms, deliberate knowledge creation ensues in 'epistemic communities' (see Thrift, 1996) organised around the specific project task and a mutually

recognised subset of knowledge issues. Within an epistemic community, he argues that agents are bound together by their commitment to enhance a particular set of knowledge, and therefore that the notion of an epistemic community depicts organisational practices in learning regimes in which committed, enduring and close ties prevail. However, recognising that the notion of a 'community' evokes a sense of persistence and coherence that is sometimes not desired in projects where individual creativity enjoys primacy, Grabher employs the term 'epistemic collective' to describe the rivalry and the transience of ties in such a learning regime. Although, he argues, antagonistic practices and short project cycles prevent epistemic collectives from evolving into coherent communities, they are nevertheless sufficiently aligned through the project task and deadlines. Here, projects provide the organisational basis for a minimum of 'practical coherence' (Grabher, 2001a).

As can be seen from the above discussion, work on the economic geography of projects, through its focus on the importance of networks and proximities/spacing, has asked important questions pertaining to the organisation, constitution and operation of projects. According to Ekinsmyth (2002), these include questions regarding recruitment to projects; labour market consequences; the processes enabling the transfer of knowledge; organisational renewal and innovation in projectified systems of organisation; the dimensions of trust amongst project members; the role and interrelationship of social and human capital; and the role of characteristics of 'communities of practice'. More recently, the work of Gernot Grabher has extended this to pose important questions on the interrelationships between projects, networks, localities and institutions. However, I suggest that there is a significant limitation to many (but by no means all) of the perspectives offered in literature on the economic geography to date. This limitation, is argued here, is a rather too narrow focus on projects as forms of organisational practice, which offer organisational 'efficiency' in a fragmented neo-industrial economy, at the expense of developing more nuanced understandings of the working conditions of those experiencing the effects of the neo-liberalisation of work. With this criticism in mind, in the following section of the chapter, I turn to areas of

academic work for which this has been a primary concern, namely sociology and related fields such as cultural and media studies, to review the growing amount of literature being produced on the experiences of cultural workers in project-based creative industries.

3.3 Project-based working in the creative industries

For Gill and Pratt (2008), cultural and creative workers symbolise the contemporary transformations of work perhaps more than any other type of worker. As McGuigan (2010) asserts, the effects of the neo-liberalisation of work have been pervasive across the creative industries in general. They are marked by an expanding workforce comprising of freelance, casualised and project-linked persons (McRobbie, 2002). Indeed the creative industries are characterised perhaps more than any other industrial sector by project-based work (Christopherson, 2004), and in some sectors, such as film and television, fragmentation and deregulation have resulted in almost universal freelance working (Davenport, 2006; Saundry and Nolan, 1998; Ursell, 2000). For Jones (1996), cultural and creative workers are 'exemplars' of the move away from stable notions of career to more informal, insecure and discontinuous employment.

Freelancing, precarity and exploitation

As Gill and Pratt (2008) highlight, employment in project based work is characterised by short tenure and constant employment uncertainty, that is to say it is *precarious* employment (see also Murdock, 2003). Here the terms 'precarity' and 'precariousness' (see Neilson and Rossiter, 2005) are used to refer to all forms of insecure, contingent flexible work, from illegalised, casualised, temporary employment to homeworking, piecework, and

freelancing. Gill and Pratt highlight how increasing numbers of workers in affluent societies are engaged in insecure, casualised or irregular labour, and note that while capitalist labour has always been characterised by intermittency for lower-paid and lower-skilled workers, the recent departure is the addition of well-paid and high-status workers into this group of 'precarious workers' (see also Ross, 2008), who have become subject to "structured job insecurity" (Blair *et al.*, 2001: 174). Gill and Pratt highlight a number of relatively 'stable' features of this kind of work:

> "A preponderance of temporary, intermittent, and precarious jobs; long hours and bulimic patterns of working; the collapse or erasure of the boundaries between work and play; poor pay; high level of mobility; passionate attachment to the work and to the identity of creative labourer (e.g. artists, fashion designers); an attitudinal mind-set that is a blend of bohemianism and entrepreneurialism; informal work environments and distinctive forms of sociality; and profound experiences of insecurity and anxiety about finding work, earning enough money and 'keeping up' in rapidly changing fields." (Gill and Pratt, 2008: 14)

Similarly, Hesmondhalgh and Baker (2010) identify a number of features that apply to labour in the cultural industries, including irregular work, short-term contracts, little job protection, uncertain career prospects, and unequal earnings, while Entwistle and Wissinger describe it as "unpredictable, erratic and precarious" making "considerable demands upon the individual in terms of their self-reliance and resourcefulness" (2006: 782). As Dex *et al.* (2000) note in their study of contractual changes in the television industry, for the majority of cultural and creative workers, these demands can cause considerable stress. There is then a new relationship between employee and employer, where employers no longer accept responsibility for the employment and development of the workforce, but rather have a relationship with the employee that is transactional, contractual and short-term (du Gay *et al.*, 1996). Risks have been passed to the workforce and away from firms (Dex *et al.*, 2000) and individuals

have a heightened level of responsibility for their individual destinies (Ekinsmyth, 1999, 2002). Termination is an intrinsic property of the freelance employment, and responsibility for a continuous stream of work and income lies with the freelancer. As Storey *et al.* note this gives rise to the need for employees to be enterprising about making themselves enterprising, that is to say the need to develop an 'enterprising self':

> "…the discourse of 'enterprise positions the new type of employee as responsible for their own success and failure, and seeks to position freelance workers in particular as actors responsible for developing their own skills and associated attributes in a manner appropriate to competitive, free-market conditions" (Storey *et al.*, 2005: 1049)

For Ross (2003), firms in the 'new economy' aim to provide work cultures that embrace openness, cooperation and self-management, but in doing so, he argues, can also produce work cultures linked to long working hours and serious erosion of the line between work and leisure. For cultural and creative workers, job gratification can come at a heavy, sacrificial cost (Ross, 2008). Gill and Pratt (2008) argue that much research points to the extra-ordinarily long working hours of cultural workers, often considerably in excess of working-time agreements and exerting heavy costs on, or even prohibiting, personal relationships with friends, family and partners outside work. In her research into employment in the British film industry, for example, Blair *et al.* (2001) found that for a particular film crew the working day ran to a maximum of 16 hours, while a maximum working week ran to 112 hours. Gill and Pratt (2008) also note that research points to the significant disruption caused by 'bulimic' patterns of working, in which "idle periods with no work can give way to periods that require intense activity, round-the-clock working, with its attendant impacts on sleep, diet, health and social life" (2008: 17). This has led to the development of productivist critiques that focus on the politics of cultural work and emphasise the exploitive nature of capital and the demands placed on

workers by the commercial imperatives of the firm. Banks for example argues that cultural workers must:

"…do whatever is required to support commercial interests. It increasingly requires working longer or unsocial hours, taking on-board additional responsibilities, relocating according to company demands and certainly committing oneself to the commercial imperatives of the firm over and above non-working commitments" (Banks, 2007: 36)

It is argued in such critiques that a cultural worker's whole life and sense of self becomes bound up with their work (Blair, 2001), effectively commercialising the entire context of their life (Pongratz and Voß, 2003). Moreover, given the particular nature of cultural work, Ross argues that firms enlist "employee's freest thoughts and impulses in the service of salaried time" (2003: 19). However, for Gill and Pratt:

"Long hours and the takeover of life by labour may be dictated by punishing schedules and oppressive deadlines, and may be experienced as intensely exploitive, but they may also be the outcome of passionate engagement, creativity and self-expression…" (Gill and Pratt, 2008: 18)

The experience of cultural workers, and the meanings which cultural workers give to working practices, may then therefore not correlate with many productivist critiques of creative work. Indeed, the passionate engagement with, and attachment to, work in the creative industries means that many cultural and creative workers, as Gill and Pratt (2008) recognise, frequently make no distinction between 'work time' and 'other time', with the borders between work and life becoming more permeable or even dissolving entirely (c.f. Henninger and Gottschall, 2007). Work, as paid employment, is not therefore separated out in a clear-cut way from other domains of life (cf. Giddens, 1994a). This is

exacerbated by the fact that for many cultural workers, a hedonistic club culture is inscribed in the culture of the workplace (McRobbie, 2002).

The attachment to work undoubtedly forms part of the sheer appeal and popularity of work in the creative industries, as identified by Ursell (2006). As Guile (2006) asserts, the increasing number of graduates who hold degrees in creative and cultural subjects means that the supply of people who aspire to work in this sector often exceeds demand. Moreover, Guile (2009) suggests that the massification of higher education has created a new post-degree 'vocational need' because although studying for a degree provides a grounding for new entrants to the labour market, it rarely provides an "expectation or understanding of what was required in vocational contexts" (Raffo *et al.*, 2000, p. 223). In the creative industries, this type of vocational experience is most commonly gained through undertaking unpaid activities such as internships and work placements that offer aspiring entrants opportunities to work with experienced professionals on commercial projects (Guile, 2009: 762). This leads many graduates to accept that the best way to secure an early foothold in the sector is to participate in unpaid activities. In turn, this has resulted in many examples of 'chronic exploitation' (McGuigan, 2010) of young people who are unpaid and overworked in the creative industries. However, the situation is much more complicated than one of simple exploitation (see Hesmondhalgh, 2010), as this 'free labour' is "simultaneously voluntarily given and unwanted, enjoyed and exploited" (Terranova, 2004: 74). As Ross describes, "the condition of entry into the new high-stakes lottery is to leave your safety gear at the door; only the most spunky, agile and dauntless will prevail" (2008: 36).

The importance of networks

As Hesmondhalgh and Baker (2010) suggest, due to the short-term nature of most contracts in project-based creative industries, new work is constantly being sought by freelance workers; "job seeking is relentless, even

during times of employment" (2010: 12). In conditions where such high levels of uncertainty prevail regarding employment, 'social mechanisms' assume an important role in the allocation of work (Baumann, 2002), and networks of contacts that open up new work opportunities are of vital importance in the freelance labour market. Therefore, for freelancers, the development of a good network of personal contacts is vital in finding work, as when work is scarce the quality of these networks may determine whether a freelance career continues or ends (Randle and Culkin, 2009). In the creative industries, there is a wide appreciation that "contacts that eventually lead to contracts rely on sociability" (Hesmondhalgh and Baker, 2010: 13). Networking is then the 'emblematic practice' in projects (Wittel, 2001). As well as professional networks and communities of practice revolving around firms, projects also involve personal networks that "symptomatically efface the distinction between private and business" (Grabher 2004a: 105). In "an economy of favours" (Ursell, 2000: 822) it is often personal networks, rather than formal firm contractual networks, that provide the basic social infrastructure for putting together a project team. For example, in her study of new media, Christopherson highlights how media workers "overwhelmingly depend on personal networks to make employment matches" (2002: 2011). Indeed, for some new media firms, the majority of jobs are filled by referrals from other employees. Similar findings emerge from a study by Blair *et al.* (2001) of the British film industry, in which they found that the majority of workers hear about employment opportunities from someone they had worked with before; and from Skilton's (2008) study of the Hollywood film industry, in which he finds that breaking into elite Hollywood projects is aided by familiarity through work relationships. As Townley *et al.* (2009) note, such studies emphasise the importance of social networks and network ties that condition access and referrals to projects (see also Perry-Smith and Shalley, 2003).

Christopherson also notes that once employed, new-media workers "spend a considerable portion of their work-week in activities related to maintaining their employability" (2002: 2011). She identifies that for some workers, as much as 20 per cent of their time was spent looking for new work.

However, such quantitative measures perhaps ignore or underestimate time that is spent networking in industries in which workers must fashion a 'useful self' and project themselves through strenuous self-activity (McRobbie, 2002) given "frantic networking is a salient feature of such working life" (McGuigan, 2010: 333), and in which "speed is off the essence in a volatile and rapidly changing world where you have to be fitted in order to survive" (McGuigan, 2010: 334). This self-activity includes scanning of the markets for future employment opportunities, making and maintaining contact to potential buyers of labour power, actively selling one's self for future projects, as well as enhancing one's employability by updating and developing skills (Haunschild and Eikhof, 2009). Blair (2009) employs the term 'active networking' to describe how the activity of networking is "a conscious, on-going and active process in which actors knowingly and instrumentally engage" (Blair, 2009: 116). She suggests that, in active networking, individuals consciously act to make and maintain contacts with other individuals and groups based on the assumption that a variety of forms of information or opportunities for work will be more readily available as a consequence:

> "Freelancers operating in this manner build up a large number of contacts on whom they draw for information and for job opportunities. The reduction of employment uncertainty, rather than taking place through a fixed set of working relationships, is more dependent upon a wide net of contacts in positions either to recommend, set up a job or offer a job directly" (Blair, 2009: 131)

Moreover, sociality and networking are also key in spreading reputation. As Zafirau (2008) argues, reputation is an important feature in the interactional contexts of work in the creative industries. This is due to the way it acts as a stabilising feature of an otherwise uncertain business, helping to make contacts, facilitating the development of trust within networks, and marking competency. As well as 'active' networking, workers in the creative industries also perform 'reputation work' in order to enhance their 'networked reputation'

(Glückler, 2007; see also Glückler and Armbrüster, 2003; Glückler, 2005), a situation where new contacts learn about each other's reputation through joint trusted contacts within their social network. Word-of-mouth recommendations about competency are of particular importance. In his study of the Hollywood talent industry, for example, Zafirau finds that maintaining a favourable reputation is "not only an object of necessity, but a fundamental piece of the day to day work that Hollywood agents and managers do" (2008: 102). 'Active networking' and 'reputation work' can then both been seen as part the "wider intensification of the self-commodification processes by which each individual seeks to improve his/her chances of attracting gainful employment" (Ursell, 2000: 807).

However, this is to perhaps paint an over-simplified view of networks. It is important to note that networking may not always be seen as the 'compulsory sociality' (see Gill and Pratt, 2008; Gregg, 2008) required to survive in a field. It may also at times be seen as pleasurable 'hanging out' (see Pratt, 2006) with friends and contacts. Moreover, for Antcliff *et al.* (2007), to consider networks as simply assemblages of contacts used to gain individual advantage is to fail to take account of the social and organisational settings in which these networks are embedded. It is also important to consider, they argue, that workers also rely on their networks to foster collaboration, trust and co-operation, and to provide support, resources, and solutions to problems (see for example Kennedy, 2010, on web designers). Networks are also sources of social identity and continuity (Staber, 2004), play an important role in creating a sense of community within fragmented industries (Scott, 2004; cf. Davenport, 2006), and can play a key role in the defence of workers terms and conditions (Saundry *et al.*, 2007). Working practices in project-based creative industries can be both individual *and* collective.

The institutional structures in which these networks are embedded determine the ways in which interpersonal networks are built and the purposes to which they are utilised within labour markets, creating opportunities, but also

posing significant constraints (Blair *et al.*, 2003). As Christopherson (2002) notes, the social-network basis for job matching in industries such as the new media may be responsible for inequalities in pay and opportunity. For example, Christopherson points to the fact that while many men can rely on the personal 'old boys' network to insure continuous employment, women are paid less than men and are near the bottom of occupational hierarchies, with few in positions of power or control (see for example Beale, 1999; Gill, 2002) and are dependent on a wider range of sources of job information. Personal networks, she argues, are "inherently exclusive rather than inclusive, so create non-transparent hierarchies that potentially hamper professional mobility" (2002: 2012) and so can make new entry into project ecologies very difficult (see for example Johns, 2010, on the film and television industry in Manchester).

Emotional labour

Before concluding the chapter, it is important to outline one further perspective that can be drawn from work in sociology: that of 'emotional labour'. While over the course of a decade geographers have become increasingly engaged with issues around emotion as part of a wider 'emotional turn' in a range of disciplines (see Anderson and Smith, 2001; Davidson and Milligan; 2004), little geographical work has explicitly engaged with the concept of emotional labour. Notable exceptions include Crang (1994) on the workplace geographies of display in restaurants in Southeast England; Dyer et al. (2008) on emotional labour/body work in caring labour in the UK's National Health Service; and Bryson (2007) on the 'distanciated' emotional labour associated with the offshoring of corporate services. The dearth of geographical literature on emotional labour is perhaps unsurprising, given that, as Anderson and Smith (2001) argue, emotional relations often tend to be regarded as essentially private and as something 'apart' from the economic.

The term emotional labour was defined by the sociologist Arlie Hochschild (1983) to describe work that involves the management of emotions during social interaction in the workplace. Hochschild argued that the development of the service sector had made a new kind of labour prominent in Western society, with emotions and feelings becoming organisational commodities. Emotional labour is defined by Hochschild as:

… the management of feeling to create a publicly observable facial and bodily display; emotional labour is sold for a wage and therefore has exchange-value… This labour requires one to induce or suppress feeling in order to sustain the outward countenance that produces the proper state of mind in others. (1983:7, emphasis in original)

For England and Farkas, emotional labour involves "efforts made to understand others, to have empathy with their situation, to feel their feelings as part of one's own" (1986: 91). It is thus considered to involve both the emotions of the employee performing the labour and the emotions of others to whom these emotions are addressed. The term was originally conceived to describe work done in the 'service industries', for example waiting staff in restaurants; doctors, nurses and their reception staff; and airline workers. Ashforth and Humphrey (1993) argue that emotional labour is particularly relevant to service encounters, as, given the uncertainty created by customer participation in the service, such encounters often have a dynamic and emergent effect. Furthermore, as Wellington and Bryson (2001) outline, the literature on service work has highlighted the role of service workers as 'cultural sign vehicles', transmitting commodified messages that can be deciphered in the process of symbolic exchange. The manner in which a service worker displays or transmits feelings and emotions to the client has a strong impact on the quality of service transactions, the attractiveness of the interpersonal climate, and the experience of emotion itself (Ashforth and Humphrey, 1993).

While in academic literature the concept of emotional labour is most frequently applied to service encounters, much of the 'new economy' is also inflected with creativity and cultural performances. Organised around a life-world of emotional register (Amin and Thrift, 2007), the new economy is a force field of intertwined cultural and economic processes; for Pratt "cultural practices in the new economy take place both in the economic, state and civil society and in the personal realm" and are "at one and the same moment, public and private, social and economic, and so on" (2004: 125). Thus the concept of emotional labour as a cultural 'performance' can be usefully applied both in analyses of modes of production, and of cultural and economic encounters between actors, in the predominantly project-based organisation of the new economy.

Research into the 'creative industries', that is industries in which creativity, innovation and imagination are embraced (Hesmondhalgh and Baker, 2008), have tended to be conceptualised through the lens of the 'immaterial' (Hardt & Negri, 2001). Immaterial labour, defined as "labour that produces an immaterial good, such as a service, a cultural produce, knowledge or communication" (Hardt and Negri, 2001: 290) was developed to capture the sense that in post-Fordist conditions work is done through networks and emerging forms of association as much as through disciplinary institutions like the factory. Immaterial labour has three domains of productivity: communication (the management of meaning, information and feedback loops); symbolic activity (from data processing to knowledge work); and affective labour - the management of affect – that encompasses emotional labour (Munro, 2012). However, for Hesmondhalgh and Baker (2008) the close association between emotion and affect is unhelpful and their distinction lacks analytical force. Here the concept of emotional labour can be usefully applied to work in the new economy. Examples include Kennedy (2009) on emotional and commercial imperatives in new media work, and Hesmondhalgh and Baker (2008) on emotional labour in the television industry. Kennedy finds, for example, that in new media production, both empassioned/affective and commercial modes of work operate simultaneously, surfacing in articulation with each other: "issues

relating to the commercial and the emotional could be described as immanent to the production process" (2009: 192).

Emotional labour is also important in regulating interaction and obviating interpersonal problems (Ashforth and Humphrey, 1993) in a variety of encounters, and therefore project workers may often find themselves performing emotional labour as part of the management of a relationship with a client during the course of a project. Furthermore, emotional labour can be considered as a deliberate attempt to direct behaviour towards clients in such a way as to foster a certain interpersonal climate (Ashforth and Humphrey, 1993), and thus is an important part of maintaining a relationship with a client in such a way that it way result in repeat project work. As such, emotional labour can be considered an important part of the development and maintenance of the personal networks on which workers in the cultural economy rely to obtain employment and to build a career. This is discussed in more detail in subsequent chapters.

3.4 Concluding discussion

This chapter has provided a brief overview of current work on the economic geography of projects. Within this literature there has been the development of some very important insights into project-based economic organisation, amongst the most significant of which is the development of a non-essentialist perspective from which projects are viewed as being dependent on time and place, and upon localities, institutions and networks (see especially Grabher 2001b, 2002a). However, despite such advances, there remains a limitation to this literature, especially in approaches concerned with organisational networks such as work on the political economy of production networks. This limitation is too narrow a focus on projects as forms of economic organisation, and on meso-level analysis of networks at an inter- and intra-organisational level, at the expense of developing understandings of

work in project-based industries and its associated micro-level social, cultural, emotional and political practices.

Following Christopherson (2002) we can identify three forces shaping work lives in project-based creative and media industries. First, cultural and creative workers need to maintain a close connection with, and continually obtain information on, their employers and/or customers. Second, they have an expectation of 'precarity', high levels of job turnover, and mobility from project to project and from employer to employer. Finally, they have a relative reliance on social networks to obtain employment and to build a career. Ross notes that while a few cultural workers will thrive under these conditions, most will exist "in a limbo of uncertainty, juggling their options, massaging their contacts, never knowing where their next project or source of income is coming from" (2008 - 36). The resultant cycle of 'feast and famine', Ross argues, is familiar to anyone whose livelihood folds into the creative economy. The extent to which individuals are able to cope with uncertainty will influence the viability of cultural and creative workforces to sustain their potential and quality of the product in a wide range of project-based creative industries (Dex et al. 2000). However, the situation is more complex than some productivist critiques suggest. Cultural work is invariably more than a job; it becomes a labour of love. Thus there exists an intimate connection between the process of subjectification and subjection (Ursell 2000).

In light of the related weaknesses identified in the relational economic geography literature (see Chapter 1) and the literature on the economic geography of projects (this chapter), it is argued that the incorporation of sociological perspectives into our analyses of projects, in order to address the lack of attention to the sociological, cultural, emotional and political issues of work. Such an approach can contribute to the economic geography of projects in three crucial ways. First, rather than considering the economic structure of a particular organisation or industry, the approach places emphasis on the embodied agency of workers in project-based industries. It that sense it is

concerned with the people involved in the 'daily practices of work' (Ettlinger 2003) that are often uncritically subsumed into inter-firm networks.

Secondly, the approach challenges the centrality of the firm in economic geography, in its focus on the social networks that are so crucial in project-based industries increasingly characterised by freelancing and precarity. Empirical work has demonstrated that individuals may form networks within and outside firms that can either advance the interests of their employers (see for example Amin and Cohendet 1999) or prioritise personal interests over those of their employers (see for example Christopherson 2002). As Boggs and Rantisi (2003: 112) emphasise, "the logics that inform workplace practices cannot solely be understood in narrow economic terms or in terms of one single rationality, and accordingly, cannot be unconsciously equated or conflated with those of the firm". As Yeung (2005) argues that there is a need for a relational conception of the firm as social networks in which actors are embedded in on-going power relations and discursive processes. Finally, and associated with the above, the approach encourages fine-grained, micro-level analysis of economic activity that uncovers the heterogeneous practices that form, maintain, and sometime inhibit or break, social networks between individuals engaged in project-based work.

4 Mapping networks of music production

As emphasised in Chapter 2, the music industry is largely an urban phenomenon. However, while music is made and distributed through networks of cities hosting production facilities like studios and pressing plants, it is not made and distributed through firms and corporate networks in the traditional sense. While a small number of 'majors', the industry's largest corporate record labels, do play an important role in musical production and distribution, the music industry is made up of a number of complicated and over-lapping networks of creativity, reproduction, distribution and consumption (see Leyshon, 2001), consisting of many different firms, actors, spaces and services. Thus, as is argued in Chapters 1 and 3, studies of the creative economy of the music industry cannot and should not privilege the firm as the sole basic analytical unit, and as such, the connections that exist between cities with concentrations of music industry companies and infrastructure through their production and distribution of music cannot be accurately captured and measured through an intra-firm analysis. However, while any analysis of production in the music industry must subsequently recognise the complexities of creative production networks and the relational nature of creative practice, as outlined in the previous two chapters, this does not mean that a quantitative analysis cannot be undertaken of the connections that exist between cities linked together in networks of musical production.

Building on the discussion of relational project working presented in the previous chapter, this chapter employs social network analysis to examine the

working flows that occur between recording studios, based in cities across the globe, when they are part of temporary creative projects that are brought together to produce recorded music albums. The chapter aims to provide a measurement of the importance of particular cities, based on the relational project-based work taking place in and through their agglomerations of recording studios. Music provides a particularly revealing focus for this type of analysis due to the ways in which music production is caught up in multiple layers of networks (Connell and Gibson, 2003) involving a wide range of actors, particularly given the rise of new internet technologies enabling enhanced networking over geographical space. The end result of the analysis is a mapping of the importance and centrality of cities within the relational urban networks of music production.

To begin, the chapter examines the ways in which importance and centrality in relational networks has been conceptualized, with specific reference to networks of cities, and how this can be measured through social network analysis methodologies. Following a brief discussion of data collection, the chapter then describes the results of a social network analysis that attempts to define and map the urban networks formed through creative project working in the recorded music industry, assesses the level of connectedness of cities, and employs a number of measures to determine the importance and centrality of cities within networks of production for digital music markets.

4.1 Social network analysis

The term 'social network analysis' refers to a set of methods which can be employed to analyse social relationships, social structures and social networks. The method views individuals or organisations as nodes in networks connected to each other through various intensities and types of interdependency, including through friendship, common interest, economic ties and financial exchange. The social network analysis reported in this chapter is

concerned with the interdependencies that exist between recording studios, based in cities across the globe, when they are part of temporary creative projects. The analysis presented employs two different measures to assess the importance of cities in music production networks. The first measure used is Bonacich's power-based *centrality measure* (see Hanneman and Riddle, 2005). In applying this measure to urban networks, the importance of a specific city in the network is regarded as the product of its connections to other cities. The more connected the cities to which a particular city is connected to, the more central the city is. The less connected the cities to which a particular city is connected to, the more powerful the city is, and the less connected cities will be more dependent on it.

The second measure used is *flow betweeness*. This measure is based on the proportion of the entire flow between two actors, through all of the pathways connecting them, which occur on paths of which a given actor is a part. The measure adds up how involved the actor is in all of the flows between all other pairs of actors, as a ratio of the total flow betweeness that does not involve the actor (Hanneman and Riddle, 2005). Betweeness centrality is an important indicator of control of information exchange and resource flows within a network (Knoke and Yang, 2008), as the measure ascertains the extent to which an agent can play the part of a 'gatekeeper' with a potential for control over others (Scott, 1991). Although they may not necessarily have the most connections to other cities, those cities with a high degree of flow betweeness centrality are considered to be the most important *mediators* in the urban network. These cities are better situated than other cities as a result of the position that they occupy in the network (Alderson and Beckfield, 2004) due to their own and their neighbour's network connections. A core-periphery analysis is also undertaken on the valued data matrices to identify those cities belonging to the core of the network and those which belong to the periphery. The social network analysis presented in this chapter was undertaken using the UCINET software (Borgatti *et al.*, 2002). The network visualizations provided are derived through the embedded NetDraw visualization tool.

4.2 Data collection

The projects on which the analysis focuses are recorded popular music albums, defined as a group of audio tracks with a generally consistent track list across the different territories in which it is released. Each album is its own temporary project, consisting not only of firms (record companies), but also localities - recording studios in particular cities, and the professional and personal networks of the musicians and studio producers and engineers – 'creative labour'. Within these projects, elements of creative labour may be fixed in particular studios, with recordings being transferred digitally, or this labour may be mobile between studios in different cities. It is these movements, of both labour and recordings, which are the connections that form urban networks of musical production within the recorded music industry. Thus, in collecting data for the social network analysis described in the following section of the chapter, an event-based strategy has been employed in which network boundaries are drawn by including actors who participate in a defined set of activities occurring in specific times and places (see Knoke and Yang, 2008).

Each of these events, in this case temporary music industry projects (albums), has their own distinct production network, varyingly dispersed in terms of their geography. An example of a geographically dispersed network is shown in Figure 4-1, for the album 'Tonight' by Franz Ferdinand, released on Domino Records/Epic Records in January 2009. The network of recording for this particular album is dispersed across six studios in six cities, including cities in the UK (London, Bristol, and Glasgow), the US (Los Angeles, Phoenix) and Canada (Vancouver). By including multiple events (albums) in the network analysis, it is possible to produce a comprehensive and inclusive network, in which many distinct networks overlap with one another.

Databases of recording information for albums, consisting of information on the recording studios used, and the creative labour involved in the recording, were constructed based upon the details given in the credits of albums appearing in the top 10 iTunes download charts, for the UK and US digital music markets, during the first six months of 2009. Notwithstanding the 'crisis' in the music industry that has resulted from the introduction of digital software formats (see Leyshon, 2001, 2003, 2009; Leyshon *et al.*, 2005; also Hughes and Lang, 2003), the digital music market is an important part of the global music market. In January 2009 digital platforms accounted for around 20 per cent of global recorded music sales, with the digital revenues of international music companies growing by an estimated 25 per cent in 2008 to $US3.7 billion (IFPI, 2009).

iTunes sales charts were chosen for analysis because iTunes is the leading player in the online downloads market, and in 2008 became the largest music retailer in the US. iTunes top-10 music sales charts are published online and are continuously and automatically updated, and are available for most of the major national digital music markets. This allows comparisons to be made between national digital music markets. These three Anglophone markets were selected for analysis primarily due to the availability of the required data in English. An exploratory data collection exercise for a number of non-Anglophone markets including Japan revealed significant difficulties in obtaining the required data such that a full and comprehensive analysis would not have been possible for these markets within the limits of the research.

Figure 4-1: Example album project network: Franz Ferdinand 'Tonight' (Domino Records/Epic Records, 2009)
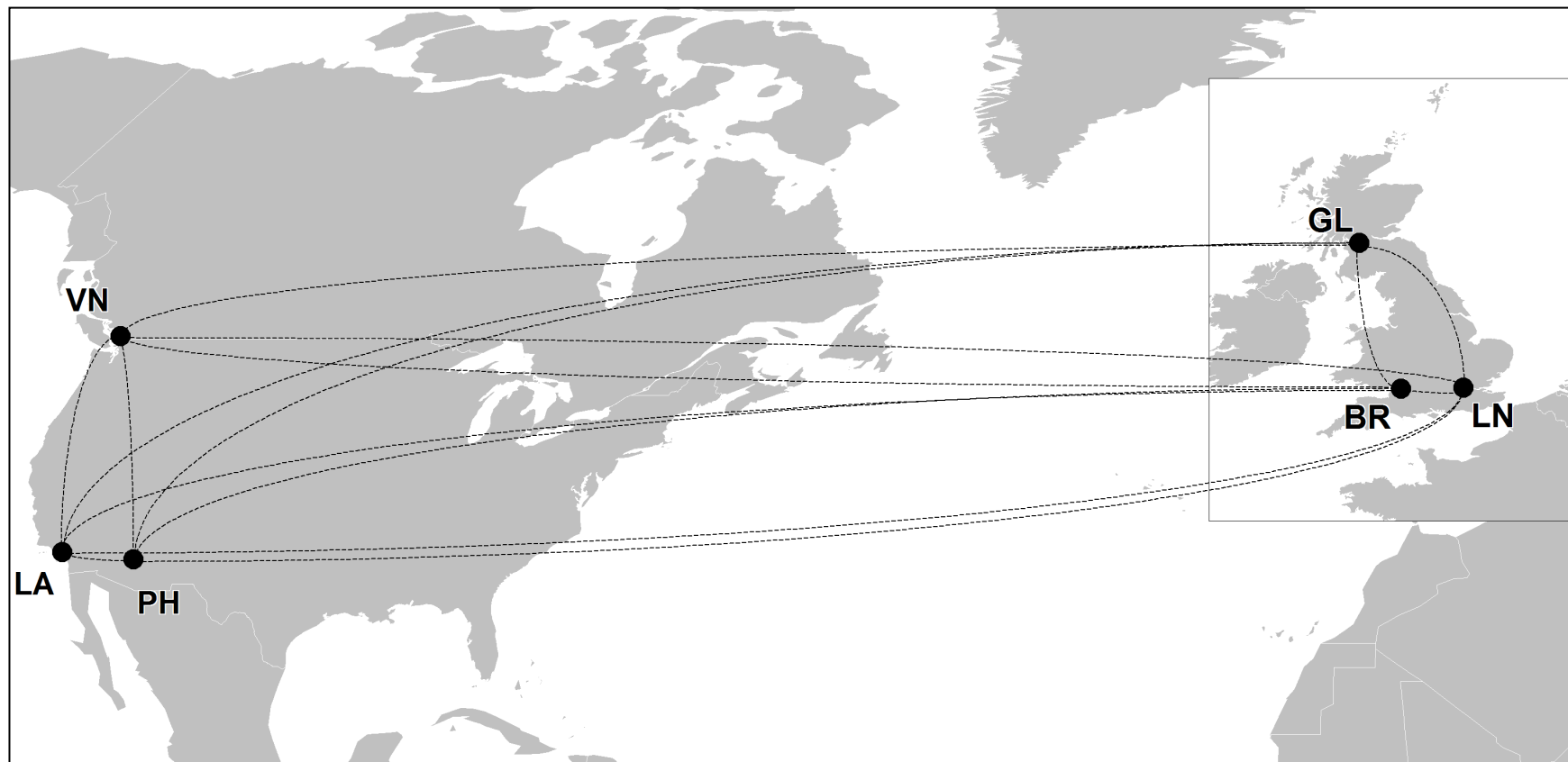
City codes: BR-Bristol; GL-Glasgow; LA-Los Angeles; LN-London; PH-Phoenix; VN-Vancouver.

For reasons of practicality the continuous updates to the charts could not be followed on a constant basis, and therefore the charts were analysed on a weekly basis. Data was sampled between 1st January 2009 and 31st June 2009. Only full albums released in this time period and up to one year before, and including newly released material, were included in the sample. EPs (releases containing a smaller number of tracks than a full album), compilations, 'greatest hits' compilations, and albums originally released over one year before the sampling date, were not included. The final databases contain data on 53 albums from the UK download charts, 52 albums from the US download charts, and 39 albums from the Australian download charts respectively. The data are coded as non-directional, i.e. there is no distinction made between 'senders' and 'receivers' in relationships, rather they are considered to involve mutual exchange. The data produce three symmetrical and valued matrices, one for UK networks of production, one for US networks of production, and one for Australian networks of production with the matrices linking 36, 43 and 29 cities across the globe respectively. Inevitably a significant amount of overlap occurs between the three databases.

4.3   Urban networks of musical production

Table 4-1 ranks the top five cities based on the release of albums into the UK digital music market. The figures given are based on the number of albums for which studios in the city were involved in the recording 'project' expressed as a percentage of the total number of albums captured from chart data.

Table 4-1: Top five cities ranked by output of albums; UK digital music market

Rank	City	Albums output from the city (% of total number of albums)
1	London	52%
2	Los Angeles	38%
3	New York	36%
4	Cardiff	7%
5	Bristol	5%
~	Glasgow	5%
~	Portland (ME)	5%
~	Miami	5%
~	Dublin	5%
~	Stockholm	5%

Note: A single album can be considered to be output from more than one city where the album is produced within a creative project network of cities.

Based upon this, London is shown to be the pre-eminent centre for the output of sales-successful recorded music into the UK digital music market. Studios based in the city were involved in the recording projects for over 50 per cent of all the albums captured in the data. Los Angeles and New York, with 38 per cent and 36 per cent respectively, trail behind London but are far ahead of a second tier of smaller UK, European and US cities. Many other cities with individually smaller levels of output make up a third-tier of production. The dominance of the global city triad of London, New York and Los Angeles in terms of sales-successful output for the UK digital music market is clearly highlighted by these figures. Table 4-2 ranks the top five cities based on output

of albums into the US digital music market. In the case of the US digital music market, Los Angeles is shown to be the pre-eminent centre for the output of sales-successful music, with its studios involved in the recording of almost 60 per cent of all the albums captured in the data.

Table 4-2: Top five cities ranked by output of albums; US digital music market

Rank	City	Albums output from the city (% of total number of albums)
1	Los Angeles	58%
2	New York	46%
3	London	25%
4	Nashville	10%
5	Portland (ME)	8%

Note: A single album can be considered to be output from more than one city where the album is produced within a creative project network of cities.

It is closely followed by New York, with New York studios involved in 46 per cent of the albums sampled. Contrasting with the case of the UK digital music market, London is significantly behind both Los Angeles and New York in terms of sales-successful output into the US digital music market, accounting for 25 per cent of the albums sampled. These cities are followed in the top 5 cities by two more US cities, Nashville and Portland (ME), accounting for 10 per cent and 8 per cent respectively. Table 4-3 provides the same rankings for the Australian digital music market. In this case, New York and London are pre-eminent, with studios in both cities involved in over 40 per cent of all the albums captured in the data respectively. They are closely followed by Los Angeles, whose studios are involved in 38 per cent of the albums sampled. These are

followed by the Australian city of Melbourne. Accounting for 13 per cent all the albums captured in the data, it is well behind the global city triad, but ahead of another Australian city, Sydney, which accounts for 8 per cent of all albums. These data for the US and Australian markets thus also highlight the dominance of the global city triad of London, New York and Los Angeles.

Table 4-3: Top five cities ranked by output of albums; Australian digital music market

Rank	City	Albums output from the city (% of total number of albums)
1	London	41%
~	New York	41%
3	Los Angeles	38%
4	Melbourne	13%
5	Sydney	8%
~	Portland (ME)	8%

Note: A single album can be considered to be output from more than one city where the album is produced within a creative project network of cities.

Connectivity in urban networks

While this output data is useful in providing a hierarchy of cities based on levels of production, it tells us nothing about networks of production between cities. The data gathered on connectivity, based on the links between cities occurring as part of creative projects, is more informative as to the configuration of urban networks of musical production. The data for connectivity for networks of production for the UK digital music market further highlight the dominance of

the triad of London, New York and Los Angeles. Table 4-4 ranks the top cities based on their total number of connections to other cities.

Table 4-4: Top cities ranked by total number of connections, UK digital music market

Rank	City	Total connections	Highest connectivity
1	New York	38	9 (Los Angeles) 6 (London)
2	London	37	8 (Los Angeles) 6 (New York)
3	Los Angeles	35	9 (New York) 8 (London)
4	Bristol	12	2 (London, Glasgow)
5	Glasgow	10	2 (London, Bristol)
~	Portland (ME)	10	2 (New York)
7	Miami	9	3 (Los Angeles) 2 (New York)
8	Atlanta	8	2 (New York, Los Angeles)
~	Dublin	8	2 (New York, London)
~	Stockholm	8	2 (New York, London)

London, New York and Los Angeles dominate the rankings as the three most connected cities, with around three times the number of connections of the fourth placed city, Bristol. All three cities have their highest connectivity to each other, and all of the other cities have their highest connectivity with one or more of these three cities. The strongest link between individual cities is shown to be that between New York and Los Angeles, very closely followed by the connection between London and Los Angeles. The remainder of the list consists of other smaller UK, US and European cities. Figure 4-2 provides a visual representation of the urban networks formed by these connections. The

visualization displays the triad of London, New York and Los Angeles lying at the centre of the network, surrounded by a web of less connected cities whose role as music recording centres is articulated through the three highly connected global cities.

Figure 4-2: Global urban networks of recording, UK digital music market
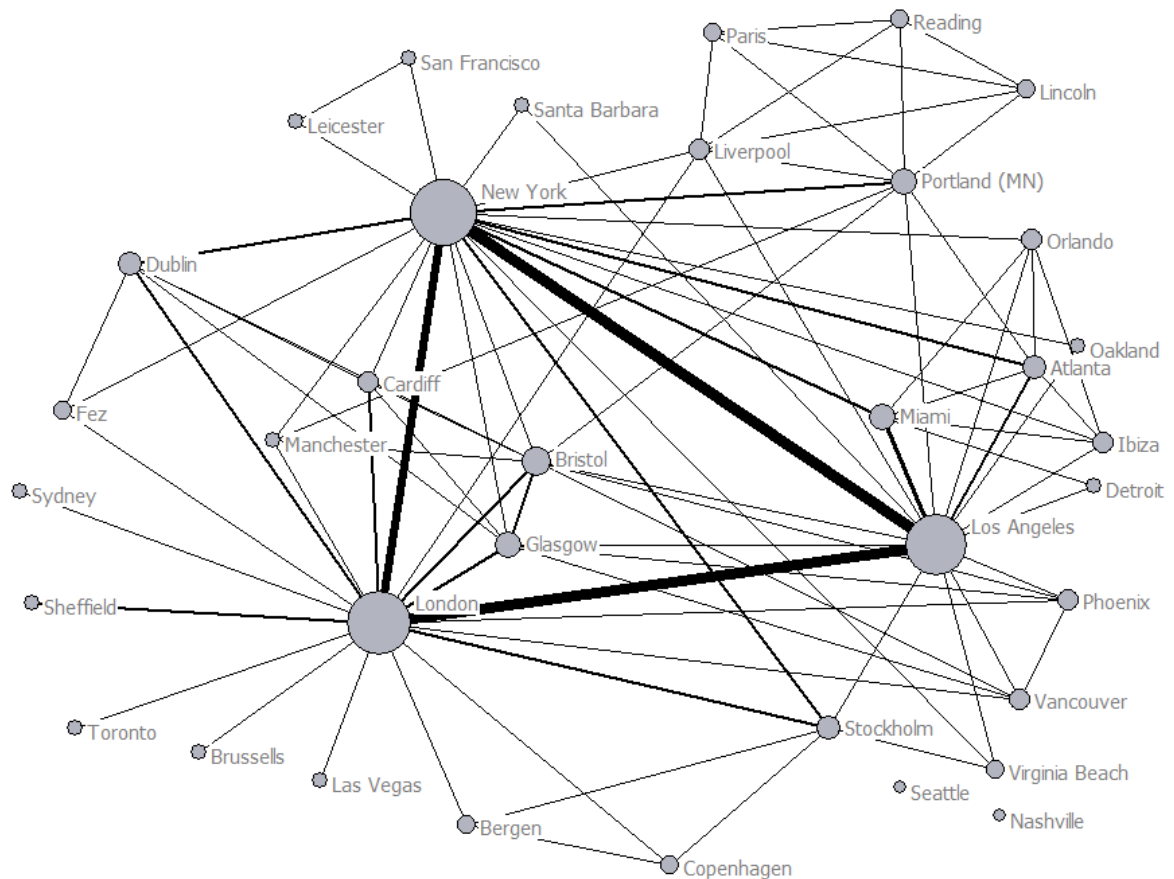
Note: Tie strength is based on number of inter-city links; the size of the nodes is based on the total connectivity of the city.

Table 4-5 ranks the top cities within the urban networks of production for the US digital music market, based on their total number of connections to other cities. The US global city dyad of New York and Los Angeles is shown to dominate the rankings of the most connected cities. Both cities have over twice the number of connections of the third placed city, London. The two cities are

shown to have an extremely strong level of connection to each other when compared to the strength of their links with other cities, having around four times more connections with each other than they have with London.

Table 4-5: Top cities ranked by total number of connections; US digital music market

Rank	City	Total connections	Highest connectivity
1	New York	54	18 (Los Angeles) 5 (London)
2	Los Angeles	53	18 (Los Angeles) 4 (London)
3	London	23	5 (New York) 4 (Los Angeles)
4	Portland (ME)	11	3 (New York)
5	Phoenix	9	1
6	Portland (OR)	7	1
7	Vancouver	7	2 (Los Angeles)
8	Seattle	6	1

Figure 4-3 provides a visual representation of the urban networks formed by these connections. The visualization displays the dyad of New York and Los Angeles lying at the centre of network of production. Contrasting with the network for the UK digital market shown in Figure 4-2, London does not match these two cities in terms of importance at the centre of the network.

Figure 4-3: Global urban networks of recording, US digital music market
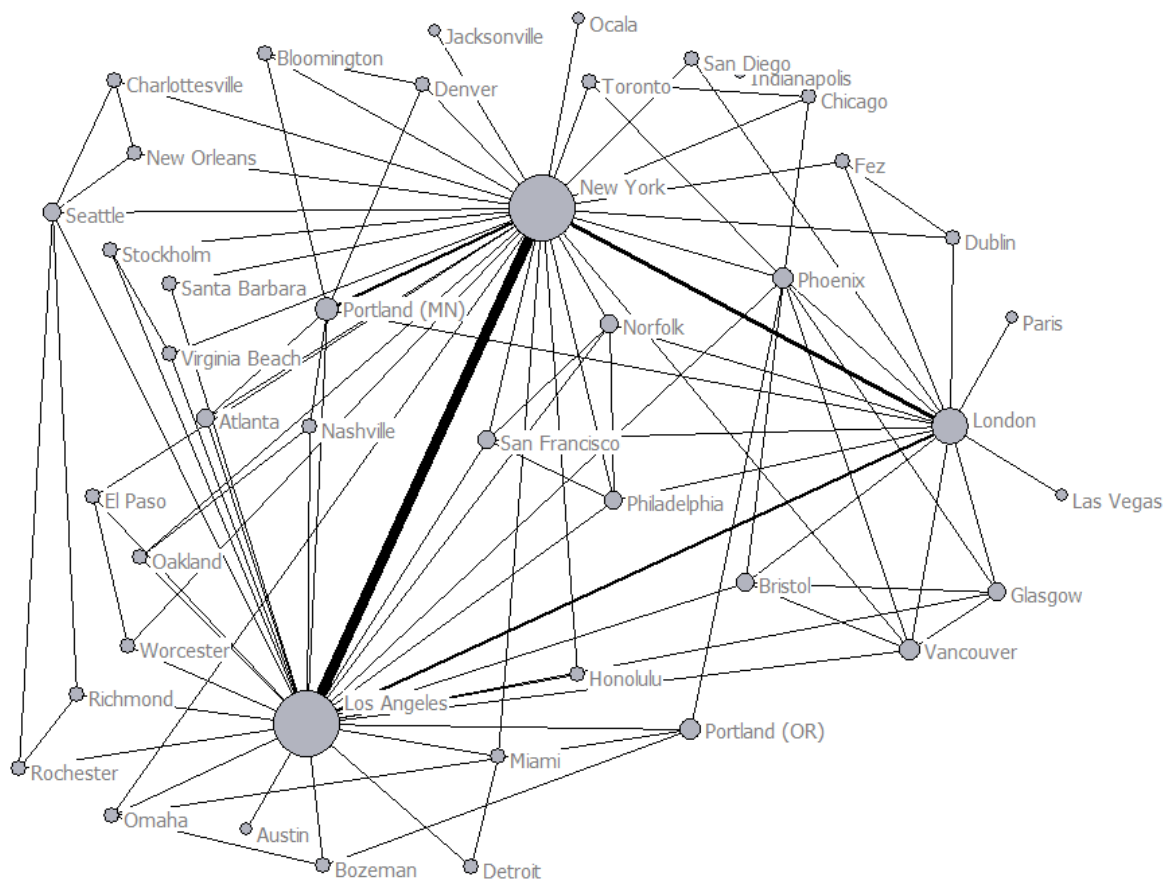
Note: Tie strength is based on number of inter-city links; the size of the nodes is based on the total connectivity of the city.

Table 4-6 ranks the top cities within the urban networks of production for the Australian digital music market. Mirroring the case for the UK market, the triad of London, New York and Los Angeles are shown to dominate the rankings, with New York marginally ahead of the other two cities. The highest ranked Australian city, Melbourne, has only a fraction of the number of connections of the triad.

Table 4-6: Top cities ranked by total number of connections; Australian digital music market

Rank	City	Total connections	Highest connectivity
1	New York	27	6 (London)
			5 (Los Angeles)
2	Los Angeles	23	5 (New York)
			5 (London)
~	London	23	6 (New York)
			5 (Los Angeles)
4	Bristol	5	1
~	Glasgow	5	1
~	Melbourne	5	1
~	Phoenix	5	1
~	Stockholm	5	2 (New York)
~	Vancouver	5	1

Figure 4-4 provides a visual representation of the urban networks formed by these connections. The network diagram displays a very similar configuration to that for the UK digital music market (Figure 4-2), with the triad of London, New York and Los Angeles lying at the centre of network.

Figure 4-4: Global urban networks of recording, Australian digital music market
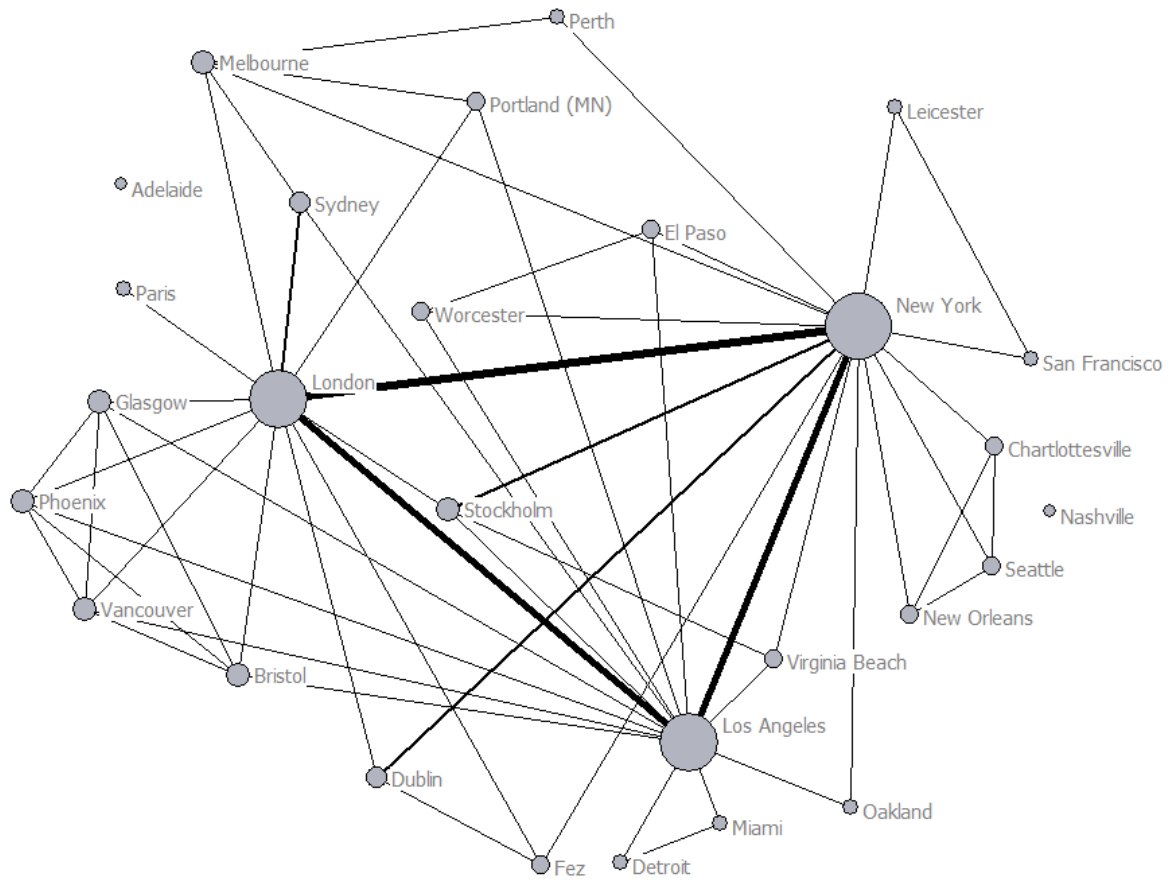
Note: Tie strength is based on number of inter-city links; the size of the nodes is based on the total connectivity of the city.

Centrality in networks of production

In the urban network of production for the UK digital music market, Los Angeles, whilst only the third most connected of the cities in terms of total connections, is calculated to have the highest degree of *centrality*, i.e. has the most connections to other cities with a high degree of connectivity, marginally above both New York and London. Although London accounts for the output of many more albums into the UK digital music market than Los Angeles and New York (52 per cent of albums, compared to 38 per cent and 36 per cent

respectively, by this measure it is the least central of the dominant three cities. However, in terms of *power* in the urban network, i.e. in terms of many cities with low degrees of connectivity being dependent upon the city, London is calculated to be the most powerful city in the network, very closely followed by New York. Los Angeles is the third most powerful city, but is shown to be far less powerful than both London and New York. London is also calculated to be the most important *mediating* city in the network based upon the flow betweeness centrality measure, significantly more important than New York, which is turn is a significantly more important mediator than Los Angeles. These results, outlined above and summarized in Table 4-7, are indicative of London's dominance as the most important city within the urban network of production for the UK digital music market.

Table 4-7: Centrality measure rankings for London, New York and Los Angeles

Market	City rankings; Bonacich centrality	City rankings; Bonacich power	City rankings; Flow betweeness centrality
UK	1. Los Angeles	1. London	1. London
	2. New York	2. New York	2. New York
	3. London	3. Los Angeles	3. Los Angeles
US	1. New York	1. New York	1. New York
	2. Los Angeles	2. Los Angeles	2. Los Angeles
	3. London	3. London	3. London
Australia	1. New York	1. New York	1. New York
	2. London	2. Los Angeles	2. Los Angeles
	3. Los Angeles	3. London	3. London

In the urban network of production for the US digital music market, New York is shown to score highest on all three measures (Table 4-7). This is despite having a weaker album output than Los Angeles (involvement in 46 per cent of total albums compared to 58 per cent), and only a marginally higher number of connections (54 compared to the 53 of Los Angeles). Based on the Bonacich measure, New York is calculated to have the highest degree of *centrality*, i.e. has the most connections to other cities with a high degree of connectivity, although it is shown to be only marginally ahead of Los Angeles. Both cities have much higher centrality rankings than London, which in turn is significantly ahead of the fourth-placed city, Atlanta. New York is also shown to be the city with the most *power* in the urban network, i.e. in terms of many cities with low degrees of connectivity being dependent upon the city. By this measure, New York is shown to be much more powerful than Los Angeles. Los Angeles is shown to be only marginally ahead of London in terms of power in the network, despite accounting for a much higher output of albums (involvement in 58 per cent of total albums compared to 25 per cent) and having many more connections (53 compared to the 23 of London). This highlights London's power over certain weaker cities in the urban network, cities which New York and Los Angeles may have to go through London to access. New York is also calculated to be the most important *mediating* city in the network based upon the flow betweeness centrality measure, significantly more important than Los Angeles, which is turn is a significantly more important mediator than London. These results are indicative of New York's dominance within the urban networks of production for the US digital music market.

New York also scores highest on all three centrality measures for the Australian digital music market (Table 4-7) and therefore is calculated to have the highest degree of centrality, to be the most powerful city, and the most important mediating city in the urban network of digital music production for the Australian market. It is however only marginally ahead of London in terms of its centrality. Los Angeles comes ahead of London on the Bonacich power measure and flow betweeness centrality measure, despite having a marginally weaker album output, although is below London on the Bonacich centrality

measure. One interesting outcome is the score of the Australian city Melbourne on the flow betweeness centrality measure. Melbourne is positioned clearly in fourth, behind the global city triad but well ahead of other cities in the network. This demonstrates that Melbourne occupies an important position within the network as a *mediator* city, playing the part of a 'gatekeeper' for access to the Australian music market.

A core-periphery analysis for the networks of production for the UK digital music market gives a core that contains nine of the 36 cities involved in the production of the musical outputs included in this analysis. Along with the three dominant cities of London, New York and Los Angeles, is a second-tier of core cities: Atlanta, Bristol, Dublin, Glasgow, Miami, and Stockholm. These cities have relatively strong ties to the three dominant cities, and to each other, when compared to peripheral cities. The same analysis for the networks of production for the US digital music market gives a core that contains just five of the 43 cities included in the data. New York, Los Angeles and London are present in the core; they are joined by Atlanta and Portland (ME), the only second-tier core cities. All other cities in the network have relatively low connections with the core cities and each other. A core-periphery analysis for the networks of production for the Australian digital music market gives no distinct core or periphery.

Prestigious studios in prestigious cities

As stated previously, the data used in the study is non-directional, in that it does not distinguish between connections to and from a city. Indeed, it is assumed that links between cities involve mutual exchange and communication in both directions. However, although it is not directly measured in the data, there is one particular part of the musical recording process where cities may perhaps be considered 'senders' and 'receivers': the mastering of recordings. Here recordings are sent via electronic means, to be mastered in specific

studios, which undertake mastering for an unbalanced share of the recordings produced. Thus this key production process plays an important role in concentrating production networks through certain key cities. In terms of the UK digital music market, the most significant mastering studio is Metropolis Studios based in London, followed by Sterling Sound based in New York (Table 4-8). Together, these two mastering studios account for one-third of the total number of albums sampled.

Table 4-8: Top five mastering studios in networks of musical production, UK digital music market

Mastering studio	City	Number of albums mastered (% of total number of albums)
Metropolis Studios	London	20%
Sterling Sound	New York	13%
Bernie Grudman Mastering	Los Angeles	8%
Gateway Mastering	Portland (ME)	7%
Masterdisk	New York	7%

In the top five these studios are joined by Bernie Grudman Mastering (Los Angeles), Masterdisk (New York), and Gateway Mastering (Portland, ME). Together these five studios account for 55 per cent of the total number of albums sampled. This highlights the concentration of this key process in particular studios in particular cities. In terms of the US digital music market, it is a US-based studio that is prominent. Sterling Sound, based in New York, dominates the list of key mastering studios (Table 4-9), accounting for 27 per cent of albums. It is followed by Bernie Grudman Mastering (Los Angeles)

Gateway Mastering (Portland, ME), Marcussen Mastering (Los Angeles) and Metropolis Studios (London).

Table 4-9: Top five mastering studios in networks of musical production, US digital music market

Mastering studio	City	Number of albums mastered (% of total number of albums)
Sterling Sound	New York	27%
Bernie Grudman Mastering	Los Angeles	13%
Gateway Mastering	Portland (ME)	10%
Marcussen Mastering	Los Angeles	8%
Metropolis Studios	London	8%

Together these five studios account for 66 per cent of the total number of albums sampled, suggesting even greater concentration of the mastering process than that found in the networks of production for UK digital markets. Sterling Sound in New York also dominates the list of key mastering studios for the Australian digital music market (Table 4-10), accounting for 28 per cent of albums. It is followed by Metropolis Studios (London), Bernie Grudman Mastering (Los Angeles), Gateway Mastering (Portland, ME), and The Exchange (London). Together these five studios account for 62 per cent of the total number of albums sampled.

Table 4-10: Top five mastering studios in networks of musical production, Australian digital music market

Mastering studio	City	Number of albums mastered (% of total number of albums)
Sterling Sound	New York	28%
Metropolis Studios	London	10%
Bernie Grudman Mastering	Los Angeles	8%
Gateway Mastering	Portland (ME)	8%
The Exchange	London	8%

We might consider these select cities, to which a disproportionate amount of recordings are 'sent' as *prestigious* cities, because they receive many directed connections. These are the cities that are 'sought out' (Alderson and Beckfield, 2004) by record labels, artists, music producers and recording engineers; have ties directed to them, and are chosen over others. It is perhaps unsurprising that the three most central and powerful mediating cities as indicated by the centrality measures - London, New York, and Los Angeles - are also the three most prestigious cities based on these connections.

There are two central reasons for the concentration of the process in these cities. Firstly, technology is central to the mastering process, and therefore those studios that can afford to invest the latest technology will be most desired by potential clients. However, having the most desired technology is not enough alone. As described previously, the process requires studio engineers with the appropriate level of skill and creativity to employ the technology to best effect. All of the major mastering studios have mastering engineers contracted to them. Clients not only seek to use particular studios,

but also to use particular mastering engineers based upon their reputation. For example, Ted Jensen, chief mastering engineer at Sterling Sound in New York, alone accounts for 15 per cent of the total number of albums sampled from the US digital market, while mastering engineers John Davis and Tim Young of Metropolis Studios in London, together account for the mastering of almost 20 per cent of the total number of albums sampled from the UK digital market. Bob Ludwig of Gateway Mastering in Portland alone accounts for 10 per cent of the total number of albums sampled from the US digital market, and 7 per cent of those from the UK digital market. The prestigious nature of certain studios, and thus of particular cities, can then be directly attributed to the skilled engineers that are working in the studios and living in the cities. Recent work in economic geography, led by the work of Richard Florida (2002a, 2005), has emphasized how large global cities such as London, New York, and Los Angeles act as magnets for these talented individuals from across the globe, in which many both work and live.

4.4 Concluding discussion

In market-based projects in the recorded music industry, ties between record companies, musicians, and specialized producers and engineers reach out between cities across the globe, resulting in the development of new relational geographies of creativity. Through social network analysis this Chapter has provided an exploration and mapping of a sample of urban networks of production within the global recorded music industry. It has emerged from the social network analysis presented in this chapter that the spatial agglomerations of music industry firms, studios, and creative labour in particular key cities remains central to music recording process in the age of digital music markets, with outstanding technical studio facilities strongly centralized in particular key cities. This is especially the case for the triad of global cities of New York, Los Angeles, and London, home to significant concentrations of record companies and recording studios (see Scott, 1999; Watson, 2008). The path dependence of networks of recording is then

intimately embedded in physical infrastructures; material outcomes of economic processes that are localized in certain places and territories and exist over long periods of time (see Bathelt and Glückler, 2003).

The Chapter has demonstrated the dominance of the triad of global cities New York, Los Angeles, and London. As such the Chapter lends empirical support to incumbent theory on global cities and cultural production, theory which to date has suffered from an empirical deficit (Taylor, 2004, Short *et al.*, 1996) and been based largely on anecdotal evidence. The outcomes from the analysis presented in this chapter, based upon novel data and an innovative empirical work based upon social network analysis are significant in this respect. However, the strength of this outcome is at least in part due to some of the limitations of the sampling strategy and data used in this empirical analysis. A focus solely on three Anglophone markets means the Chapter only presents a partial picture of the globalised nature of the contemporary music industry. If one were to undertake the same analysis for major non-Anglophone markets, especially those in Asia such as China and Japan, the resulting urban networks would likely be configured rather differently to the results presented in this chapter. Also, in sampling only music appearing in the top-10 of the iTunes charts, the study is inevitably focusing predominantly on those artists and genres of music that have been prioritized by the narrow repertoire policies of the global music industrial system (see Negus, 1993, 1996). Employing an alternative sampling frame other than national sales charts would also likely give a very different set of results.

The results of the social network analysis, which has explored and mapped the importance and centrality of cities in networks of musical production, demonstrate the geographical outcomes of the relational project based work being performed by music industry actors (in this case recording studio workers) within networks. However, the more detailed aspects of this work (creative practices, networking strategies, and working conditions, for example) that lie behind these quantitative representations remain concealed.

In order to document these aspects of project-based working in particular spaces and at different spatial scales in detail, more in-depth research is required. The analysis presented in this chapter has demonstrated that London is the most important city in networks of recording for UK music markets, and one of a triad of cities that dominates three major Anglophone music markets, and therefore recording studios in central London represent a very worthwhile focus for more in-depth research. The research that follows focuses on the working practices, experiences and conditions of recording studio engineers and producers in London with specific attention paid to creative practices and social networks. Over the subsequent three chapters, the research builds towards greater conceptual depth; Chapter 5 presents the results of an extensive questionnaire survey distributed to engineers and producers working in recording studios in central London; while Chapter 6 and Chapter 7 present a more detailed discussion based upon qualitative semi-structured interviews with these engineers and producers.

5   Practices of recording: an initial investigation

The preceding Chapter outlined an empirical analysis that mapped the outcomes of the transnational project-based working practices of skilled creative labourers working in recording studios. The findings of this analysis highlight how the importance of London within networks of recording is not simply a product of the number of recording studios present in the city, the number of employees, and the value added into the economy (see Chapter 1); as is argued in the preceding chapter, it is an emergent effect of the network relationships of the creative labour working in London's recording studios. Set within the context of this argument, the following two chapters describe the findings from extensive quantitative and in-depth qualitative research that is focused on creative labourers working in recording studios in London.

The aim of this chapter is to document the more detailed aspects of social power and practice that lie behind these quantitative representations. In particular, the chapters aim to uncover the technical and creative practices of recording that occur within the insulated space of the recording studio, that is to say to undertake an examination of creativity and craft *in situ*, and how these practices map onto the emergence of wider networks of creativity. This chapter begins this examination through providing a preliminary analysis of the technical and creative practices of recording. The chapter starts with a detailed discussion of the practice of recording music, focusing in particular on the technical and creative roles performed by recording engineers and producers within recording studios, the recording process, and the technical equipment

utilised during this process. The remainder of the Chapter details the results obtained from a questionnaire survey (further details of which are provided in Appendix A). The discussion of the results is organised in three sections. Firstly, contextual details are provided on the engineers and producers responding to the survey, their technical role, employment, and career. Secondly, the Chapter provides a discussion of creative processes within the studio, and in particular the technical and creative practices performed by studio engineers and producers. Finally, the chapter discusses the personal and professional networks of the engineers and producers, and in particular the importance of these networks to being successful in their career and to cooperation with other producers/engineers in other studios.

5.1   The practice of recording

As argued in Chapter 2, recording studios are privileged to some of the most intimate moments of musical creativity and emotive performance. The insulated space of the studio gives musicians the conditions required to experiment and create music. These creative moments are produced not by the musician alone, but through relations between musicians, record producers, and studio engineers (Gibson, 2005). Music production and recording engineering remain almost exclusively male forms of employment. Record producers control and supervise the recording process, directing proceedings and the overall sound (Longhurst, 1995; Negus, 1992). As Longhurst (1995) argues, by the early 1960s many producers had become artists in their own right and were known for their own distinctive 'sound'. Studio engineers are skilled in operating the complex equipment of the recording studio, and in getting the required sound and effect from the equipment (Longhurst, 1995; Negus, 1992), transforming sound from performance to artefact (Tankel, 1990). Often also present in the studio are assistant engineers, engineers at a more junior stage of their career whose main role is to support the engineer by setting up equipment for a recording session.

It should be noted however that there is some fluidity in the tasks performed by recording engineers. A movement towards greater importance can be traced for some recording engineers, who are increasingly assisting musicians with the production of their music, a role traditionally performed by producers (Longhurst, 1995), and making aesthetic judgments that are usually perceived to be the performer's domain (Tankel, 1990). The work of recording engineers and producers represents the point where music and modern technology meet. Kealy (1990) describes the complex set of technical abilities and tacit knowledges that engineers and producers are required to have. These include knowing the characteristics of hundreds of microphones and a variety of acoustic environments, and how to employ them to best record a musical instrument; the capabilities and applications of a large array of sound-processing devices; the physical capacities of recording media (such as tapes and discs) for accepting and reproducing sounds; the operation of various recording machines; and how to balance or 'mix' the analogue or digital signals coming from a variety of live and pre-recorded sound sources, to produce a recording that is "a recognizable and effective musical experience" (Kealy, 1990: 208).

Producers and engineers can be considered to act as cultural intermediaries (see Hennion, 1989), on whom the ability of musicians to make music is dependent (Shuker, 1994; Pinch and Bijsterveld, 2004). They are gatekeepers, engaged in reconfiguring the sonic space of the studio (Pinch and Bijsterveld, 2004), who mediate music through various stages of production and usage of technologies (Negus, 1999). For Horning (2004), the recording studio is a site of collaboration between 'technologists', the producers and engineers with the know-how to operate the highly technological equipment in studios, and 'artists', where maximum creativity requires a symbiotic relationship requiring skills that are at the same time both technical and artistic. Studios can thus be considered 'sociotechnical spaces' (Leyshon, 2009), 'machinic complexes' (Gibson, 2005) housing assemblages of bodies and technologies.

The rise of multi-tracking

For these 'technologists' (Horning, 2004), the recording and post-production of music is both a highly technical and creative process consisting of a number of stages. The first stage in the process is the act of recording the 'live' musical performance by the musicians in the recording studio. Multi-track recording is the most common technological method of recording popular music. This is a method of sound recording that allows for the separate recording of multiple sound sources to create a cohesive whole. Originally undertaken using analogue recording consoles with the facility to record and mix multiple tracks (Figure 5-1) and store these to tape via a tape machine (Figure 5-2), multi-track recording is now largely done using digital equipment or using multi-tracking software on computers with digital recordings stored on hard disk. Musical instruments and vocals can be recorded, either one at a time or simultaneously, onto tracks that can be individually processed and manipulated, either during or post-recording, to produce the desired results. Horning (2004) argues that, in allowing a greater control over engineering, the advent of multi-tracking not only increased the dependency on the technical knowledge of the studio engineer working in the control room (see also Théberge, 2004), but also rendered the recording engineer a member of the creative team, becoming more involved in the musical decisions made during recording (see also Kealy, 1979).

Figure 5-1: Close-up of recording console showing switches and faders for recording multiple tracks of audio, Fortress Studios, North London

(Photo: Author)

Figure 5-2: Analogue tape machine, Lynch Mob Productions studios, West London

(Photo: Author)

Audio mixing follows the main recording stage. This is the process by which the variety of tracks recorded by musicians are combined together into a single stereo recording. During this process, elements of the source recordings are adjusted and effects added, in order to finalise the balance of sound within recordings. Prior to the invention of multi-track recording in the 1950s, the relationships between sounds were controlled at the time of recording (Tankel, 1990). For Horning (2004) the ability to record in such a way that the instruments and voices were properly balanced was the subtlest form of 'engineering the performance'. For Théberge (2004), the entire development of multi-tracking, and the practices associated with it, is inseparable from a simultaneous evolution in the design of recording and mixing consoles. Both Théberge (2004) and Leyshon (2009) provide rich descriptions of the development and digitalisation of these consoles. Leyshon (2009) describes how, in the late 1960s the UK technology companies Solid State Logic (SSL) and Neve developed in-line digital recording consoles, which gave producers and engineers a high level of control over the various sounds and components that were recorded in recording studios, with each microphone and effect having its own set of faders and controls.

Leyshon then describes how the process of digitalisation took a further step forward in the late 1970s as SSL and then Neve integrated computer software and memory into recording consoles, allowing producers and engineers to save settings across as many as 32-tracks and easily re-establish the settings between recording sessions, ensuring these were exactly the same from session to session. This he argues made SSL and Neve consoles the control desks of choice for leading freelance engineers and producers, and therefore, with reference to the terminology of actor-network theory, that "consoles integrated with software and with the capacity for memory became obligatory passage points for studios wishing to attract producers" (Leyshon, 2009: 1323-1324). Most major studios therefore invested in one or both of these types of control desks. For example, the control room of Studio One at

Abbey Road has a 72-channel Neve recording consoles, while Studio Three has a 96-channel SSL recording console. The control room of Lyndhurst Hall, the orchestral recording space at Air Studios, North London, has the world's largest Neve 88R console, with a total of 96 channels (costing approximately £600,000), and Studio One has a 72-channel AIR-custom vintage Neve desk, while Studio Two has a 80-channel SSL desk. Studios continue to invest in expensive Neve and SSL desks today; the control room of Studio Two at Abbey Road was newly refurbished in January 2011 to accept a new 60-channel Neve mixing console (Figure 5-3).

Figure 5-3: 60-channel AMS Neve mixing console, Studio Two, Abbey Road studios, North West London

(Source: http://www.abbeyroad.com, accessed 30/05/11)

Figure 5-4 and Figure 5-5 also show examples of Neve recording consoles in the control rooms at Fortress recording studios in North London and Lynch Mob productions studios in West London, respectively. These consoles are integrated with computer software allowing engineers and producers to save digital recordings and settings to hard disc, and providing them with a visual display of recording settings and outputs on computer monitors.

Figure 5-4: Neve recording console, Fortress Studios, North London
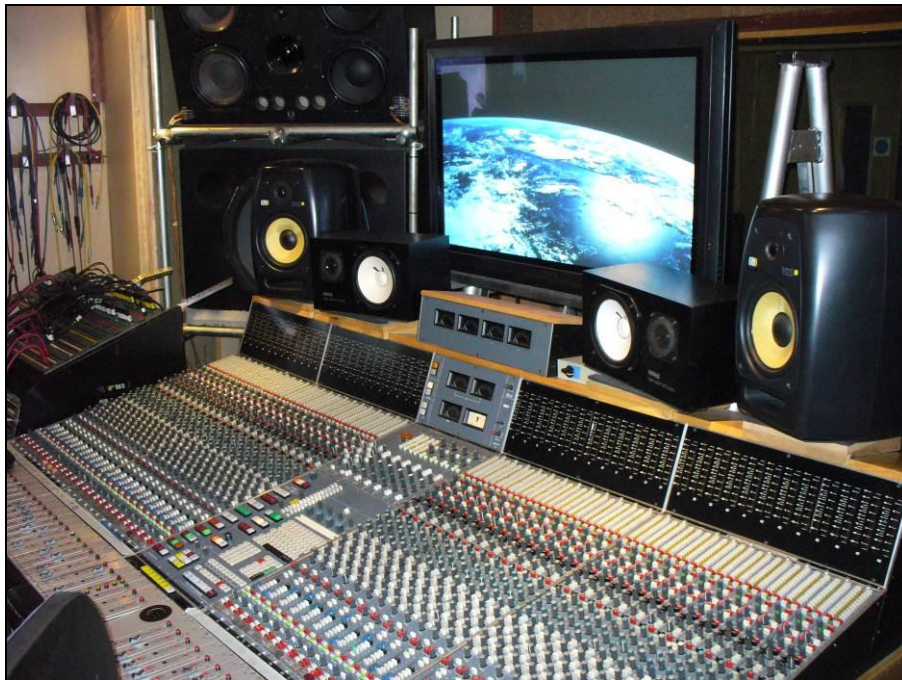
(Source: Author)

Figure 5-5: 1969 Neve recording console, Lynch Mob Productions studios, West London

(Source: Author)

However, the high costs of these consoles are prohibitive for most small studios working on very small budgets. For these studios, investment in one of the wider range of budget mixing consoles available on the market is the only option; however, these desks can be given some of the functionality found on the larger software-integrated SSL and Neve consoles, if they are integrated via an analogue to digital converter. This is often referred to as an integrated digital audio workstation (DAW). One such example in the Minima Productions studio in South London, a small project studio, is shown in Figure 5-6. This particular DAW is an analogue Soundcraft Ghost 24-channel mixer integrated with DAW software running on a personal computer via an outboard analogue to digital converter.

Figure 5-6: Integrated digital audio workstation (DAW), Minima Productions studios, South London
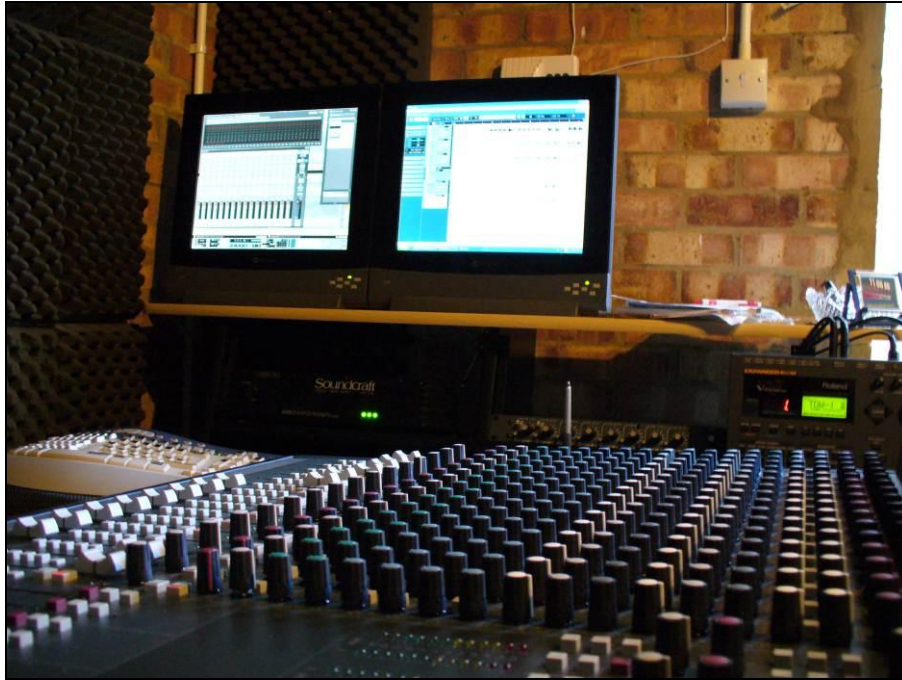
(Source: Author)

Mastering

The final stage in the production of recorded music is the post-production process of *mastering.* This is the process whereby the final mix of the recorded audio is prepared and transferred to a master copy on a data storage device, from which all subsequent copies are produced. Mastering has its origins in the 'cutting' of records, the terms used to describe the transfer of a recording onto vinyl records. Vinyl as a medium for storing recordings had limitations and a key role of the mastering engineer was to master the ability to transfer to vinyl, adjusting the sound of the recording accordingly. More recently, the introduction of the compact disc supplied a storage medium without any technical limitations. This resulted in a change in the role of mastering engineer, from 'transfer engineer' to sound engineer, with the focus on obtaining the optimum sound from a song rather than limiting its sound. Whereas a recording or mixing engineer can engineer sound by adjusting faders on multiple tracks, a

mastering engineer usually only receives a completed two-channel mix. To engineer sound, a mastering engineer must use specialised sound processing equipment to tune in on a particular sound and boost particular areas of the sound spectrum, without it interfering with other sounds in the song. More recently, the role of the mastering engineer has once again begun to change, with the introduction of 'stem-mastering'. This is a technique derived from stem-mixing, a method of mixing audio material based on creating groups of audio tracks and processing them separately prior to combining them into a final master mix. With mastering engineers now beginning to receive recordings as a series of stems in the place of a completed two-channel mix, the line between mixing engineer and mastering engineer has begun to blur.

Moreover, the introduction of the MP3 digital music format has resulted in the need to provide digital masters; however, while digital storage of masters is now pervasive throughout the industry, much of the mastering process is still undertaken using analogue processing equipment attached to very expensive high-quality monitoring speakers (see for example Figure 5-7) due to issues of sound quality with digital equipment. Mastering is a highly specialised and geographically-concentrated process dominated by a handful of studios with a reputation for high-quality mastering, as demonstrated in Chapter 4.

Figure 5-7: Mastering studio showing consoles and monitoring speakers, Air Studios, North West London

(Photo: Author)

Digital music-making, software and networking

By the late 1980s, a new range of digital music-making and recording technologies; personal computers, automated music machines (for example drum machines), sampling computers, musical instrument digital interface (MIDI) sequencers, and synthesizers; had become integrated into many recording studios, from large professional studios to more modest home set-ups, and resulted in the rise of 'project studios': smaller studio installations that began to take on commercial work (Théberge, 2004). Subsequently, the ability to program on the latest machinery has become a more widespread skill, and many recording engineers have now added programming to their repertoire of craft skills. Studios and producers will often employ engineers and programmers who specialise in particular kinds of equipment (Goodwin, 1998). Music has accordingly become more of a programmers and producers medium, as the proliferation of digital music instruments and popular music composition

software (see Théberge, 2004, 1997; also Goodwin, 1988) has made music a sphere of composition as opposed to performance (Goodwin, 1998). Moreover during the 1990s a new generation of computer software emerged that combined recording capability and MIDI sequencing (Théberge, 2004). Commonly referred to as computer-based DAWs, prominent examples of software include Avid Technology's Pro-Tools, Steinberg's Cubase, and Apple's Logic Pro. As Théberge (2004) notes, this new generation of software was enabled primarily by the increased level of processing power and storage capacity found in personal computers from the 1990s onwards. This enabled multi-track recording and mixing on a level only previously afforded by large expensive recording desks, along with inbuilt effects processors previously only available as expensive 'outboard' units, separate to the consoles. These technological developments therefore had a particularly significant beneficial impact for smaller project and amateur studios.

Alongside these developments in computer software has been the development of technologies for sharing digital music files between recording studios in geographically distant locations. More recently the emergence of ISDN (Integrated Services Digital Network) has enabled the development of technologies for simultaneous recording that allow musicians, producers and engineers to collaborate in real-time and at distance. In 1995, for the first time a single was recorded and mixed simultaneously when Japanese guitarist Hotei at Singapore's Form Studios was linked to Jesus Jones at Real World studios near Bath, a distance of over 7,000 miles and covering two different time zones, via Solid State Logic's WorldNet system (Cunningham, 1998). Théberge (2004) argues that these technologies have given rise to 'network studios', which in their attempt to service a highly mobile clientele (recording artists, producers, and engineers) have "…increasingly adopted recording technologies and practices that enable them to expand and co-ordinate their activities on a global scale" (Théberge, 2004: 761). Today, tools and techniques continue to be developed for networking studios in geographically distant locations, in complex and intimate ways. Cunningham (1998) notes, however, that the use of ISDN appears to be isolated, at least in part due to the human need to be in the same

room as each other and the intimate level of communication required between musicians to create music.

Technology and creativity: harmony or discord?

While Attali (1985) suggests that the technical process of recording has wrung the passion from performance, as Tankel (1990) argues, such an analysis fails to appreciate the aesthetic potential of the recording technology itself. For Warner (2003) the availability of new technologies mediates creative actions and offers the potential for high levels of innovation and creativity. Thus the technical and creative talent of producers and engineers is crucial to the performance of the recording studios, being required to know how to operate technical complex equipment, but also to have the tacit knowledge and craft skills, gained from experience, which are indispensable to artistic creativity within the studio (see Horning, 2004). While the skills of studio engineers in particular are considered technical, the practice of such technical skills also involves aesthetic decisions making (Kealy, 1990). As Leyshon (2009) suggests, technical expertise must also be combined with the skills and musical ambitions of the clients, as well as emotional support and encouragement for the creative process.

Kealy (1990) identifies three modes of collaboration in pop music production: 'craft-union', 'entrepreneurial' and 'art', each with different dimensions as shown in Table 5-1. While the 'craft-union' and 'entrepreneurial' modes of collaboration are associated with older recording technologies, Kealy argues that a new 'art' mode of collaboration has developed since the 1960s and the introduction of multi-track recording. This saw the engineer moving into a more collaborative relationship with the artist working in the studio with a desire to establish a rapport between them that would enable them to express themselves in the resulting music (Longhurst, 1995). The goal was to produce an artistic statement, often an 'experiment in sound', rather than the drive to

capture realism or produce a hit record as associated with earlier modes of collaboration. Kealy suggests that "…sound mixers commonly hold an occupational self-image that includes such elements of craftsmanship as technical mastery and artistry" (1990: 208).

Table 5-1: Dimension of the modes of pop music production (Longhurst, 1995, derived from Kealy, 1990)

	Technology of recording	*Recording aesthetic*	*Social organization*	*Job responsibilities*	*Occupational ideology*
Craft	Acoustic properties	Realism	Professional / unionized	Formal / impersonal	'In the 'grooves'
Entrepreneurial	Tape	Hit sound	Fluid	Open	Selling
Art	Multi-track	Art	Collaboration	Rapport	Expression

5.2 Record producers and studio engineers

The first section of the questionnaire asked questions on the respondents work; their role within the studio, their employment, the main studios at which they work, and the drivers for their decision to work in London. Due to the targeting of the questionnaire, all respondents to the questionnaire were either studio engineers or producers, or both. Engineering roles included recording, mixing, and mastering, with the majority of respondents performing multiple of these engineering roles within the studio, occasionally also including programming and maintenance roles. There were also a number of producers/engineers who responded that they were musicians, instrumentalists and arrangers. As shown in Figure 5-8, 44 per cent of the respondents owned and/or managed a recording studio. For these respondents, other activities

such as administration and maintenance were also noted as roles they perform within the studio. This is the largest single employment category, supporting Burnett's (1996) assertion that in today's music industry most producers, or producer-engineers, are independent and often work only in their own recording studios, or studios where they have special business arrangements. This is associated with a growth in the number of independent studios since the 1970s, which provided the space for freelance producers to work beyond the studios of the record companies. In comparison, 25 per cent of respondents noted that they were employed through a permanent contract with a particular studio. A slightly larger percentage, 27 per cent, of respondents noted that their employment was on a freelance basis, an employment form that has been becoming increasingly common amongst producers and sound engineers since the 1950s (Leyshon, 2009; Burnett, 1996; Kealy, 1982), involving taking work opportunities as they arose at a range of studios in the UK and/or overseas.

Figure 5-8: Employment situation of producers and engineers
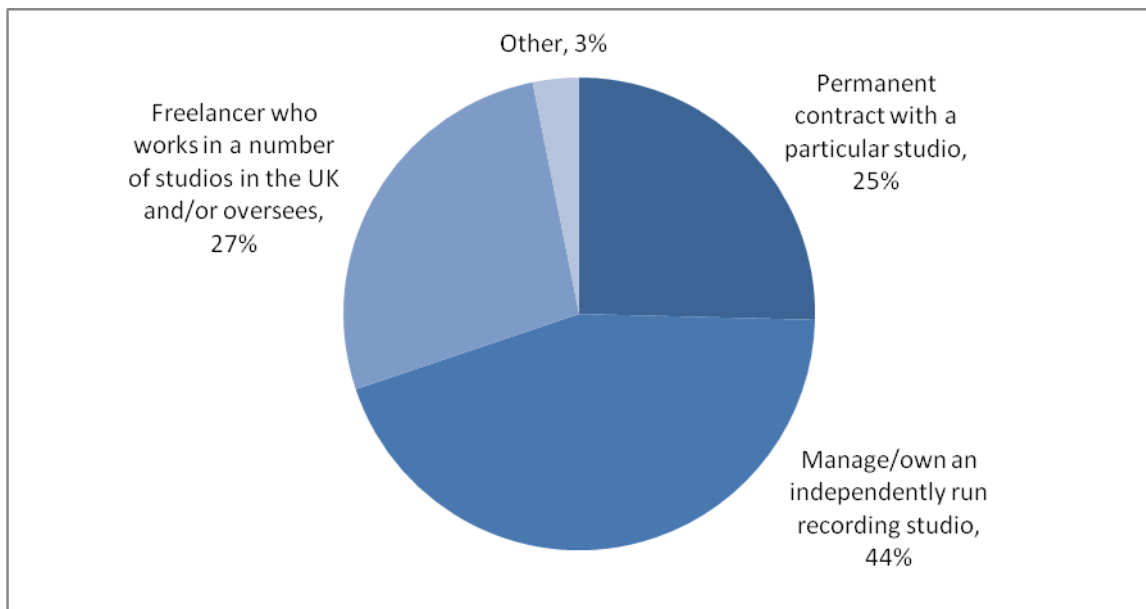
Respondents were asked to state their level of agreement with a series of statements relating to working in London. The statements related to work opportunities, London's creativity and reputation, and standard of living it offers.

As shown in Table 5-2 and Figure 5-9, none of the statements gained a particularly high level of agreement.

Table 5-2: Working in London

Please indicate whether you agree or disagree with the following statements on working in London (from 1 to 5 where 1=Strongly disagree and 5=Strongly agree)

	Average	Total
A large number of recording studios means there are more interesting/challenging work opportunities.	3.3	211
There is the opportunity to make more money in London as a producer/engineer than elsewhere.	3.4	210
Working in a studio in London enhances my reputation and therefore my future career prospects.	3.5	223
The city has a strong creative atmosphere which supports and inspires my own creativity.	3.8	241
London offers a better standard of living and/or more lifestyle opportunities than other cities.	2.9	181
London's transport network makes it easy to get to studios across the city at short notice.	3.4	217

The highest level of agreement amongst the respondents related to the city having a strong creative atmosphere that supported and inspired their own creativity. In terms of positive agreement, this was followed by the way in which working in a studio in London enhances their reputation and therefore their future career prospects. The lowest level of agreement amongst the respondents related to London offering a better standard of living and/or more lifestyle opportunities than other cities. However, perhaps most interesting is that the next lowest levels of agreement related to work opportunities in the music industry in London, specifically the idea that more interesting/challenging work opportunities result from there being a concentration of a large number of recording studios, and the opportunity to make more money in London than elsewhere. This suggests that a city's creative atmosphere is more attractive to

these skilled creative workers due to the way it supports and inspires their own creativity, than the employment opportunities on offer in the city.

Figure 5-9: Working in London
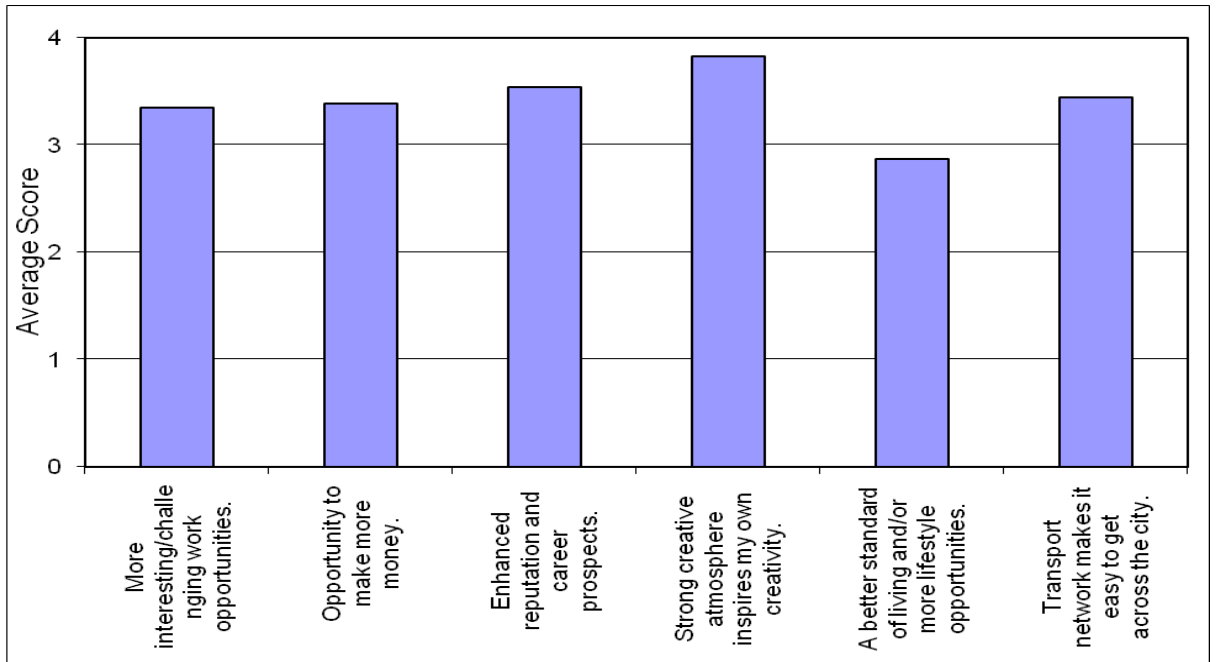
Table 5-3: Comparison of means between employment types for statements on working in London

Employment Type	More interesting/ challenging work opportunities.	There is the opportunity to make more money than elsewhere.	Working in London enhances my reputation.	A strong creative atmosphere inspires my own creativity.	London offers a better standard of living.	Transport network makes it easy to get across the city.
Contracted to studio	3.31	3.19	3.25	**3.94**	2.56	3.37
Owns/runs studio	3.32	3.32	3.61	3.79	**3.11**	3.32
Freelance	**3.41**	**3.53**	**3.71**	3.76	2.71	**3.71**
Total	3.35	3.33	3.54	3.83	2.87	3.44

Table 5-3

Table 5-3 shows a comparison of the mean responses between different employment groups to the statements on working in London. ANOVA statistical analysis of these responses suggests that the majority of these results are not statistically significant; however, it is found that the responses to the statement that London offers a better standard of living are significant at the level of $p<0.180$. Here the response from those engineers and producers owning/running a studio was significantly more positive than for other employment types. This is most likely a result of the fact that those owning or managing studios in London would be those most likely to have taken the decision to live permanently in the city within commuting distance of the studio. The highest mean responses from all employment types were in response to the statement that London's strong creative atmosphere inspired their own creativity.

5.3   Creativity in the studio

The second section of the questionnaire posed questions on creativity within the studio, specifically relating to the respondent's performance of their technical role, their ability to be creative within the studio, and their judgement of what it takes to be successful in their role. For each question, respondents were asked to rate the importance of a series of factors. With regards to what respondents considered important in performing their technical role, the ability to be highly innovative and creative when using the equipment in the studio was rated most important (see Table 5-4 and Figure 5-10). This highlights the importance of combining technical expertise with the studio equipment with a level of creativity that matches musical ambitions of the clients (Leyshon, 2009). As Kealy (1990) notes:

> "The more resourceful and innovative the mixer is in applying studio technology to enhance or augment the recording, the more indispensable he is as an aesthetic collaborator." (Kealy, 1990: 218)

Table 5-4: Performance of technical role

How important do you rate each of the following to performing your technical role? (from 1 to 5 where 1=Not at all important and 5=Extremely important)

	Average	Total
An in-depth knowledge of the complex technical recording equipment used in the studio.	4.4	277
The ability to be highly innovative and creative when using the equipment.	4.5	281
The ability to use the equipment to create a unique/distinct sound for your recordings.	4.2	267
Being able to work with other technically skilled people in the studio.	4.4	277
Keeping up to date with technical developments with recording studio equipment.	3.9	243

Figure 5-10: Performance of technical role
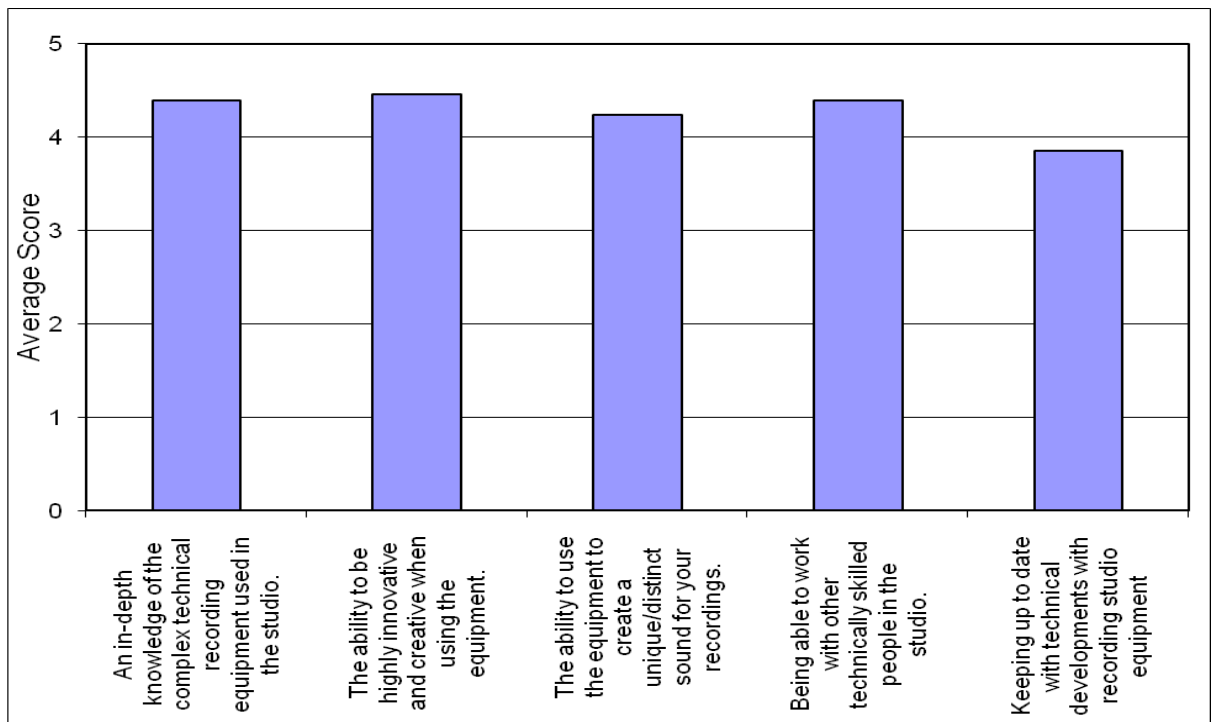
Related to this, also rated very important was an in-depth knowledge of the complex technical recording equipment used in the studio. This goes some way to supporting Horning's (2004) assertion that the technical knowledge of recording engineers has become increasingly important as technologies have developed that allow greater control over the engineering of the recording process. However, while an in-depth knowledge of technical equipment was considered very important, keeping up to date with technical developments with recording studio equipment was rated of least importance, suggesting that, while the technologies available to produce music are in a state of continuous development (Warner, 2003), the equipment utilised in the studios is not being frequently updated. Also rated as important was being able to work with other technically skilled people in the studio. As Porcello (2004) argues, central to collaboration between studio engineers and producers in the studio is not just a sound technical knowledge of studio equipment, but also a shared set of 'linguistic resources' that allows talk about work and talk about sound.

Table 5-5 shows a comparison of the mean responses between different employment groups to the questions on performance of technical role. While ANOVA statistical analysis of these responses suggests that the majority of these results are not statistically significant, the responses on the importance of being able to be highly innovative and creative when using the studio's technical equipment were significant at the level of $p<0.029$.

Table 5-5: Comparison of means between employment types for questions on technical role

Employment Type	An in-depth knowledge of complex technical recording equipment.	The ability to be highly innovative and creative when using the equipment.	The ability to use the equipment to create a unique/distinct sound.	Being able to work with other technically skilled people.	Keeping up to date with technical developments.
Contracted to studio.	4.38	4.19	3.88	**4.63**	**4.06**
Owns/runs studio.	4.36	**4.71**	**4.39**	4.21	3.68
Freelance.	**4.53**	4.35	4.35	4.53	3.94
Total	4.40	4.46	4.24	4.40	3.86

For this question the response from those engineers and producers owning/running a studio was significantly more positive than for other employment types, and this factor was highlighted as being the most important to this employment group. This suggests that individuals who own their own studio feel this allows them to be significantly more innovative than someone who is contracted in or freelance, and hence has less familiarity with a particular studio and its technical equipment. These individuals, who become more adept at manipulating sound within a particular environment and with particular technologies and instruments, often develop an individual 'sound' which becomes associated with them and their studio (Pinch and Bijsterveld, 2004). These sounds bear the trace of a unique combination of spatial detail, technological specification, and the contribution not only of the producer or engineer, but often also a distinctive core of studio musicians (Waksman, 2004). Results support this, demonstrating that the ability to use the equipment to create a unique/distinct sound for recordings is important to studio owners/managers. This is arguably due to the importance of the development of a distinct studio 'sound' as a unique selling point for their particular studios. For both those producers and engineers who were freelance and those who were contracted to a studio, both an in-depth knowledge of technical equipment and the ability to work with other technically skilled people were shown to be most important.

In terms of their ability to be creativity in the studio, respondents rated just two factors out of seven very important; firstly the studio having the best acoustic qualities for a particular project, and secondly the studio having a relaxed atmosphere conducive to the creative process (see Table 5-6 and Figure 5-11). Both factors relate to something other than the technical equipment available within the studio. The first relates to the qualities of the studio space, within which the engineer has to work, and from which they aim to get the best sound. In a technical manual on sound studios, Nisbett (1995) notes that recordings pick up the characteristics of the studio as much as those of the player, with the studio acting as a 'sounding board' to instruments and its shape and size giving character to the music.

Table 5-6: Creativity in the studio

How important do you rate each of the following to your ability to be creative in the studio? (from 1 to 5 where 1=Not at all important and 5=Extremely important)

	Average	Total
The studio having the best audio recording and editing equipment available for a particular recording project.	3.7	236
The studio having the best acoustic qualities for a particular recording project.	4.2	267
Not having to worry about tight time constraints when working on a recording project.	3.6	221
The studio having a relaxed atmosphere that is conducive to the creative process.	4.3	267
The studio having facilities to send and receive working music files digitally to/from other studios.	3.8	241
Technology that allows you to work simultaneously with producers/engineers in other studios.	3.0	184
The studio being located with an area of the city where there is lot of creative energy.	2.8	174

Figure 5-11: Creativity in the studio
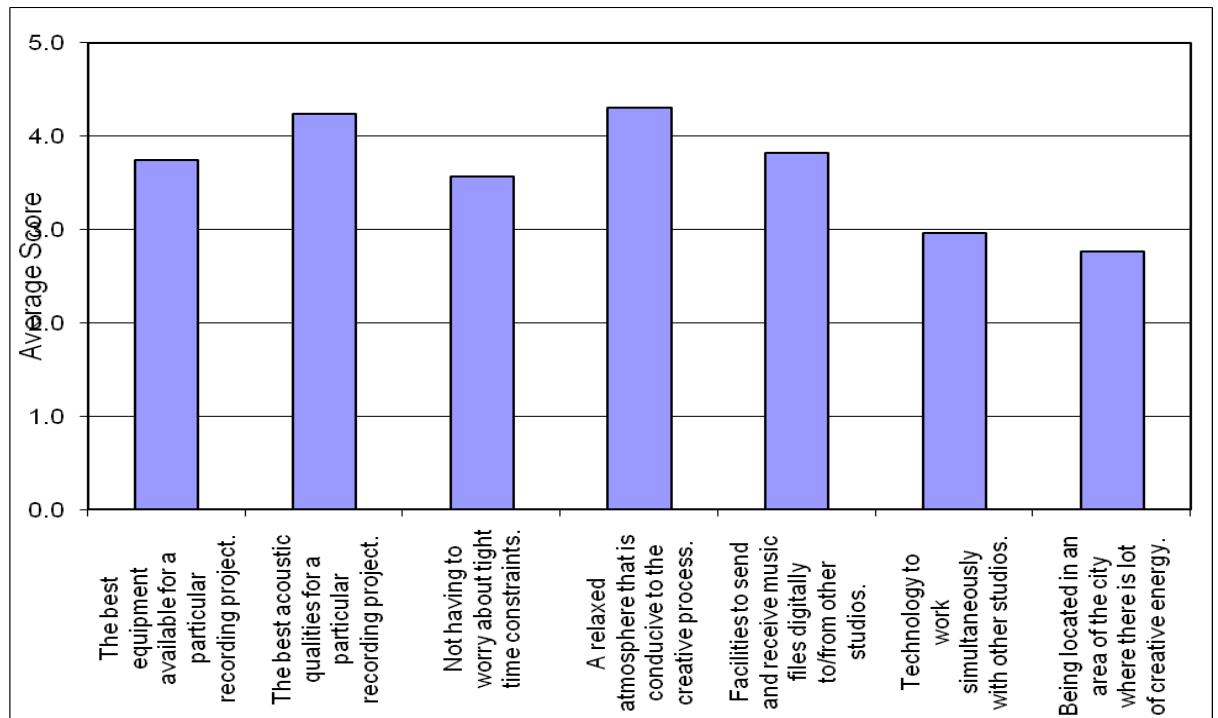
Therefore, as Tankel (1990) asserts, studio practice is not limited to recording technology per se, and particular sounds can be created by using the studio as an acoustic space and through the careful selection and placement of microphones in the recording studio based on the instrument or voice to be recorded (see for example Figure 5-12). Further, by fixing various parameters of sound such as volume, pitch, timbre, juxtaposition, presence and attack/decay, using microphone preamplifiers, and by applying particular effects such as compression and reverberation, the engineers can 'code' not only the music but also the musical space (Tankel, 1990). The sounds captured can be manipulated during the recording or mixing stages, through the use of 'outboard' equipment, that is equipment that is separate from the recording console or mixing desk (see Figure 5-13 and Figure 5-14).

Figure 5-12: Microphoning for orchestral recording in a large acoustic space, Lyndhurst Hall, Air studios, North West London

(Source: Author)

Figure 5-13: Rack of outboard equipment including preamplifiers and effects units, Fortress Studios, North London

(Source: Author)

Figure 5-14: A studio engineer adjusting the input level on a microphone preamplifier during a recording session

(Source: Author)

The second relates to a relaxed atmosphere, conducive to creativity. Leyshon (2009) describes how an attitude of 'congeniality' is deliberately cultivated and worked upon in recording studios. He suggests that recording studios provide what has become known as 'emotional labour': interactive service work loaded with feeling and affect that is part of the service being provided. As Steinberg and Figart (1999) describe:

"Emotional labor emphasizes the relational rather than the task-based aspect of work found primarily but not exclusively in the service economy. It is labor-intensive work; it is effort-intensive and productive labor." (Steinberg and Figart, 1999: 9)

A core component of emotional labour is the regulation of emotions in order to deal with other people's feelings (James, 1989). Therefore, in creating a relaxed atmosphere that is conducive to the process of creating music, studio employees must often induce or suppress their own feelings in order to sustain the outward countenance that produces the proper state of mind in the musicians (see Hochschild, 1983), and make efforts to understand and have empathy with their emotions. Leyshon (2009) argues that emotional support and encouragement of the creative process is an asset that studios can actively cultivate and promote as reputational asset that can be strongly linked to particular studios spaces and infrastructure.

Following the above two factors with regards to importance were two other factors, which both relate to the availability of technical equipment; firstly the studio having facilities to send and receive music files digitally to/from other studios, allowing the producers and engineers to co-ordinate recording projects over geographical distances (see Théberge, 2004); and secondly the studio having the best audio recording and editing equipment available for a particular

recording project. Such equipment includes the recording console and/or mixing desk, and the number of channels available for recording, Digital Audio Workstations, outboard effects processors and MIDI equipment, as well as the desired type and number of microphones. Considered unimportant was the studio being located within an area of the city where there is a lot of creative energy. Table 5-7 shows a comparison of the mean responses between different employment groups to the questions on creativity in the studio.

Table 5-7: Comparison of mean responses by employment type for questions on creativity in the studio

Employment Type	The studio having the best recording and editing equipment.	The studio having the best acoustic qualities.	Not having to worry about tight time constraints.	The studio having a relaxed atmosphere conducive to creativity.	The studio having facilities to send and receive digital music files.	Technology that allows you to work simultaneously with other studios.	The studio being located where there is lot of creative energy.
Contracted to studio	**4.13**	**4.44**	3.56	4.00	**3.94**	2.81	2.62
Owns/runs studio	3.50	4.04	3.25	4.29	3.75	2.75	2.54
Freelance	3.82	4.41	**3.88**	**4.41**	3.82	**3.24**	**3.12**
Total	3.75	4.24	3.51	4.24	3.83	2.92	2.76

ANOVA statistical analysis of these responses shows that the responses on the studio having the best recording equipment were significant at the level of $p<0.155$, those on the studio having the best acoustic qualities were significant at the level of $p<0.115$, and those on the location of the studio were significant at the level of $p<0.142$. With regards to the studio having the best recording equipment, the mean response suggested that this was considered significantly more important by engineers and producers contracted to a studio than by other employment groups. Mean responses show that all employment groups considered both the acoustics qualities of the studio and the studio having a relaxed atmosphere as being very important to their ability to be creative in the studio. With regards to factors that affect the success with which engineers feel they can perform their role within the studio, respondents rated all four factors presented to them on the questionnaire as very important (Figure 5-8, Figure 5-15).

Table 5-8: Success in the role

How important do you rate each of the following to being successful in your role? (from 1 to 5 where 1=Not at all important and 5=Extremely important)

	Average	Total
Well-developed technical skills.	4.5	278
The ability to collaborate artistically with musicians and add value to the creative process.	4.6	284
The ability to balance the creative process and the technical process to give the best outcome.	4.6	286
The ability to give musicians / record companies the exact musical product that they require/expect.	4.5	280

Figure 5-15: Success in the role
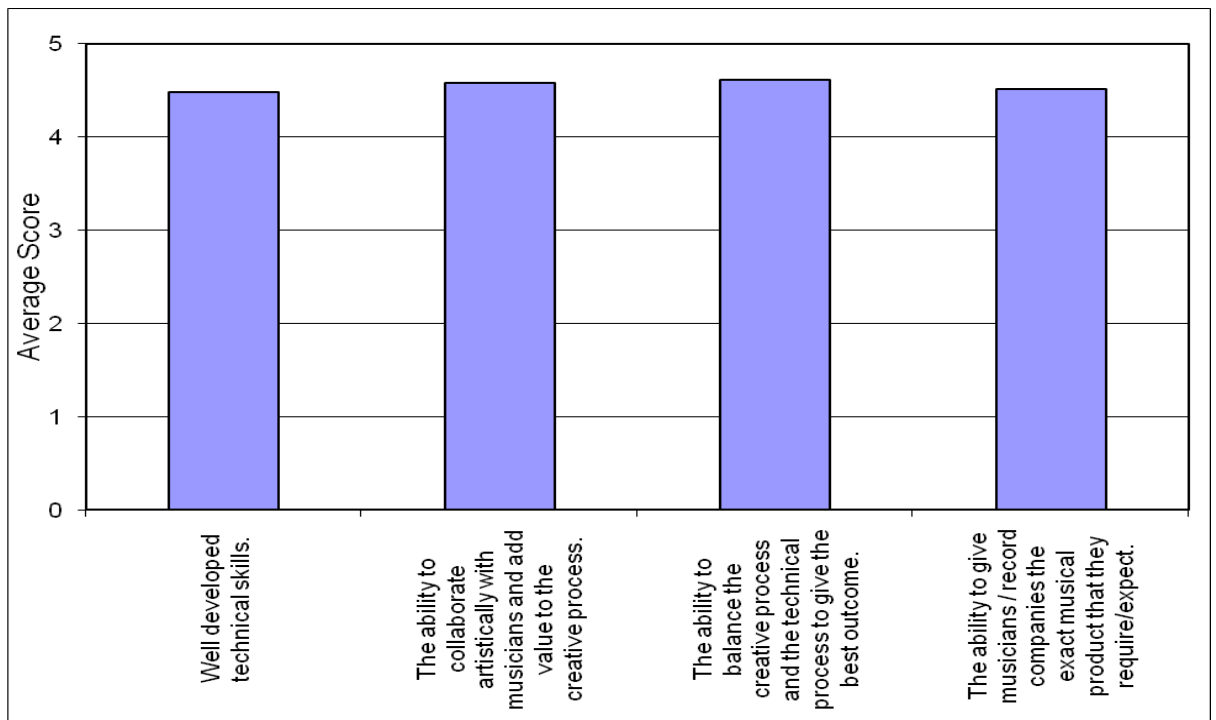
Rated most important were the two factors relating to the ability of the respondents to be creative. The first was the ability to balance the creative process and the technical process to give the best outcome. This ability is central to artistic forms of collaboration that have seen engineers moving into a more collaborative relationship with the artist working in the studio (see Longhurst, 1995; Kealy 1990). The second was the ability to collaborate artistically with the musicians and add value in the creative process. These two abilities are strongly linked. However, well developed technical skills, and the ability to give musicians and record companies the exact musical product they require or expect, were rated as being only very slightly less important, suggesting that the ability of producers and engineers to be creative is limited both within the bounds of their technical abilities and the requirements and expectations of the client.

Table 5-9 shows a comparison of the mean responses between different employment groups to the questions on being successful in their role. While ANOVA statistical analysis of these responses suggests that the majority of these results are not statistically significant, the responses on the importance of having the ability to add value to the creative process were significant at the level of $p<0.091$.

Table 5-9: Comparison of mean responses by employment type for questions on being successful in the role

Employment Type	Well developed technical skills.	The ability to add value to the creative process.	The ability to balance the creative process and the technical process.	The ability to produce the exact musical product expected.
Contracted to studio	4.25	4.13	4.38	4.38
Owns/runs studio	4.46	**4.75**	4.57	4.43
Freelance	**4.53**	4.53	**4.71**	**4.59**
Total	4.41	4.51	4.54	4.44

Here the mean responses show that this was considered more important by engineers and producers owning/running a studio to being successful in their role than it was by other employment types. This is indicative of the multiple roles taken on by producers or engineers who run small studios and are often the only technical person working in the studio. Here the owner/operator often not only has to be the business mind behind the operation of the studio, but also be both a producer, guiding the creative process and making aesthetic judgments (see Tankel, 1990), and at the same time the engineer, operating the studio equipment in order to capture the recording. Based on mean responses, the remaining three factors – well developed technical skills, the ability to balance the creative process and technical process, and the ability to produce the exact musical product expected, were all considered to be more important by freelance engineers and producers than other employment groups. For freelance workers, these are 'sellable' skills on the job market, and a key part of building their reputation, to open up new and repeat opportunities for work.

5.4   About personal and professional networks and mobility

The final section of the questionnaire posed questions regarding the development and significance of the personal and professional networks of the engineers and producers. Firstly, respondents were asked to rate the importance of a series of factors relating to the role of networking and reputation in increasing their professional success (Table 5-10,

Figure 5-16). Two factors were rated as extremely important. The first of these factors was gaining a good reputation within the industry based on their portfolio of work. Grabher (2001a) describes how reputation in project-based work as referring to:

> "… first and foremost, to the techniques of the trade, particularly in settings like media, in which crucial skills are hardly codified into certificates. Second, the success of projects, more generally, depends on co-operative attitude, reliability and other inter-personal skills that, rather than objectivized in formal degrees, are bound to personal experience." (Grabher, 2001a: 1329-1330)

The second was attracting repeat work from studios/record companies based on previous successful projects. As Grabher (2001a) asserts, project business is reputation business, and these factors are strongly interrelated, as reputation depends on a portfolio of successful projects, while attracting repeat work to build a portfolio depends on reputation. As Grabher (2001a) argues, chains of repeated cooperation are held together, or cut off, by the reputation members gain, or lose, in previous collaborations. The interrelationship between reputation and repeat work is demonstrated in Table 5-11, which shows that 85.7 per cent of respondents who indicated that attracting repeat work was extremely important also considered gaining a good reputation as extremely important.

Table 5-10: Success in career

How important do you rate each of the following to being successful in your chosen career? (from 1 to 5 where 1=Not at all important and 5=Extremely important)

	Average	Total
The establishment of professional or personal networks which allow sharing of technical knowledge.	3.7	234
The establishment of professional or personal networks which open up new project opportunities.	4.1	259
Gaining a good reputation with the industry based on your portfolio of work.	4.7	294
Attracting repeat work from studios/record companies based on successful previous projects.	4.7	294

Willingness to travel in order to take on the best recording projects in the best studios.	3.6	221
Being based in a city with a strong music scene and many recording studios and record companies.	3.7	236

Table 5-11: Cross-tabulation of rated importance of attracting repeat work and reputation

			Attracting repeat work from studios/record companies based on successful previous projects.		
			Very important	Extremely important	Total
Gaining a good reputation with the industry based on your portfolio of work.	Very important	Count	15	6	21
		%	71.4%	14.3%	33.3%
	Extremely important	Count	6	**36**	42
		%	28.6%	**85.7%**	66.7%

Figure 5-16: Success in career
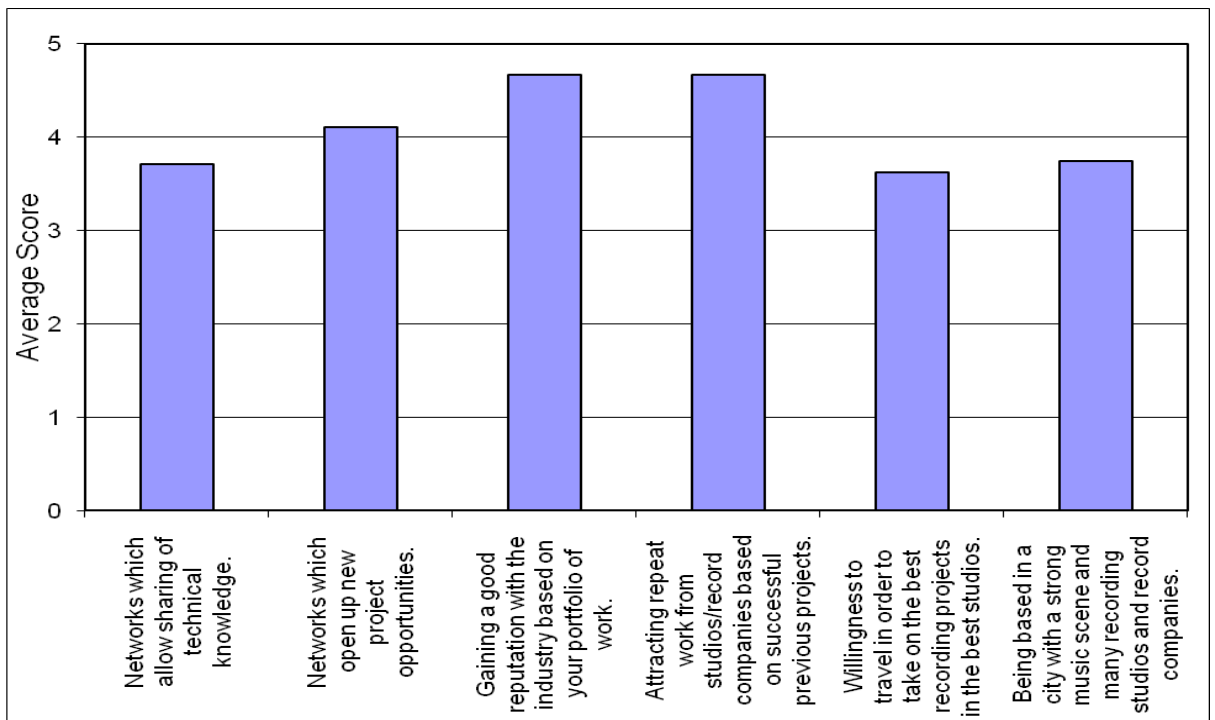
A third factor is also rated very important. This factor, the establishment of professional or personal networks which open up new project opportunities, is also in part related to the development of a professional reputation. These factors emphasise the importance of being able to consistently open up new opportunities for paid work, especially for freelance engineers and producers and those who own and operate their own studios, but also increasingly for those contracted to studios. The establishment of professional or personal networks that allow sharing of technical knowledge was rated far less important than the establishment of professional or personal networks that open up new project opportunities. As Gill and Pratt (2008) highlight, employment in project based work, such as that found in the music industry, is characterised by short tenure and constant employment uncertainty, that is to say it is precarious employment (see also Murdock, 2003). Personal and professional networks that open up new work opportunities are therefore of vital importance in conditions where such high levels of uncertainty prevail regarding employment. The development of a good network of contacts is considered to be of particular importance to freelance workers, as when work is scarce the quality of these networks may determine whether a freelance career continues or ends (Randle and Culkin, 2009). Blair (2009) employs the term 'active networking' to describe how the activity of networking is a conscious, on-going and active process, in which:

"Individuals consciously act to make and maintain contacts with other individuals and groups, assuming that a variety of forms of information or opportunities for work will be more readily available as a consequence." (Blair, 2009: 122)

Rated of lesser importance was being based in a city with a strong music scene and many recording studios and record companies, and willingness to travel in order to take on the best recording projects in the best studios. This last factor is rated of lesser importance despite 27 per cent of the sample consisting of freelance workers, and this result may be at least in part due to the role of

technology in negating the need for physical travel between studios, as highlighted in the next set of responses.

Table 5-12 shows a comparison of the mean responses between different employment groups to the questions on being successful in their career. ANOVA statistical analysis of these responses suggests that the majority of these results are not statistically significant; however the responses on the importance of being willing to travel to take on the best projects were significant at the level of $p < 0.086$.

Table 5-12: Comparison of means between employment types for questions on success in career

Employment Type	Networks which allow sharing of technical knowledge.	Networks which open up new project opportunities.	Gaining a good reputation with the industry.	Attracting repeat work based on successful previous projects.	Willingness to travel in order to take on the best projects.	Being based in a city with a strong music scene.
Contracted to studio	3.69	4.06	**4.75**	**4.75**	3.31	3.69
Owns/runs studio	3.54	**4.18**	4.64	4.64	3.25	**3.82**
Freelance	**4**	4.12	4.65	4.65	**4.12**	3.65
Total	3.71	4.11	4.67	4.67	3.51	3.75

Unsurprisingly in this instance, the mean responses show that travel was considered much more important by engineers and producers employed on a freelance basis than by those who were contracted to, or owned/managed, particular individual studios. This was also shown to be the case for the importance assigned to the establishment of personal and professional networks that allow sharing of technical knowledge. All employment groups assigned very high importance to gaining a good reputation within the industry, and to attracting repeat work based on successful previous projects. These results suggest that, in the recording studio sector, precarity is a characteristic of not just freelance work, but of all forms of employment, including both those contracted to particular studios and those owning and operating studios.

A series of cross tabulations were undertaken to further explore these two factors – gaining a good reputation and attracting repeat work. In terms of those factors that relate to the building of a good reputation, Table 5-13 shows that 69 per cent of those engineers and producers who rated gaining a good reputation as extremely important to the success of their career also rated the ability to add value to the creative process as being extremely important. Similarly, as shown in Table 5-14, 69 per cent of those engineers and producers who rated gaining a good reputation as extremely important to the success of their career also rated the ability to balance the creative process and the technical process to give the best outcome as highly important. Both of these factors can then be considered to be strongly related to developing a good reputation.

Table 5-13: Cross-tabulation of rated importance of reputation and ability to add value to the creative process

| | | | Gaining a good reputation with the industry based on your portfolio of work. | |
			Very important	Extremely important
The ability to collaborate artistically with musicians and add value to the creative process.	Neither important or unimportant	Count	1	3
		%	4.8%	7.1%
	Very important	Count	8	10
		%	38.1%	23.8%
	Extremely important	Count	11	**29**
		%	52.4%	**69.0%**

Table 5-14: Cross-tabulation of rated importance of reputation and the ability to balance the creative and technical processes

| | | | Gaining a good reputation with the industry based on your portfolio of work. | |
			Very important	Extremely important
The ability to balance the creative process and the technical process to give the best outcome.	Very important	Count	11	13
		%	52.4%	31.0%
	Extremely important	Count	9	**29**
		%	42.9%	**69.0%**

In terms of those factors that are important in attracting repeat work, Table 5-15 shows that 73.8 per cent of those engineers and producers who rated attracting repeat work as being extremely important to the success of their career also rated the ability to add value to the creative process as being extremely important. 69 per cent of those engineers and producers who rated gaining a good reputation as extremely important to the success of their career also rated the ability to balance the creative process and the technical process to give the best outcome as highly important (Table 5-16). Both of these factors can then also be considered to be strongly related to attracting repeat work from studios and/or record companies based on a portfolio of successful previous projects.

Table 5-15: Cross-tabulation of rated importance of attracting repeat work and the ability to add value to the creative process

			Attracting repeat work from studios/record companies based on successful previous projects.	
			Very important	Extremely important
The ability to collaborate artistically with musicians and add value to the creative process.	Neither important or unimportant	Count	2	2
		%	9.5%	4.8%
	Very important	Count	9	9
		%	42.9%	21.4%
	Exremely important	Count	9	**31**
		%	42.9%	**73.8%**

Table 5-16: Cross-tabulation of rated importance of attracting repeat work and the ability to balance the technical and creative process

			Attracting repeat work from studios/record companies based on successful previous projects.	
			Very important	Extremely important
The ability to balance the creative process and the technical process to give the best outcome.	Very important	Count	11	13
		%	52.4%	31.0%
	Extremely important	Count	9	**29**
		%	42.9%	**69.0%**

The next question explored cooperation between studios on recording projects. 53 per cent of the respondents noted that they did not regularly cooperate with producers and/or engineers in other studios when working on recording projects, with the remaining 47 per cent (29 respondents) noting that they cooperated regularly. Of these 29 respondents, the majority (25 respondents) noted that they cooperated via digital file sharing which allows different producers to work on a recording, each individually working on their part of the recording at different times. 19 of the respondents noted that cooperation occurred through them travelling to other studios in the UK and/or overseas, to work with producers and engineers. Only four of the 29 noted that cooperation occurred through technology that allows a number of producers/engineers in different studios to work simultaneously (live) on a recording at one time. Of these four, two responses were from engineers working at major recording studios, Air and Miloco respectively, which have both had the financial capacity to invest in these technologies, combined with the need to do so due to the type of recording projects being undertaken or expected to be undertaken in the future. Air recording studios, for example, invested in installing ISDN capability in each of its studio rooms in the 1990s, believing it to be an area of technology that would become increasingly important in the future (see Cunningham, 1998).

Despite technologies that have been developed for networking studios across geographical distances as outlined briefly above and in more detail earlier in the chapter, including technologies for simultaneous real-time recording over geographical distance, physical travel remains an important part of the labour process in the recording studio sector. As Faulconbridge *et al.* (2009) describe, business travel is particularly important to facilitating face-to-face meetings with clients and allowing collaboration in cross-border projects. They argue that business travel is one part of an ecology of mobility in which spatially dispersed organisations are brought to life by the movement of people, but also objects, ideas, texts and images. In the case of recorded music, this

mobility brings to life recording projects, as temporary forms of organisation, along with facilitating the sharing of technical and tacit craft-skill knowledges. Of the 63 respondents to the questionnaire, 25 (40 per cent) noted that they had worked abroad during the course of their careers. Table 5-17 displays a cross tabulation of employment type and the numbers of engineers and producers who noted that they had worked abroad. A significant percentage (65 per cent) of engineers and producers employed on a freelance basis had worked abroad during the course of the career, suggesting that a willingness to travel to take up work opportunities is an important part of a freelance career in the recording studio sector. Conversely, 75 per cent of the engineers and producers who were contracted to particular individual studios in London had not worked abroad during the course of their careers. A small majority (54 per cent) of those engineers who owned/managed studios in London had worked abroad.

Table 5-17: Cross-tabulation of employment type and overseas work

			Employment Type			
			Contracted to studio	Owns/runs studio	Freelance	Total
During your career, have you worked at studios overseas?	Yes	Count	4	15	**11**	30
		%	25.0%	53.6%	**64.7%**	47.6%
	No	Count	**12**	12	6	32
		%	**75.0%**	42.9%	35.3%	50.8%

Respondents who noted that they had worked abroad during their careers were asked to provide details of the overseas studios at which they had worked. Figure 5-17 plots the mobility of the responding studio engineers and producers. The figure demonstrates that the mobility of these engineers and producers is truly global in nature. These networks of physical movement stretch out from London across Western and Eastern Europe, North America, Pacific Asia, Australasia and Africa. The highest densities of connections through physical travel exist with Western Europe and North America. The most frequently cited destination for project work abroad was Los Angeles (six responses), followed by New York (five responses) and Paris (five responses).

Alongside London, Los Angeles and New York are the two other major centres of musical recording for Anglophone markets (as identified in the analysis presented in Chapter 4). The cities of Sydney (three responses) and Berlin (three responses) also both received multiple responses, as well as Munich, Brussels, and Rome (all two responses). Respondents were also asked to provide details on how the opportunity to work abroad arose. Most frequent responses made references to invitations being made based upon either reputation or opportunities for work emerging from personal relationships developed with recording artists or other studio engineers and producers. Once again this emphasises the importance of reputation and networking.

Figure 5-17: Mobility of London-based recording studio engineers and produce
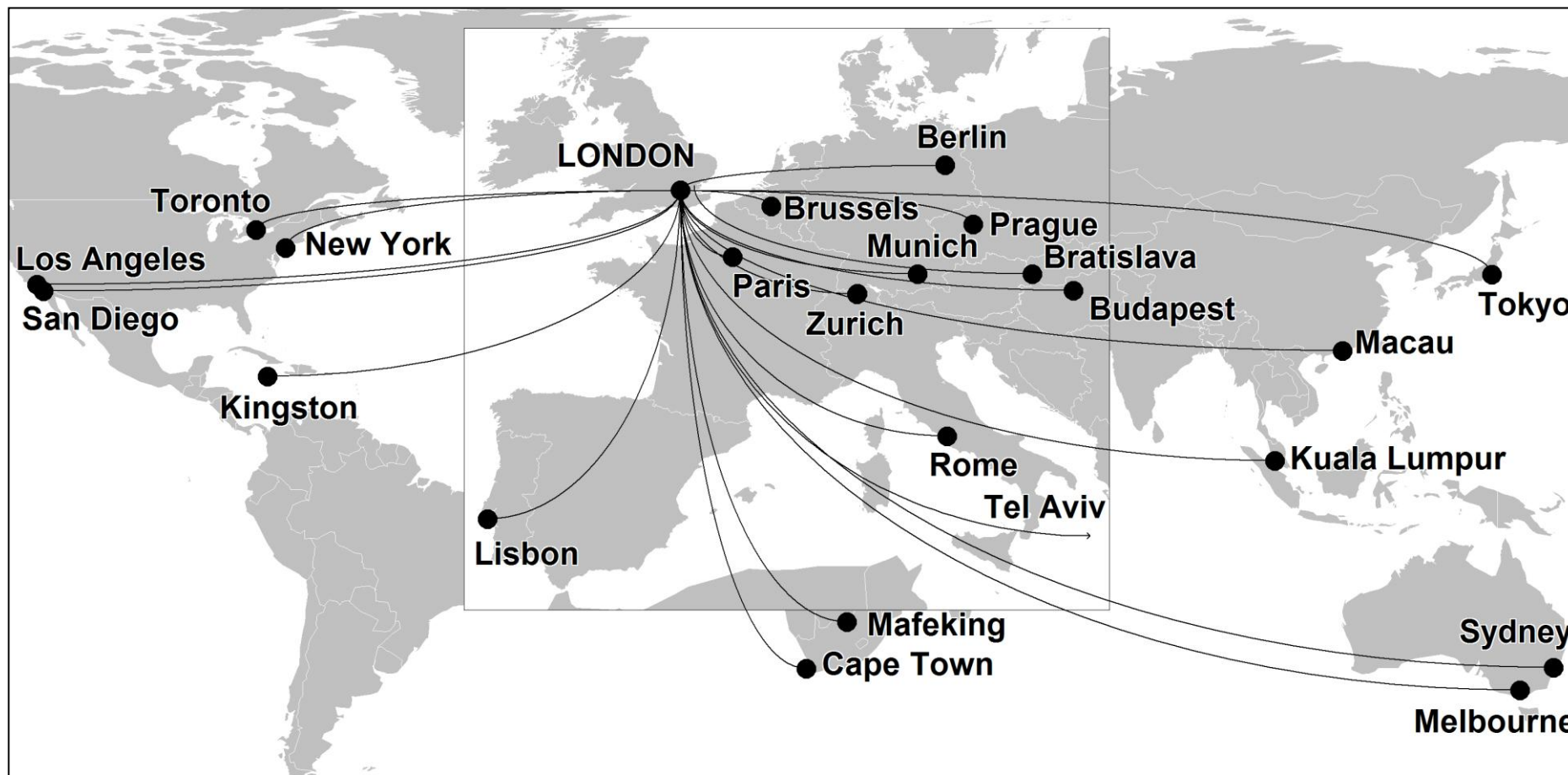
6 Work in the studio: technology, creativity and collaboration

In Chapter 3, it was argued that there was a need for economic geographers to engage with perspectives being developed in sociology and related disciplines on working conditions and experiences in project-based industries. This was developed as part of a wider argument introduced in Chapter 1 that work in relational economic geography has been focused at the meso-level of organisations at the expense of micro-level examinations of heterogeneous networking practices of individuals. Work on the creative industries was presented as an exemplar of such micro-level perspectives. Yet, for Hesmondhalgh and Baker (2010) there has been a somewhat surprising lack of research into cultural labour in the cultural and creative industries, and in particular a lack of qualitative studies into the experiences of cultural workers (see also Banks *et al.*, 2000).

Drawing on almost nineteen hours of recorded interview data, Chapter 6 and Chapter 7 of this thesis build conceptual depth on the social network analysis and survey-based research presented in the previous two chapters, to undertake a micro-level examination of the creative and social practices, emotions and politics of work in recording studios. A methodological discussion of the qualitative interviews on which the discussion is based is provided in Appendix A. Interviewees are identified by interview number to maintain anonymity. Pen-portraits of the interviewees are provided in Appendix D along with a statement on ethics.

The following chapter undertakes a micro-examination of work in the studio specifically in terms of technology and its relationship with creativity and collaboration in and beyond the insulated space of the recording studio. The chapter is presented in three sections based on the conceptual categories emerging through the analysis of the qualitative interview. In the first section of the chapter, a discussion is presented on the careers and employment of the interviewees, the purpose of which is to provide important contextual information to support the discussion presented in this chapter and in Chapter 7. Following, the second section of the chapter presents a discussion of technology and creativity in the studio, considering technical and creative roles of engineers and producers; learning; the role of the studio space; technology and experimentation; and collaboration in the studio. The final section of the paper considers the role of both communications technologies and the physical mobility of engineers and producers in facilitating collaboration beyond the studio space.

6.1 Careers and employment

Early career

The majority of the interviewees had entered their career in recording studio engineering and/or production having followed one of two initial paths. The first was that of formal education in sound engineering/music technology, especially degree level courses at University. The second was that of music, either through formal education in music at University or less formally through playing in bands, which through gaining experience of recording in the studio had fostered their interest in a career in recording. Due to the concentration of recording studios in London, the interviewees then invariably looked to London for work in studios; as one interviewee explained:

> "...once I finished university I was like, well, if I'm going to work in studios professionally I need to go down to London, I needed to come to a studio with some really good gear… I wanted to come and learn what good audio sounded like and work on some really nice equipment with some good bands." (Interview 10, male engineer, thirties)

As highlighted in Chapter 3, the massification of higher education has created a new post-degree 'vocational need' (Guile, 2009) because although studying for a degree provides a grounding for new entrants to the labour market, it rarely provides an "expectation or understanding of what was required in vocational contexts" (Raffo *et al.*, 2000: 223). In the recording studio sector, this type of vocational experience is most commonly gained through internships and work experience placements that "offer aspiring entrants opportunities to work with experienced professionals on commercial projects" (Guile, 2009: 762). One interviewee described the value of such experience:

> "…my course taught me how to do things like how a microphone worked and stuff but when I started working with these guys that had been making these incredible records for years and years and years I realised that I actually didn't know anything at all. And so then I started learning how to listen to music and make music…" (Interview 15, male engineer, thirties)

The need for this vocational experience, combined with the increasing number of graduates holding degrees in sound engineering/music technology, leads many graduates to accept that the best way to secure an early foothold in the recording studio sector is to participate in unpaid, or at best very low-paid, activities. For many junior engineers, their 'formal' career in the recording studio sector begins as a runner, or 'tea boy'. This is the case whether they have any formal training/education in engineering or not. Competition for such positions within studios, especially the leading studios, is fierce. One interviewee described his own attempts to secure a position, saying that "[I] sent out

hundreds of CVs, got ten per cent replies, one acceptance...", while a second described how "[I] did the usual thing that most people do is started applying at studios to be a tea boy and a runner and assistant or whatever…. I applied to hundreds of studios basically and spent ages trying to get jobs." Another interviewee, reflecting on the growing number of sound engineering/music technology courses being offered by Universities, stated that "I do worry about a lot of these media courses because I, these poor kids are doing three-year courses on something they should be doing in the evenings around something solid… to come out and expect to have a job is very silly" (Interview 12, male engineer-producer, forties).

Competition is fierce even though many positions do not involve payment. As one interviewee described, "the amount of CVs that come in from people who are happy to work for absolutely no money at all is quite amazing" (Interview 10, male engineer, thirties). Such positions also involve the performance of mundane tasks and an exhausting work regime. One interviewee, who had not followed the standard career path as a junior engineer, described his admiration of those who do:

> "...it's quite boring to do, I mean I admire the kind of tea boy assistant job, they are amazing people, very disciplined, first there and last to go because they have to do all the boring work, all the copying after the sessions are done and then they have to be here first thing in the morning again… they are amazing people" (Interview 13, male engineer-producer, forties)

Another interviewee, who had followed the standard route of becoming a runner, described his experiences of the exhausting demands of the role:

> "[I had] no social life, well you have a social life, but you don't after you start working here and eventually I was doing ninety hours a week for probably the first six, seven years of working here… I was very enthusiastic, it was averaging ninety hours, some weeks would be a hundred and fifty, a hundred and twenty hours…" (Interview 2, male engineer, thirties)

Another interviewee, a veteran studio engineer with experience in training young engineers, echoed these sentiments. He described how when he began his career as a tea boy, he was told by his employer that "we've had six young people in six months, and they didn't work out to be terribly good at what they were doing. And I expect you to be no different at all" (Interview 5, male engineer, sixties). He then went on to explain how, after almost fifty years of engineering, he still has to explain the demands of the role to young aspiring engineers:

> "Normally I read the riot act to young people that come in, students. And I say to them, basically, write-off the next two years of your life… short of you dying, short of you actually getting married on that day… or you're incapacitated by being knocked down by a car or whatever, there are no other excuses that you cannot work when the work is there." (Interview 5, male engineer, sixties)

These tea boys/runners form part of a distinct hierarchy within recording studios; as one interviewee noted, "I think one of the most important things for people that are coming into the business and want to be engineers and want to work in studios, there's a very distinct hierarchy" (Participant 11, male studio engineer, N1). The hierarchy consists of, at the top end, studio managers, producers and chief engineers, down through senior engineers, engineers, and assistant engineers. At the very bottom of the hierarchies sit tea boys/runners, who do a range of jobs from setting up microphones and looking after the

phones to making tea and cleaning the toilets. In assisting the people above them, these workers are subject to the "often brutal power relations" (Leyshon, 2009: 1316) that frequently play out in recording studios, with high demands being placed on them to perform both technical and menial tasks and work exhausting hours. One interviewee, an experienced producer, described his experience of these power relations playing out in recording studios in the 1980s:

> "…work in a studio was equivalent to now working in a kitchen with Gordon Ramsay. It was that type of environment, where you'd have an engineer producer who was just a complete b**tard and get upset about the smallest things that didn't matter." (Interview 19, male producer, forties)

However, he goes on to note that "that's all pretty much gone now". Moreover, a number of interviewees did express sympathy towards the position of these workers, with one engineer noting that "I am always quite careful about how I treat them [tea boys/runners]… they're working on very low if no money at all and they also want to feel like they're being treated nicely" (Interview 10, male engineer, thirties).

Whatever the conditions to which tea boys/runners are subjected, the role is an extremely important one in the early careers of aspiring studio engineers, in that it gives experience of working with technical equipment, of the social and economic realities of studio work, and allows the development of networks of contacts that will be vital to any future career. As one interviewee describes:

> "…the first few years you put in as a tea boy are the years where you get to show the industry, even though you don't get that many opportunities

to do it, but you get to show them what you're capable of. Even if it's just if you're left for five minutes to record something and then you do it and the producer comes back and they'll go, "Oh, that's good. Thanks for that." And obviously you're establishing a network. Working in a big studio as a tea boy, you're establishing a good looking CV because big studios are trapping all the artists who are big name artists. You might just be making tea for them, but that's very important. And you're also establishing a network so you can say, 'Oh yeah, I did work with [name omitted] and you've even got his phone number or whatever.'" (Interview 17, male engineer-producers, forties)

As is highlighted in the above quote, tea boys/runners must be patient in waiting for opportunities to work in a technical capacity on recording projects. Alongside more menial tasks, tea boys/runners will also "get to sit in on sessions and use the equipment where there's any downtime and learn what you can from there" (Interview 14, male engineer, thirties). This gives them a vital opportunity to practice and develop their technical skills, such they can put themselves in position to be able to work on paid recording sessions. For some, this may be a gradual process of personal development, while for others the opportunity to work on recording projects presents itself in a more immediate fashion, presenting significant challenges. One interviewee noted how "within a year the house engineer left and they said "well you can do it" so I just ended up engineering, not knowing really what I was doing and having to learn very quickly how it all worked really" (Interview 15, male engineer, thirties). Similar situations were experienced by two other interviewees, who described how:

"...within three weeks of being there, one of the engineers was ill and couldn't turn up for the session. And my boss said, when I got there, 'do the session'. And then I said, 'well, I'm only seventeen'. I came in off the street basically. He said 'no, no, come do it. There's no one to do it.' So I ended up doing it. And I just happened to be very good at it. And it went very well." (Interview 5, male engineer, sixties)

"...the steep learning curve bit for me was when I first came in as a tea boy… and I just helped out, set up microphones and all the rest of it. The main guy was still there and he came in one day and we had a band in and he said 'right I'm going now' and the band look worried and I looked very worried and I just had to get on with it. That was the big moment." (Interview 16, male engineer, fifties)

Employment

As Leyshon (2009) details, before the 1970s employment in the recording studio sector was dominated by bureaucratic careers, with producers and engineers working as salaried employees of recording studios. However, since the 1970s, there has been a shift amongst producers and engineers to freelance status. This, Leyshon argues, was driven in part by the growing celebrity status of some producers, and the possibility of making much more money than the relatively modest incomes on offer to producers and engineers contracted to studios:

"By trading in on their past successes and becoming self-employed, producers and engineers could pursue entrepreneurial careers with significantly larger incomes, based in large part on being remunerated by a share of the profits from the sales of the record they produced and engineered." (Leyshon, 2009: 1322)

It has also been driven by a growth in the number of independent studios, and, more recently developments in affordable computer-based technologies for recording that have facilitated the growth of small 'project' studios and home studios. As one interviewee described, such studios have provided the space

for producers and engineers to work in a freelance capacity beyond the larger recording studios:

> "...years ago you couldn't do that, years ago you had to go and start off as a runner, as a tea boy and then as a tape op, because essentially the equipment wasn't there for anyone to use at home and there weren't so many project studios" (Interview 10, male engineer, thirties)

Contracted salaried positions are now rare in the recording studio sector; as one interviewee, a salaried engineer, noted that "I'm in a very lucky position. I'm a salaried engineer, which is unique" (Interview 12, male engineer-producer, forties). This is the case even in the largest of studios, which have recently been moving towards more flexible and freelance models of employment. In 2006, for example, Air Studios took all of their recording engineers off the studio payroll and made them freelance. One interview described the change to freelance work at a particular studio in London as being a financial decision, noting that "the people that run the studio don't want to look after the financial, they don't have the time to spend sorting out pay structures for people and giving people raises and stuff" (Interview 11, male engineer, twenties).

As Leyshon (2009) describes, many engineers, particularly in larger studios, are now classed as retained staff, getting paid a small salary to be available to work for the studio, with their pay increasing when there is work to do, which is funded out of the fees paid by the client. When not working at the studio at which they are retained, they act as freelance engineers, obtaining work at other studios, as on interviewee noted, "the studio here pays me a retainer and then I work freelance for whoever will have me as well" (Interview 15, male engineer, thirties). This situation has led to the development of new employment relations between retained and freelance engineers and recording studios; where engineers gain work, they bring projects to that particular studio, and where the studio gains work they will recommend that particular engineer. As the above interviewee explained, "we have an agreement where I bring in

work to the studio and if they have a client who comes here who needs an engineer they try and sell them me" (Interview 15, male engineer, thirties), while another noted how "most of the engineers that I've met anyway have been technically freelance, but normally working around two, or maybe just one studio" (Interview 11, male engineer, twenties). This then is a set of employment relations which aim to be mutually beneficial to both the engineer and the recording studio. However, in practice, this is not without its tensions, as one interviewee described:

> "Well it is difficult because the studio that I work for understands that a client will build a relationship with an engineer… essentially they will build a relationship with an engineer because that's who they're sitting in the studio with. And so it is difficult from that point of view because the client has to remain the property of the studio. However, as an engineer what you're likely to earn from a client through the studio is probably about a third as what you're likely to earn with that client that comes back to you. So it's all about a really strong relationship with my manager because she understands that eventually that the client will sort of belong to the engineer, but at the same time you have to keep that relationship coming through the studio." (Interview 10, male engineer, thirties)

Furthermore, these new employment relations are balanced unevenly towards recording studios, who, in paying staff a retainer only or moving staff on to freelance contracts, move the pressure of obtaining work, and the financial risk of not doing so, away from the studio management and on to producers and engineers. In the case of some of the major studios, these demands on producers and engineers are being managed through the setting up of management companies to obtain and manage work for their retained and freelance engineers. At Air Studios, for example, the Air Management Company was set up to manage the work of these freelance engineers in such a way that it benefits both the engineers and the studio. Miloco Studios, which

owns a number of major recording studios in London and across the UK and Europe, also operates a similar model for managing the work of its freelance engineers. One interviewee described how he was "very much freelance, although they [the recording studio] act as my management company and give me work through the studio" (Interview 8, male engineer, twenties), while another described the benefit of having a manager:

> "I'm getting more work, but there's less work around now, so it gets more complicated. There's finding the work, or you have to lower your fees, but that's why it's good having a manager because they can fight for little things for you and they get more money for you… although I pay twenty per cent or whatever it is to her to be my manager I probably earned at least that much more…" (Interview 2, male engineer, thirties)

These changing employment relations and the rise of freelance working is characterised by short tenure employment and constant employment uncertainty. This situation was described by a couple of interviewees, one noting how it can be "suddenly three months with nothing, which you know if you don't have a lot of backing it goes quickly, the money you do have" (Interview 13, male engineer-producer, forties), while another described the bulimic patterns of working in which "idle periods with no work can give way to periods that require intense activity" (Gill and Pratt, 2008: 17):

> "...I've had a really busy eighteen months, but then I went on holiday last week, came back and I didn't have anything in my diary. I had a few things like, this is going to happen at some point, but nothing firm in my diary… that's the first time it's happened in eighteen months, and now things are picking up again so I'll be fine but it's just one of those things… but also then I've had to go out and find different ways of earning revenue…" (Interview 2, male engineer, thirties)

As with the above interviewee, a number of other interviewees noted how, when work is not available, it is necessary to find alternative incomes. For some, this will be work outside of the recording sector. Two of the interviewees noted, for example, that they take on marking work for examination boards to supplement their income from freelance engineering. One of these interviewees describes his reasons for having to find this additional income:

"So I've had to well, sell-out some people may say, or find other ways to supplement my income because essentially working as an engineer, especially when you're working, when your work comes through a studio, it is very difficult to earn a lot of money until you get the kind of clientele where people will pay a lot of money for you. So who knows, maybe in ten years' time I will be earning a living purely from production and sort of mixing work, but at the moment it's something I am taking day to day with" (Interview 10, male engineer, thirties)

For a number of others, the lack of job security in freelance engineering has resulted in them only engineering on a part-time basis alongside more permanent and secure employment. One interviewee for example noted how "I have a part-time day job… this is very much still a part-time thing really. It's very difficult to do this full-time, it's only a select few people who get to do it really" (Interview 1, male engineer-producer, thirties). Another describes his need to have a job alongside engineering in order to meet his financial commitments, and how this results in particular pressures:

"I don't have particular days that are definite days I'm working so I thought I'd leave it open for me to either work in other studios or definitely have another job, which I have to have… to obviously make sure I'm paying the bills… I'm kind of not too dependent on the money coming from here, but I have to make sure I've got other money coming in from other places…. sometimes I'm doing a day's work there and then

coming in here and doing a day's work through the night here, which can be a bit much…" (Interview 14, male engineer, thirties)

Periods which are light on work, resulting in little or no pay for retained and freelance engineers, are mirrored by periods of punishing overwork when studios are busy (Leyshon, 2009; see also Christopherson, 2002). Such a work regime not only effects freelance engineers, who have to take on work as and when it is available, but also retained and salaried engineers, as studios have to similarly take work as and when it comes in; as one interviewee noted of engineers contracted to particular studios, "long hours, a lot of stress…. very, very difficult for a house engineer, or a chief engineer. Very difficult job" (Interview 17, male engineer-producer, forties).

These exhausting work regimes are extremely demanding on producers and engineers, affecting the engineers both mentally and physically, and often having a very damaging impact on personal relationships away from the studio environment. As Gill and Pratt suggest, the extraordinarily long hours worked by cultural workers as part of stop-go 'bulimic' patterns of working often exerts a heavy cost on, or even prohibits, relationships outside work with friends, partners, and families, and has "attendant impacts on sleep, diet, health and social life" (2008: 17). One engineer explained how "I've seen loads of people whose relationships have been killed by it", going to say of his relationship with his own girlfriend, "it's come pretty close with us as well" (Interview 8, male engineer, twenties). Another engineer, who now owns his own private studio, explained his experiences of coping with the demands of a freelance engineering:

> "...I was freelancing at the [studio name omitted] for a couple of years and then I didn't exactly have a nervous breakdown, I had a physical breakdown… I overdid it, and it completely destroyed me." (Interview 17, male engineer-producer, forties)

This exhaustive work regime is often met with relatively poor financial rewards, especially for engineers. As Leyshon (2009) describes, engineers receive relatively low salaries, suggesting that in 2005/06 the average starting salary for an engineer in central London was £12,000, about half national average annual earnings. Moreover, the contracts of engineers can be quite exploitive, often resulting in engineers not being paid for all of the hours they work. One interviewee described his own experiences of this:

> "...we were really take advantage of quite a lot, where there was all sorts of dubious practice going on… you got paid for 150 hours a month which is quite a lot, but you only got overtime after 200 hours. So it was a big 50 hour block which you wouldn't get paid for."   (Interview 8, male engineer, twenties)

A number of interviewees did note however that working as a freelance engineer has particular advantages in this respect over being a salaried engineer. One interviewee noted how his decision to become a freelance engineer had been in part based on his previous experience of salaried work and the pressures of taking work as and when a studio dictated, explaining how "I think with the whole freelance thing, not that I turned down much work, but the opportunity to turn down work, not burn out and not be expected to be on call permanently. It was quite a big factor in the decision", going on to say that "I have had a couple of times when I've been offered permanent work but it's never really worked out to be better for me" (Interview 8, male engineer, twenties). Similarly, another interviewee explained of his decision to work as a freelance engineer was based on the challenges of working as a salaried engineer in a pressurised environment with often little scope for personal career development:

> "...whenever I thought about applying to big studios for very little money, really crazy hours, and then thinking that literally I'd have to be spending

a year or a couple of years working my way up to a semi-reasonable position… I felt I didn't really want to spend time doing that" (Interview 10, male engineer, thirties)

The main exception to the growing freelance and independent models of employment remains mastering, which as Leyshon suggests is the "the last remnant of the traditional model of recording studio provision" (2009: 1318), with mastering engineers largely permanently contracted to specific mastering studios. Referring back to the earlier example of Air Studios, for example, while recording engineers are now freelance, mastering engineers remain permanent contracted employees of the studio. Through interviews, it became apparent that within the recording studio sector, it is widely considered that because of the nature of the work that they perform, mastering engineers do not submit to the punishing work regimes experiences by recording engineers and producers, but rather work a more standard nine-to-five, five days per week pattern. This caused one interviewee, a recording engineer, to express his desire to eventually become a mastering engineer:

"...if I was working as a mastering engineer in five years' time, that would probably be the dream for me, because it is nine to five work… it's not evening and weekends. They're very much still the guys in the white coats, working in the labs who would be horrified of having to work a weekend…" (Interview 10, male engineer, thirties)

The low salaries and exhaustive regimes associated with being a recording engineer, and for retained and freelance engineers much precarity, were cited by some of the interviewees as reasons why they were considering career changes away from the recording studio sector. There were two interviewees who were particularly candid in their discussions regarding making this decision. Both were male engineers in their thirties, and both retained to particular studios, albeit two studios of very different status in the industry, one on a part-time basis and another on a full-time basis. The first interviewee, who held a part-time job outside of the recording sector alongside his part-time work

as a recording engineer, explained how the decision to start a family had caused him to re-think his career as an engineer, due to the need to earn more money to support a family:

"… a thing I'm going through at the moment actually is working out whether I can carry on doing this. Actually just recently I've got a full time job now, so I'm going to have to cut back on the stuff I'm doing here, which is not ideal from a long-term being an engineer point of view, but to be honest the money side of it is going to be better so I'm going to be more comfortable and more able to pay my bills. We're expecting a child in December so…" (Interview 14, male engineer, thirties)

The second interviewee had spent his career as an engineer at a successful and well-reputed recording studio, and has such felt he had been quite privileged in terms of working on commercially successful recording projects with high-profile musicians, recording artists and, in particular, successful producers. However, rather than inspiring him to further develop his career and reputation to emulate these producers, observing them within and outside of the studio environment had made him question the value, both economically and personally, or pursuing the career into his forties. He describes how:

"I've worked with a lot of really successful producers and engineers and people who've been in the industry for a lot longer than I have and all of them without fail, have usually dysfunctional home lives. They're usually ill, they usually have really bad diets, they have alcohol problems, drug problems and all kinds of stuff. None of them have made that much money, it's not like I'm interested in really making loads of money, but enough money to survive. And so you kind of think, well hang on, if I stay around for another ten years… if you look at the people who are at that level you would end up at, you kind of go, well, do I actually want to be like that?" (Interview 15, male engineer, thirties)

6.2 Technology and creativity in the studio

Technical and creative roles in the studio

On most large recording projects there will be a record producer and one or more studio engineers working together in the studio. Traditionally, it has been the role of record producers to supervise the recording process and to give creative direction to the production of music (or spoken word). The role of the studio engineer is then to:

> "…ensure that the sound is correctly produced and the microphones are set properly and the desk is working, run the equipment and basically be like a conduit to make sure that all the creative process from the musicians comes through and is recorded without them really feeling like they're intruded upon" (Interview 15, male engineer, thirties)

With the producer controlling the creative process and having the overall responsibility for the collective endeavour of recording music and creating the sound of the end product, he will ask the engineer to deliver particular styles of sound on the recording. It is then the engineer's role to use the equipment available to create the required sound on the recording. An experienced engineer should fairly instinctively "know what to do to get those sounds… when you're recording a band, you're very rarely using your conscious brain" (Interview 11, male engineer, twenties). One interviewee saw his role as "…a translator from what they are trying to do into recorded [sound]" because he spoke the "language with all the buttons" (Interview 13, male engineer-producer, forties). Another interviewee notes that one of the biggest challenges of performing his job as an engineer is interpreting what producers and clients are asking for in terms of achieving particular sounds, because "some of the

things they're describing can be way off what you think they're actually wanting"
(Interview 14, male engineer, thirties).

Another interviewee, an ex-musician who took up production explained
that there were certain barriers in terms of the technical language of the studio
that he only overcame as he eventually developed a technical understanding of
the engineering process. When producing, he explained how his early
descriptive comments on sound such as "can we make it kind of sound a bit
bigger but quieter, or louder or thinner", which engineers struggled to interpret,
eventually gave way to more technical comments such as "can you turn it up
but put more reverb on it and roll over a bit of bass frequency from a hundred
hertz" (Interview 13, male producer-engineer, forties). A shared set of linguistic
resources that allows very technical 'talk about sound' is central to collaboration
between studio engineers and producers in the studio (Porcello, 2004). Such
shared resources are central to 'ways of doing' (McDowell, 1997) in the practice
of recording music and an essential part of the 'habitus' (Bourdieu, 1984) of the
recording studio.

While engineers have largely been considered to perform a technical
role, and labelled as 'technologists' (Horning, 2004), arguably their role has
never been purely technical. Engineers are not only required to know how to
operate technical complex equipment, but also to have the tacit knowledge and
craft skills, that is to say a particular set of knowledges and skills that can only
be gained through observation, demonstration, practice, and experience (see
Gertler, 2003) and which "can only be produced in practice" (Maskell and
Malmberg, 1999: 172), Such skills are indispensable to artistic creativity within
the studio (see Horning, 2004). One example, discussed in more detail later in
the chapter, is the selection and placement of microphones in the recording
studio based on the instrument or voice to be recorded, which is a skill that can
only be acquired through practice and trial and error. Thus the way in which
they practice their technical skills involves elements of aesthetic decision-
making (Kealy, 1990). Furthermore, as noted in the previous chapter, a

movement towards greater importance can be traced for some recording engineers, who are increasingly assisting musicians with the production of their music (Longhurst, 1995), and making aesthetic judgments that are usually perceived to be the performer's domain (Tankel, 1990). One interviewee described the changing nature of his role:

> "…it used to be very technical. It used to be that the engineers would be the guys behind the desk and you'd have a producer, which was your go to guy, and then the producer would just deal with chatting to the band and sorting out song arrangements and things like that, and you'd be recording the sound and making sure that what you'd got on tape was good, of good enough quality. Now it's not so much like that…" (Interview 11, male engineer, twenties)

Interview responses suggested that this situation has become increasingly common due to the falling budgets of the record companies and an increase in the number of self-funding artists. These self-funding artists with more modest budgets often cannot afford the cost of a producer, and so when recording in the studio they rely on the studio engineer for creative input. The above interviewee goes on to describe how:

> "The major labels make much less investment in new bands and new artists. The indie labels don't have as much money, so you're working a lot with bands that are coming and financing their own records, and often they don't have a producer or they don't really know what they're talking about technically. So you have to, you do a lot more producing, even though you don't get paid for it." (Interview 11, male engineer, twenties)

This statement was supported by another interviewee who also described the changing situation and the challenges it brings for producers and engineers:

"...the business is changing; we're not dependent on record companies as much. A lot of the projects we do are self-funded, people finding their own investment. So you'll find a lot of projects here is all private money or part-partnerships with sponsors and backers, and that in a way is a good thing but also brings its own challenges because you're dealing with people who are not necessarily used to working in a studio. So you've got to help them through that..." (Interview 12, male engineer-producer, forties)

For these engineers, competently performing their technical role whilst also making aesthetic judgements and giving creative direction to the recording process is often a very difficult balancing act, as one interviewee noted:

"... often on some of the projects that I do that are smaller projects you're producing and engineering at the same time, which is really hard because you have to split your head into two different worlds at the same time, so one side is doing a very technical job and thinking about cables and computer editing and the other side is going oh hang on a minute is this the right tempo or is the song in the right key or how can I make that section work better... so that's quite difficult." (Interview 15, male engineer, thirties)

Another interviewee noted a similar difficulty with simultaneously ensuring the technical role is performed competently and monitoring the quality of performance and composition of the music:

"I find it difficult to tell while we're actually recording. I probably should be able to tell whether it's right or not, but you just tend to concentrate on the technical stuff. So you're making sure that all the levels are right and

that everything's actually recording, and listening for people playing in time and things like that. So you don't tend to concentrate so much on the actual notes they're playing or the melody or whatever." (Interview 14, male engineer, thirties)

The same interviewee noted that he tended to rely on the bands to "police themselves in terms of their performance". The difficulties presented by the blurring of production and engineering roles appear to be exacerbated by the fact that the skills required by a producer are rather different from the often more tangible technical knowledge needed by a studio engineer. It was evident from interview responses that successful record production requires a set of 'listening skills', which are mediated by the vast array of sound equipment found in recording studios (Pinch and Bijsterveld, 2004); one interviewee noted that "your ears and your taste are probably more important than the equipment" (Interview 13, male engineer-producer, forties). Another interviewee, a former studio engineer who has gone on to become a commercially-successful record producer, noted of his transition from engineer to producer:

"…I didn't actually know what I was doing to be honest looking back… I didn't know how to listen. You can learn how to use all this stuff but it took me years to actually get to a point where I could actually listen and get the sort of technology out of my brain… to stop thinking about pressing buttons and just think about it as a piece of music." (Interview 19, male producer, forties)

As described in Chapter 5, mastering is the final act of the creative process, where the mix of the tracks is transferred onto master disk which is then sent off to networks of production (Leyshon, 2009). It is also a creative step that is in some ways removed from the creative process which proceeds it, usually being undertaken in different studios, or at least in a different room within a studio, to the recording and mixing stages, and by a mastering engineer who is removed from the stage at which the music was created,

performed and recorded. This slightly removed position was considered by one interviewee to performing the mastering process:

> "…why can't the recording studio make it sound mastered? Why is there a need for mastering? I think most mastering engineers' answers revolved around equipment, the room and all that, which of course is very important, but I think more important is that you give the music to someone who hasn't heard it before, hasn't had to obsess over a snare drum for three days. I'm not involved in any of that. And I think to me that's the most valuable thing about mastering. And you do need a great room and great monitoring and all that, as a kind of foundation for it, but to me a lot more of it is more the kind of psychological, human aspect of having someone who's not connected with the recording to come at it as a fresh project without the baggage, and make it sound exciting and coherent in that way." (Interview 7, male mastering engineer, thirties)

Mirroring the evolvement of the role of many studio engineers that has seen them have greater creative input into the performance of recording of music, the role of the mastering engineer has also evolved to involve a higher level of creative input. Originally, mastering engineers were essentially transfer engineers, transferring recordings from tape to vinyl. This was a particular skill given the characteristics and limitations of vinyl as a physical format for music. Subsequent developments in CDs, followed by other digital music formats, have removed some of the specialised and more tacit skills involved in transferring music between formats. Along with technological developments in mastering equipment, they have however led to an increase in the level of artistic input that a mastering engineer can bring to a recording project. Indeed, as one interviewee described, mastering engineers who are able to enhance a project through their creative input are increasingly being sought out by record companies, producers, and musicians:

"So, we're looked at as people who know how to get music from one format to another format, make it sound good, on whatever format. So, we have to cover the transfer remit, and we have to be able to cope with people saying, ok, well, what can you do, artistically, to make this an even better project?" (Interview 18, male mastering engineer, fifties)

The same interviewee went on to explain further about the creative process involved in mastering and the role of the mastering engineer in that process:

"Quite often, it's what the artist heard in his or her head, which is what they want to achieve. But, they are relying on you, because of your skill set, to draw those extra little bits out of what is, really, a finished recording. But yeah, you can be quite artistic, you can come up with ideas, and small changes in mastering can make a big difference to the final product, and final listening experience, I suppose." (Interview 18, male mastering engineer, fifties)

To some extent however, the ability of a mastering engineer to be creative is significantly limited compared to that of a recording or mixing engineer. Rather than creating new music from scratch, mastering engineers are required to 'polish' finished recordings so the sound is of the required finished quality comparable to other commercial recordings:

"…it's got be functional, artisan if you like, so what I'm doing is I've got to make the start of the music sound natural, I've got to make the end of it sound smooth and natural, and I've got to make the level of it right and I've got to make the sound of it so that it sounds like a proper record. And getting to this stage is what I'm talking about by being creative, as opposed to mixing creative where you're moving sounds around and putting [them] in different places in the spectrum and being creative like that, or in the recording studio placing mikes or positioning artists, not

that sort of creative because that's all been done. I've got to make it as wholesome, cohesive as possible." (Interview 6, male mastering engineer, fifties)

As another interviewee responded, when asked about how much scope he had to be creative with the equipment found in a mastering studio:

"…more than people think. Yes, it's interesting. You've got the scope to be really quite creative with the sound, but of course that would take it out of acceptable limits of what people want to hear when they get it home and on the radio so… yes, there is a strong creative element but within the acceptable limits as far as what people expect to hear" (Interview 7, mastering engineer, forties)

Learning and mobility

The preceding discussion brings into focus the issue of learning. In the preceding section, it was noted that many of the interviewees had trained for the role on undergraduate University courses. However, it was clear from discussions with the interviewees that learning to perform a production or engineering role goes beyond crucial skills that can be codified into certificates. It involves skills that, rather than being objectivised in formal degrees, are linked to experience in the work place (see Grabher, 2001a, 2001b). Moreover, interviewees noted that a process of continuous learning helps them maintain interest and enthusiasm for their work. One interviewee noted that "there's always new stuff to learn. That's probably one of the reasons why it's so interesting to do, because it's not like you get stuck in a rut so much" (Interview 14, male engineer, thirties), while another noted that "that's what's fun about it, you never stop learning and you never stop evolving" (Interview 15, male engineer, thirties).

Learning naturally happens as part of performing the production or engineering role, especially where the producer or engineer works on a diverse range of projects; as one interviewee explained, "I like variety because I learn different ideas from different genres, from different people, from different backgrounds, and it keeps your mind alert, it keeps your ears alert, it keeps the important ideas coming at you" (Interview 18, male mastering engineer, fifties). Furthermore, continuous learning becomes especially important given the constant development of new technologies, and associated techniques, for recording, editing and mastering music. As one interviewee described:

> "... Every time the software gets updated there are new sets of stuff to work. It gets more and more advanced and has more different features and different things you can do, so there's all those sort of things to learn. And then when it comes to mixing and things like that there's all sorts of techniques to learn as well as you're going along really. It's just developing your own craft I suppose." (Interview 14, male engineer, thirties)

Self-learning is an important part of the learning process, in particular for engineers learning about new recording equipment emerging on the markets and new technical techniques for recording sound. One way this is achieved is through the reading of 'how to' books, websites, trade journals and magazines targeted at recording and mastering engineers. One interviewee for example described how "I get magazines like this mastering magazine, which a lot of people around here have scoffed at, but I think you can see what's going on out there in the world of computers and plug-ins and what people are up to. I think that's very important" (Interview 6, male mastering engineer, fifties). Another described how learning through self-learning can lead to new technical skills:

"What you've got to do is you've got to want to keep learning and you've got to assume that you don't know everything. And you can read through a book or something and come away and go 'yeah, yeah I pretty much know that'. But then you could also read something and go 'do you know what I never thought of doing it like that'. And then you come in and you give it a go… And then at some point a job will come in and you go [clicks fingers] 'I'll try that'… (Interview 3, male mastering engineer, fifties)

However, as one interviewee notes, this presents something of a minefield of information:

"…you've got new technology coming out and you read these magazines and there are a thousand bits of kit for everything you want to do, tons of different software, tons of different recording equipment, tons of different microphones, headphones that all claim to do something that nothing else can do." (Interview 10, male engineer, thirties)

Furthermore, recent years have also seen the rise in popularity of internet forums that allow for an exchange of information between engineers that is not limited by geographical space. The internet forum 'Gearslutz' (http//www.gearslutz.com, accessed 24/0/11), for example, has over 133,000 registered users who have made over five million posts relating to new technical equipment and recording and editing techniques. The site also has question and answer forums with 'expert' engineers, as well as a producer and engineer 'self-help' forum for non-technical issues. Virtual networks such as this provide participants with electronic anonymity and a discussion forum where people can connect, share information, discuss experiences, and express grievances (see Saundry *et al.*, 2007; Antcliff *et al.*, 2007). In addition to the above, the availability of music recording and editing software that runs on home computers has enabled studio engineers to learn and experiment with recording and editing sounds outside of the studio environment and without the

need for expensive equipment. For Gibson these methods of self-learning have "democratized technology and made sound engineering a hobby" and allowed engineers to "experiment with various effects, piles of instruments, samplers, pedals and mixing equipment, whether in a home or commercial studio" (2005: 199).

However, despite the importance of self-learning, it has clear limits in terms of the type of knowledge that can be gained. While self-learning from magazines, books, websites and experimentation offers codified knowledge that can lead to the development of new technical skills, it enables engineers and producers to learn little about other more tacit skills that they are required to have. It became clear in the discussions with the interviewees that learning that is gained through experience whilst working on recording projects is the most valuable form of learning, and, in particular, collaborative work in the studio is seen to be particularly valuable due to the way in which it enables engineers to pick up a much wider set of skills and knowledge than technical skills alone:

> "...you learn a lot from other engineers and other musicians. You don't even realise you're learning and it's hard to define what you learn exactly. It's just the experience of working with musicians and experience of the process really… and how things can go wrong, how things can go right, the mood changes, the vibe… things that are very difficult to define really." (Interview 1, male engineer-producer, thirties)

A number of interviewees spoke about the importance of collaborative learning in developing their own skill set. One interviewee noted that there is "always something to be learned from other people, you can always incorporate other people's influences into what you do and, even musically or technically, and it just enhances you and adds to your skills" (Interview 1, male engineer-

producer, thirties), while another also described the importance of collaborative learning to personal development:

> "…it's massively important because otherwise you become really boring and stale and you do the same things all the time… lots of producers over the years, they've obviously recorded in hundreds of different studios and they've used loads of different engineers, and they tend to take little engineering ideas that these guys come up with they've used for years and years and years… So you pick and choose the best bits and you kind of add it to your little arsenal of tools…" (Interview 15, male engineer, thirties)

It was also considered by interviewees that learning through collaboration is a much more efficient way of learning than self-learning. One interviewee, who had spent much of his career working alone as a studio engineer, described how he felt that he had missed out on the type of accelerated learning that collaboration brings:

> "It is something that I feel I missed out on… I would welcome working with people with more experience. I would welcome learning new techniques and assisting a more experienced engineer or a more experienced producer because you learn probably something like five times quicker. Whenever I have worked with someone who really knows what they're talking about, in one session I can learn sometimes what I learn in three or four months." (Interview 10, male engineer, thirties)

The mobility of producers and engineers between recording studios in London and more widely is important to learning and the dissemination of knowledge within London's recording studio sector. As Leyshon notes, up until at least the late 1960s, producers and engineers were salaried employees of record company-owned recording studios, and because this contractual

requirement locked artists into particular studios and guaranteed work, there were "few knowledge spillovers between studios, as both staff and artists tended to be confined to the same space over relatively long periods of time" (2009: 1321). However, the subsequent shift of successful producers and engineers to freelance status, and the growth in the number of independent studios which provided the space for freelance producers to work beyond any one particular studio from the 1970s onwards, has resulted in much higher levels of mobility and increased levels of knowledge exchange between recording studios:

> "The growth of independent recording studios, and a greater capacity for knowledge to spread beyond the large established studios, was propelled further by an under-mining of the bureaucratic career that had hitherto dominated employment relations within record companies and their studios." (Leyshon, 2009: 1322)

One interviewee noted that learning occurs "mostly through talking to other producers and engineers that are coming through the studios, people that you meet around the place" (Interview 11, male engineer, twenties). A number of more established engineers and producers noted that young highly-skilled freelance engineers coming in to studios brought with them new ideas, skills and techniques. One producer noted how for his recording projects he used "these young programmers and they blow me away", going on to say that because of what he is able to learn from them "I haven't picked up a manual and learnt how something new works for years" (Interview 4, male producer, forties). Another interviewee noted that young engineers experimenting in their own home set-ups were able to bring some of the techniques they had learned in the studio environment to the benefit of recording projects.

Interviewee responses suggested that travel, both within London and the UK and abroad, presented valuable learning opportunities for engineers who were able to be mobile themselves. As one interviewee described:

> "...working in a different environment… it will do something, bring fresh influence into what you do and so that's, even travelling to East London and working in studios there… yes, travelling to abroad and stuff, it's great experience… I don't know whether it's necessary but it is great to do and useful and creatively useful." (Interview 13, male engineer-producer, forties)

Another interviewee, an orchestral recording engineer, described how "musically it's interesting…you're hearing different styles of playing that you wouldn't hear in London, so musically it's always interesting". The same interviewee went on to note how travel has given him experience in managing a wide range of recording projects and also in how to deal with the different palettes and standards of equipment found in different studios:

> "Yeah it gives you a far wider palette and you're far more resourceful and you've seen a lot. In a way you sort of experience a lot more things so you're able to deal with the lowest budget and the highest budget and cater for what they need and also walk into a dry facility and just work out the gear and get the best out of it." (Interview 12, male engineer-producer, forties)

On the same theme, another interviewee, a freelance engineer with limited experience of working abroad but who had been very mobile in London and the UK, noted his experiences of meeting engineers who had not been very mobile in their recording careers:

> "…what happens when people have only ever worked in one place and they come to somewhere else and, they're not a fish out of water as such, but they're not really, they're not always the best at adapting… if it's not how they're used to it, then they can't deal with it." (Interview 8, male engineer, twenties)

This was countered however by another interviewee who felt that opportunities for learning through travel were fairly limited, due to the high level of standardisation across recording studios in the UK and abroad. He described how "I did bits in New York and France and stuff. But it was almost as if, well, it's a long way to go to a room that's exactly the same as the one you're in" (Interview 19, male producer, forties).

It is however not only engineers and producers that transfer skills and knowledge, and gain valuable learning experiences, through their mobility between studios. More recently the affordability and availability of home recording technologies has liberated musicians from the traditional recording studio and allowed artists to experiment with recording technologies and techniques that would have been considered too unconventional in the past (Gunderson, 2004). As such they have been able to develop skills that in the past had been the preserve of recording studio workers. As one interviewee exclaimed, "nowadays I mean what you can do from your own bedroom is unbelievable. So everyone's a producer, and everyone's an engineer now" (Interview 10, male engineer, thirties). Here lie the roots of the current artist-producers in popular music. The short-term cycling of these artists between studios also plays an important role in the transfer knowledge in the recording studio sector. Thus, as argued in Chapter 2, the studio is a unique place of learning and knowledge transfer that may cut across artists, genres and styles. A number of interviewees noted how studio engineers are learning about new technical skills, equipment and, especially, recording software from artists recording in the studio. As one interviewee noted:

> "…guys are coming in here with stuff we haven't seen...they'll come in and say 'why don't you use this plug-in?' They've only been in here five minutes. 'Use this' because that's the one they use all the time and they know it. So they've given you five minutes to get the sound but because it's not quite what they want, 'oh use the plug-in'. It's alright but it's, if there's an engineer there sitting whose been doing it for twenty five years sometimes it's hard to take" (Interview 19, male producer, forties)

The above statement is descriptive of how home-based engineers and artists, who are experimenting and learning about new equipment in home studios, are not only entering studios and passing on new ideas and techniques to studio engineers, but also challenging recording studio workers who have previously been the privileged 'experts' in the field. As the statement suggests, this can be difficult for engineers who have previously been used to being unchallenged with regards to their technical knowledge of the recording process.

Studio space

As noted at the beginning of this chapter, all but two of the nineteen interviews undertaken were conducted in the recording studios that the interviewees worked in. This incorporated a wide range of recording studios, all differing both in terms of their size and in terms of the particularities of their design and materialities. The studios ranged from very small single-room project studios without a separate control room (but often with a separate vocal recording booth) through to more sizeable studios with one or more large recording rooms and a separate control room. Four of the interviews were conducted at two large recording studio establishments – Abbey Road and Air studios – both of which have one or more large orchestral recording rooms and multiple other recording spaces, all with separate control rooms, plus separate mastering facilities and a reception area. None of the facilities were in buildings originally constructed with this particular use in mind, but rather buildings or

sections of buildings that had been converted for the purpose. Air studios, for example, is located in a former church, Lyndhurst Hall, on which millions of pounds were spent to convert it into a recording studio in 1991. The majority of the studios occupied part of a building also occupied by a range of other users, including office blocks, 'cultural' centres, industrial premises, and warehouses. Two of the smallest studios were located in converted brick buildings in residential gardens.

As noted in Chapter 5, respondents to the questionnaire highlighted that the studio having the best acoustic qualities for a particular project was very important to their ability to be creative in the studio. The physical 'space' in each recording studio is different, and so, as Leyshon notes, "the acoustic environment in each studio often develops incrementally and organically in relation to the nature of the materials used in its construction or to subsequent experiments with baffling and other materials introduced to the studio fabric" (2009: 1320). One interviewee discussed the acoustic space of his own small studio, a small single-room without a separate control room or vocal recording booth, which he had constructed himself inside a small ex-electricity board brick building at the bottom of the garden of his family home. He described how "the soundproofing works really well... it's not overbearing but it works really well. We get a really nice acoustic in here, whether it's percussion or acoustic guitar, whatever" (Interview 1, male engineer, thirties).

Another interview was conducted in a studio that was located in a warehouse occupied by a self-storage company. Inside the warehouse was divided into a series of numbered storage units. The interviewee had converted the inside of one particular storage unit into a recording studio, consisting of two rooms, one of which was the main recording space, the other a kitchen-come-secondary recording space. The main room had a high ceiling and the space did not appear to have been acoustically treated; despite this the interviewee suggested that "people come to this particular place because actually the room has a really nice sound… this room has a particular sound. I couldn't achieve

that sound in a different room" (Interview 13, male engineer-producer, forties). Nisbett (1995) notes how recordings pick up these physical characteristics of the studio as much as those of the player, with the studio acting as a 'sounding board' to instruments and its shape and size giving character to the music. As Tankel (1990) asserts, studio practice is not limited to recording technology per se, and particular sounds can be created by using the studio as an acoustic space and through the careful selection and placement of microphones in the recording studio based on the instrument or voice to be recorded.

Thus, the 'art of microphoning' (Horning, 2004) is a crucial craft skill for the recording studio engineer. This term refers to the careful selection and placement of microphones in the recording studio based on the instrument or voice to be recorded. Knowing the characteristics of hundreds of microphones and a variety of acoustic environments is therefore an important part of the complex set of technical abilities and tacit knowledges that engineers and producers are required to have (Kealy, 1990); one interviewee described how "I know my mikes really well, and I know how to mike things up" (Interview 1, male engineer, thirties). Each studio, with its own particular acoustic qualities, and each project with its own particular musical style and instruments, will require different microphones and microphone placement (see Nisbett, 1995). A number of interviewees described how they used microphone placement within the acoustic environment to capture particular sounds. One interviewee, working in a major studio with a large orchestral recording space, noted how he is able to capture the 'ambience' of the space by positioning microphones further away from the instruments being recorded than would be possible in a small acoustic space. Similarly another interviewee described how he uses a particular microphone and microphone positioning to achieve a particular 'vintage' sound:

"…I have kind of like an old Vox Amp and this microphone, it's an expensive microphone but it's kind of based on vintage technology. So that together with an old Reg guitar will immediately create a certain

sound. But then it's still up to you to decide, do I want it close-miked so it sounds like it's here, or do we want it in the room, because old recordings were often, the nice thing about old recordings is you can somehow 'see' the music… you can see the old blues guy in the room stomping his foot, playing guitar, singing at the same time" (Interview 13, male engineer-producer, forties)

In some cases however, even specifically designed and constructed acoustic spaces do not lend themselves favourable to acoustically rich sounds, especially if combined with certain technologies. One interviewee described his own struggles to get the type of sound he required from a particular studio space using digital recording equipment:

"...one main thing that I find difficult, I mean forget home studios, but even in the studio that I work at, which has got an acoustically treated room, an acoustically built room, I mean a room that is built with acoustics in mind, so you're talking about the cost of structural development of the building, you're talking about equipment which is probably 50 grand's worth of equipment if not more, it is difficult to get a result out of there, however hard I try, however much experience I get, and I've now been in the game for about 8 years, to get a really warm sounding digital recording." (Interview 10, male engineer, thirties)

While placement of microphones is to a large degree dependent on a technical understanding of acoustics, it is a skill that can only be acquired through practice and trial and error (see also Hennion, 1989), leading to the development of tacit knowledge. Microphoning is then a creative, artistic skill. In research undertaken by E.T. Canby in 1956, one engineer noted that they considered "the art of microphoning as the equal of any another interpretive art… the plain fact is that microphoning is an art unto itself with its own laws, principles, and its own special culture" (quoted in Kealy, 1990: 209). More recently however, the digitalisation of recording, and the associated increase in

the number of project studios with small acoustic spaces, sometimes limited to a single vocal booth, has resulted in microphoning skills being a less prevalent skill amongst studio engineers. For Gibson the digitisation of studios and the ability to digitally manipulate sound waves changed the kinds of skills required from engineers so that "long years of experience in certain acoustic spaces, and with different kinds of microphones, became less important to being able to tweak a sound recording within a software programme" (2005: 198). One interview noted how "a lot of engineers have grown up with computers these days and they don't necessarily have miking-up skills" and described himself as an "old school guy… I know how to mike-up stuff" (Interview 1, male engineer, thirties).

The size of the acoustic space in the studio also determines the types of recording projects for which the studio is suitable. Where acoustic spaces are sufficiently large, they allow for 'live' recordings of orchestras or bands. With regards to the later, 'live' recording refers to the rhythm section, that is to say the drums, the base, and the guitars, playing together in the same room at the same time. One interviewee explained how "It's so much easier to play live, so much easier. It's just more intuitive for musicians to hit it live" (Interview 17, male engineer-producer, forties). Other interviewees explained the importance of studio spaces and their expensive range of recording equipment, including microphones and amplifiers, in respect to this type of recording, which cannot be achieved in a home recording set-up or small projects studios:

> "If you're recording a band you need an environment that is acoustically treated because bands make a lot of noise. You need a big enough space to record drums and a big enough space where you're going to have a few variations and options of different guitar amplifiers and bass amplifiers and stuff like that." (Interview 10, male engineer, thirties)

"I think that's one of the reasons why people still record in these kinds of studios, because that's one of the things you can't do at home, unless you make a big investment in gear. Because even just miking up a drum kit, normally you might use twelve or even sixteen microphones on the drum kit. And when each of those mikes is about a thousand pounds… it gets amazingly expensive." (Interview 11, male engineer, twenties)

Thus in an era in which we are seeing a rise in digital home-recording and small project studios, larger recording studios remain important spaces in networks of recording for particular forms of recording. However, this importance is continuously being challenged by new developments in digital equipment. For example, one interviewee noted how amplifiers and microphones can now be replaced with digital 'pod' preamplifiers linked to a computer, allowing the computer to emulate amplifiers. This both removes the need for expensive microphones and amplifiers, and also for the large acoustic spaces needed to record in this way. Further, as one interviewee explained with reference to guitar valve amplifiers, "they only start to sound good when you turn everything up, and you just can't do that at home really" (Interview 11, male engineer, twenties). Such digital preamplifiers remove these problems and allow recording of guitars in home and small studio environments.

Studio space is also of crucial importance in the process of mastering. In Chapter 4 the concentration of this process in particular key studios was highlighted. When questioned about this high level of concentration, interviewees noted the key role played by the studio space. This is due to the way in which mastering engineers need to be able to listen to music at high volumes and at high levels of detail, in order to make very fine changes to music and vocals, and so require studio spaces with particularly high levels of acoustic treatment and expensive monitoring equipment (speakers). This acts to concentrate the process into a relatively small number of studios that are organised and constructed specifically to undertake this process. Arguably, these formal studio spaces, as the space in which the final creative process

happens, are becoming of increasing importance when the recording process can now be undertaken in a wide range of different spaces which may or may not be acoustically treated. As two of the interviewees described:

> "…the mastering room has been, tended to become the place that's actually being built acoustically properly where you can make a proper technical evaluation… now because you can buy really good recording equipment quite cheaply it does open the opportunity of going somewhere really bizarre and recording. But… you still need this place that's going to pull it all together and get you a result." (Interview 3, male mastering engineer, fifties)

> "…nowadays, it's even more important… because they're working in facilities that are not especially acoustically well treated and well set-up. Then this is the last chance that anybody really has to check out their stuff in a proper environment, where the acoustics are good, the monitoring is good, the engineer knows those speakers, that monitoring, inside out, can pick up any issues that may be a problem, and put them right." (Interview 18, male mastering engineer, fifties)

The above quote also picks up on the need for mastering engineers to develop a very intimate knowledge of the acoustic space in which they are working. This acts to lock particular mastering engineers into particular recording spaces and reduces their level of mobility. As one interviewee described:

> "…engineers tend to move from studio to studio with projects, whereas mastering engineers only ever work in the room that they work. So you know how things should sound in your room and that's the key thing. We're the common denominator; we're the bit where somebody is really familiar with their environment…" (Interview 3, male mastering engineer, fifties)

While mastering engineers may be familiar with the technical equipment found across different mastering studios, interview responses suggested that it takes some time for an engineer to get used to the particular acoustics of a new mastering studio space. As one mastering engineer described, "…if I move to another room I'm all over the place and it can take me a week, sometimes longer, to accustom to be able to do the kind of work I do for the mastering work. It would take quite a while to accustom myself to that" (Interview 6, male mastering engineer, fifties). Another interviewee suggested that it might take as long as six months to a year to become familiar with the acoustics and monitoring of another mastering studio. Therefore, as described earlier in the chapter, rather than being freelance like many of their recording engineer counterparts, mastering engineers tend to be permanently contracted to particular studios, spaces with which they become intimately familiar. Thus fees paid for mastering buy both the in-house engineer and the studio in which they work (Leyshon, 2009). This further increases the tendency for the concentration of the mastering process in particular studios. Furthermore, it is not only mobility outside of a particular studio space that is limited, but also within it. Mastering engineers must find a particular place within the studio where acoustics means the sound is at its optimum. As the same interviewee describes "…the acoustics in [studio name omitted] are not brilliant but they work in that we know what a good record should sound like… I know what if I walk over there the bass is heavy, and I walk back there the bass is wrong, I've got to be in this sort of area" (Interview 6, male mastering engineer, fifties).

As Leyshon (2009) suggests, in addition to variations in the acoustic environment, different studios may work with different, and in some cases distinctive and unique, palates of technologies, although generic equipment will be found in many studios. The specific recording configuration of a particular studio will often have been determined based on experimentation, trial and error, and innovative thinking (Horning, 2004). It is considered that different forms of recording technology lend themselves to particular recording projects.

For example, many studios which specialise in the 'live' recording of bands and/or orchestras continue to invest in analogue recording equipment, often purchasing expensive 'vintage' equipment, and record on to analogue tape, the combination of which is thought to capture a richer sound than digital recording technologies. This is especially the case for vintage recording consoles. One interviewee explained his decision to invest in an expensive vintage Neve recording desk and analogue equipment when setting up his own studio:

"I just wanted a place where I could record live bands. I've got a live space and with an analogue desk. So this is an old seventies Neve, 1969 actually, and with all great mike amps and I've got loads of nice compressors. So it's a really good place for getting a great signal to tape." (Interview 19, male producer, forties)

In a time of digitalisation, analogue and vintage equipment in particular have become a unique selling point for studios. More generally, a recording studio's 'tool-kit' of equipment, including recording consoles and other studio equipment, become important in attracting clients to the studio. Leyshon (2009) for example discusses how SSL and Neve consoles became the control desks of choice for leading freelance engineers and producers, and therefore, these consoles became obligatory passage points for studios wishing to attract producers and engineers, who bring with them clients to a studio. Different producers and engineers specialise on, and prefer to use, one or the other of these particular recording desks. One interviewee, for example, explained how his studio's vintage Neve recording desk is extremely important to getting business:

"…we'd never get as much work as we do if we didn't have the gear… if someone's coming to have a look around you can say, again, the make of the mixing desk, you could say, we've got a Neve studio, and so people come here because we've got a Neve room. So it's, the gear

really does help in that respect… we still use the analogue console and I think we've got a niche market because we've got the console, we've got the outboard gear. I think if we were to go digital, people wouldn't use us anymore. I think we'd lose all of our work, in fact." (Interview 11, male engineer, twenties)

The above statement contrasts with that from another interviewee, who explains how a change from a Neve console to an SSL console in one of the studios in which he was employed resulted in an upturn in work:

"…they had a Neve mixing desk… he must have spent about twenty grand and replaced it with an SSL console which a lot of people prefer… they love the room but they wouldn't come there because they don't like mixing on Neve consoles. Switch it for an SSL with its functionality and suddenly you've got a whole new client base who wouldn't otherwise look at the room, and there are a lot more SSL-based mixing engineers than there are anything else…" (Interview 8, male engineer, twenties)

Thus particular recording desks, combined with particular palates of technologies (be they digital or analogue) will result in a particular client base for a studio in terms of producers and engineers.

Technology and experimentation

The technologies available in any particular studio mediate creative actions (Warner, 2003). Such technologies offer the potential for high levels of creativity; however, it is important to note that creativity can also occur when only very limited technology is available, where creativity involves coming up with new solutions or overcoming technical barriers. With regards to creativity and experimentation, a number of respondents spoke about the importance of

not working to 'narrow formulas' and instead experimenting whilst in the studio, from quite subtle changes in microphoning technique to change the style of the sound being recorded, to more technically complex forms of experimentation. Making reference to the rise in home recording, one interviewee notes how the range of equipment he has in his studio, and his familiarity with this equipment, enables him to experiment:

> "... they've got a small amount of gear and there's only so much they can do. I think, well obviously what I can do because of my range of mikes and things like that, I can kind of mike things up in unusual ways, I've got a few odd bits and pieces like a Stylophone and things like that that I can just throw into a session… you can chain things together, you can group things in unusual ways so there's lots of different ways of abusing and misusing the gear to get your sounds. When you're intimately familiar with your gear you can do that" (Interview 1, male engineer-producer, thirties)

Interviewees also noted that creativity can also involve more playful forms of experimentation around the performance of the artist. Technology plays a crucial enabling role in this respect. Engineers now work with flexible recording platforms that enable them to move sounds backwards and forwards, change the EQ and tempo, and alter the intensity of the performance. A number of interviewees described how modern computer technology enables the studio engineer to capture and then edit together and manipulate various sections of a number of vocal performances in order to get the single best audio recording. One interviewee noted how he had become:

> "…obsessed with editing the vocals properly, making sure that they sound great and the timing and the tuning and everything is perfect. And people appreciate that because the vocal always sells the song in any genre that has singers." (Interview 9, male engineer-producer, thirties)

Another interviewee likened the process of editing vocals to that of creating Frankenstein "because you are 'Frankensteining' stuff together quite a lot" (Interview 13, male engineer-producer, forties). For Gibson (2005) the digitisation of studios and the ability to digitally manipulate sound waves changed the kinds of skills required from engineers so that "long years of experience in certain acoustic spaces, and with different kinds of microphones, became less important to being able to tweak a sound recording within a software programme" (pg. 198). However, while technology has arguably diminished the importance of a particular set of engineering skills, namely microphoning, the ability to record and manipulate multiple vocal takes does give producers and engineers particular creative opportunities to playfully experiment with vocal performances, as one interviewee describes:

"…the advantage of that is that you can tell people, okay we've got a few takes and we've compiled a take from it, but do you know what, let's do a take now where you disregard the melody and you just do some screaming or some whispering or some, you know, go crazy… sometimes you get like a bit of an extra element into the overall performance where they let go because they have already warmed up, they kind of feel comfortable… (Interview 13, male engineer-producer, forties)

Whilst technology does enable particular forms of creative practice such as experimentation, interviewees noted that technology can also at times have a limiting effect on the process of recording music in the studio. When studio performances were captured on tape, there was a certain pressure on musicians and recording artists to play their part or deliver their vocal take in as few takes as possible. However, as musicians and recording artists become increasingly familiar with what can be achieved through technology, an expectation arises that the studio engineers can 'fix' a performance should it not

be of the required quality. This in turn means that musicians and recording artists do not work at their performance in the studio, but rather often spend only a short time in the studio to deliver a take that will be edited later by the engineer. One interviewee notes how this has a detrimental impact on the creative connection between studio clients and their producers and engineers:

> "…they know that they can play pretty much anything and you can make it sound good. In a way it's quite disheartening because, like I said, it removes that process and the excitement of everyone sitting down and playing… which means instead of there being a connection between, like a creative connection, it's more like 'here's a noise now make it sound good...'" (Interview 15, male engineer, thirties)

This ability to edit performances after the event has led to the expectation of 'perfection' from studio clients and record companies in terms of the sound delivered on the final recorded project. A number of interviewees noted how this is damaging to the creative process due to the way in which some of the most creative occurrences in the studio happen when mistakes are made. As one interviewee noted:

> "...sometimes the mistakes are the best thing on the record. Something happens or something's plugged in the wrong hole or a mike comes up somewhere or you do an incorrect edit when you're splicing together and you suddenly say "wow."… it's a shame that that's getting lost." (Interview 19, male producer, forties)

Another interviewee noted that many of what he considered to be great records had been done in a single take "…with loads of mistakes, but there's something special captured on tape…" (Interview 17, male engineer-producer, forties) Another summarised his feelings on the 'perfecting' of music through technological editing and manipulating as taking any 'heart, soul, or feeling' out of the music.

Perhaps a more major constraint on the ability of musicians, recording artists, producers and engineers to be creative and experiment in the studio are the time constraints associated with limited budgets and the high cost of time in the studio. As Gunderson (2004) argues, experimentation in the studio is only an option for those artists who can afford to pay for the associated studio time, and as a result most artists treat the recording environment "more as a mimetic recording instrument, as a means of capturing a live musical performance or at least the semblance of a live musical performance, than as a musical instrument in its own right" (no pagination). A number of interviewees suggested that there was very often a need to work expediently and that this was often frustrating in the sense that they could often not be as creative as they would like and deliver the standard of product that they would wish to. More specifically it limits the ability of producers, engineers and their clients to experiment with sounds, performances and new items of studio equipment. One interviewee noted how time constraints make recording:

"...challenging in the sense that I very rarely work on projects where I've got enough time to sit there and say let's try it this way and if it doesn't work let's try it another way. It is really a case of going minimal risk unfortunately… So I think that it is challenging in the sense that you've got to make the right decision pretty much straight away and it's unrewarding in the sense that you don't often get to experiment as much as you would like to." (Interview 10, male engineer, thirties)

Another interviewee noted how "we don't really have time for trying stuff out really. So what you end up doing is using stuff you know works and you're in control of" (Interview 12, male engineer-producer, forties). This particular interviewee, an engineer-producer working at one of London's leading recording studios, also noted that the premium rate charged for time in the studio worked against them in this respect and time constraints resulted in the need to work very expediently. This particular engineer speculated that he may

be able to do a better job in a smaller studio with lower costs and less constraints in terms of time. This was supported by another interviewee who noted that the big budgets spent on large studio facilities do not "necessarily guarantee a great result because people are working under pressure… in many situations I thought the result was not as good as it could have been… sometimes the creativity can suffer when you work under those sorts of conditions" (Interview 13, male engineer-producer, forties). While in many studios, studio time is strictly controlled and determined by a particular budget, a number of interviewees who operated their own studio noted that they could often be more flexible with regards to the studio time for particular recording projects. Here the creative experience and the quality of the final recorded product were often prioritised above financial issues, with some studio owners often reducing rates and even working on non-charged time when projects over-run but budgets are exhausted.

Not all interviewees however considered a high degree of experimentation during recording sessions to be beneficial to the final product. A discussion with one particular interviewee was indicative of the 'technological fetishism' that is being driven by the use of computer and digital effects (Gibson, 2005), as he noted with regards to experimentation with new recording techniques and equipment that "guys get totally bogged down about that type of thing, but at the end of the day they can't produce a good sounding track" (Interview 9, male producer-engineer, thirties). He goes on to say that his "theory has just been 'know what you have, know how to use it, make sure it sounds good'". This sentiment is echoed by another interviewee who notes that in his area of work, orchestral recording, "you need to know your stuff really well because people listen in incredible detail nowadays and you've got to service that detail" (Interview 12, male producer-engineer, forties).

It was clear from responses that in a profession that is relatively low paid with often extremely long working hours, the ability to be creative, to experiment and try new techniques is central to the job satisfaction of producers and

engineers. As one interviewee noted, "every new session is a challenge for me and that's what I enjoy about it. If I was doing the same thing day-in day-out I'd get bored" (Interview 1, male engineer, thirties). When questioned about which recording sessions were most memorable to them, almost without exception interviewees described sessions where they had given a high level of creative input into the session, where there had been collaborative experimentation, and where they had been technically challenged.

Creative direction and collaboration

It was apparent from interview responses that each producer or engineer will approach a recording in a different way. With so many different possible combinations of sounds and styles that can be delivered through the complex recording equipment found in most recording studios, each particular producer or engineer will, through their own technical performance and/or aesthetic judgements, influence and shape the sound and style of the final recorded product in their own way. As one engineer described "everyone's got their niche and their sound. And when you're given a record there are a thousand and one different ways it can end up, so it's really like whoever you give it to it's going to be different" (Interview 11, male engineer, twenties). Another interviewee noted that:

> "...it's amazing when I work with other people who have the same system that I do, and they go 'oh, it's funny how you work so differently to how I work'. And that happens all the time. And vice-versa. It happens all the time that everybody has their own way of working. Even though the technology is identical and they're working on the same systems. But everybody has their own adaptation of how they make that work" (Interview 4, male producer, forties).

Furthermore, each individual producer or engineer will manage the creative and technical process in a different way. The creative process can be thought of as operating a sliding-scale of collaboration between the producer/engineer and the musician/recording artist recording in the studio, where true collaboration exists between two extremes. At one end of this scale, the producer or engineer may be extremely hands-on, strongly directing the recording process. One interviewee noted that "some producers and engineers are quite dictatorial in their approach" (Interview 13, male engineer-producer, forties). This he speculated was because such producers were getting paid by a record company and so felt a responsibility and pressure to finish the recording project on-time and to deliver a product which met the expectations of the record company:

"…maybe more successful producers are like that… they have different pressures because they are paid by the record company to produce this artist, so the record company goes 'we want you to do this' and then they are going to have to be more dictatorial possibly" (Interview 13, male engineer-producer, forties).

As such, often they are not particularly responsive to the creative input being offered by the musicians or recording artists. A second interviewee, a commercially successful record producer, noted the importance of ensuring the quality of the final product above everything else, asserting that he is "just thinking about the final thing. The final two track mix that's all I'm worried about. I don't care what anything else is happening and sometimes you've got to be brutal… and sometimes people are upset" (Interview 19, male producer, forties). Another interviewee, also a successful producer, carefully noted however that there is little point in being 'belligerent' when it comes to a producer attempting to shape and put a stamp on a music product. Rather, he suggests that it is very important for a producer and engineer to understand what a client wants to get from the recording project and 'adapt their ears' accordingly. This is the other end of the scale, where a producer or engineer

will take a back seat and let the musicians and artists direct the creative process and have the final say in the style and sound of the recorded product. As Leyshon (2009) outlines, this type of 'service ethic' in the studio sector, wherein the client's needs are valorised above all others, became apparent as early as the 1970s and corresponded with the rise of independent studios. Two interviewees noted how client satisfaction comes ahead of their own personal opinions on the sound and style of the recording:

"I make sure that the client is making a lot of the creative decisions, in terms of the direction that they are going in. So if they like a particular sound but I don't like, that is fine I am going to go with them. They need to be happy at the end of the day." (Interview 9, male producer-engineer, thirties)

"...we'll just do everything how the band wants it really, that's the main thing... I'd much rather it was them who were putting their own thing on it, and you can come up with ideas for each circumstance... but I wouldn't think I'd try and push them to keep doing my thing... I wouldn't like to that at all. No, it should be totally the band." (Interview 14, male engineer, thirties)

For the most part, interviewees suggested that the creative process relies on a level of collaboration somewhere between these two ends of a scale, in which both the producer/engineer and the musicians/recording artists work together towards achieving the best outcome. As one interviewee noted, "it's important that the artist understands it's a collaborative thing and I need their input as much as it's mine" (Interview 12, male producer-engineer, forties). Another interviewee, a mastering engineer, noted that "I try to achieve a fifty-fifty relationship with guiding the sound in the right way so that everyone's happy…the role of the mastering engineer is sometimes to be the UN of sound and trying to find a middle ground between everybody" (Interview 7, male mastering engineer, forties). These collaborative experiences involve the open

sharing of ideas, from which "the good idea prevails from whoever came up with it" (Interview 13, male engineer-producer, forties) and where neither producer/engineer nor musician/recording artists are offended if their ideas are rejected by the other party. As one interviewee noted of the ideas he suggests, "if they don't like that idea, you just drop the subject and move on" (Interview 5, male engineer, sixties). However, a majority of the interviewees, both producers and engineers, when questioned on this matter, stated that most of their clients are extremely receptive to the ideas they offer, noting that creative input is something the client expects from them, above and beyond whatever technical skills they possess. Indeed, it was apparent that interviewees believed that the creative input that is offered by producers and engineers is central to the continued value of recording studios in the contemporary music industry. This capacity to add to a recording project creatively was prioritised by respondents when they were asked if recording studios still remain relevant and valuable. Two interviewees noted the importance of this with specific reference to the increase in the number of artists who are recording using their own equipment:

"... a lot of people record alone in bedrooms these days, they just stick a mike or guitar into their computer and that's it, they don't have anyone to bounce ideas off so they get a lot of out working with somebody else." (Interview 1, male engineer-producer, thirties)

"...you could find a room that sounds interesting, get your laptop and a reasonable audio interface for the mike… do your thing and then you have got it, so you don't need a recording studio… but you can't, you don't then have the extra input, a fresh pair of ears." (Interview 13, male engineer-producer, forties)

As Negus and Pickering (2004) assert, creativity is never realised as a creative act until it is achieved within some social encounter. Perhaps the most important social encounter in this respect in the recording studio is between a producer and/or engineer and the studio clients. In the recording studio, record

producers and sound engineers are as important in the production of 'the sound' as are the musicians themselves (Pinch and Bijsterveld, 2004). This is especially the case where the producers or engineers are capable musicians or composers in their own right. As Kealy (1990) argues, if studio workers have musical as well as technical training, it allows them to have greater collaboration with musicians in the studio. A number of the interviewees had played musical instruments in bands, attaining varying levels of commercial success, before or concurrently with developing a career as a producer or engineer. Four of the nineteen interviewees made specific reference to the importance of their own musical training and experience in their performance of their studio roles, from having empathy with musicians as they are going through the recording process, through collaborating with musicians to improve pieces of music and performances, through to producing entire compositions for recording artists who have little or no musical training themselves. One interviewee noted how when working with vocalists he will typically "end up doing all the programming, playing all the other instruments, all other parts and building the track from scratch…. bass, drums, strings, keyboards and all the rest of it" (Interview 9, male engineer-producer, thirties).

6.3 Collaboration and communications technology

Collaboration between studios

As shown in Chapter 4, each individual recording project may involve a range of different studios, often in geographically dispersed locations. These studios are linked through mobility; either through the physical mobility of producers, engineers and/or artists, or through the mobility of recordings. Linking studios in this way makes recording projects both more complex to manage and more expensive. Interview responses did however make it clear

that using a number of different studios can bring a number of significant advantages to the project. When questioned as to why albums may be recorded and produced in this way, one interviewee explained that:

> "... sometimes it's different studios for different parts of the recording. So you might go to a big studio to record drums to get that initial rhythm section down, and then you might go to a smaller place so that you can just fine tune it and get some … sit there, recording guitars… And then you might go to another studio that's really good for mixing, that's got loads of outboard equipment and you don't need the big live room because you're mixing, so you go somewhere else for that. And then you'll go somewhere else entirely to give it to the mastering engineer. And the advantage, I guess, is that there's … the gear's specifically good for that part of the recording process, and also because you've got different experts, so as it passes between the studios, the speakers are different, they're going to bring out different overtones that you might not have heard at the place before, and you've got different experts that are giving their little bit to the project." (Interview 11, male engineer, twenties)

Two significant advantages to networked project working can then be identified. Firstly, different recording studios have different types of recording equipment that will suit different types of music and different stages of the recording process. So, for example, as discussed earlier in the chapter, some studios have a palate of technologies focused on vintage analogue recording equipment, which gives a warm and full sound to guitar-based music. Other studios specialise in the mastering of music rather than recording, which requires a very different set of technical equipment. Secondly, different studio will employ staff with particular technical skills or, in the case of freelance labour, particular producers or engineers will prefer to work in particular studios. Therefore, recordings will often move between studios to take advantage of particular 'experts' who may specialise in particular types of music, or in using

particular technologies, mastering engineers again being a case in point. This is supported by two more interviewees, one noting that "sometimes it's really profitable to have an album move round lots of studios, because you get lots of people's opinions and lots of ears, different ears on the project" (Interview 11, male engineer, twenties), while the other noted that "people will come here for one track when recording an album… usually the plan is to record in several different places to get different vibes and different flavours for different songs" (Interview 1, male engineer-producer, thirties).

Thus from any one recording project, there can emerge a range of songs that have been produced in different studios, by different producers and engineers, and using different technologies. Where these songs are to be brought together onto a single album of music, this presents particular challenges for the mastering engineers, whose job it is to make the album sound like a coherent whole by editing the sound of each of the songs. As one mastering engineer described:

"If you've got twelve tracks, all recorded in a block of two weeks, at a studio, you do have to change bits and match them up a bit. But… those albums that have done, different countries sometimes, different producers, yes, definitely much more of a challenge to get it all sounding coherent and right, definitely." (Interview 7, male mastering engineer, forties)

Collaboration at-distance

In the analysis of questionnaire results detailed in Chapter 5, it was noted that the majority of producers and engineers who cooperated regularly with producers and engineers in other recording studios cooperated at distance using digital file sharing technologies. This allows different producers to work on a recording, each individually working on their part of the recording at different

times. These technologies permit new forms of remote working in the recording studio sector, linking geographically distant studios to each other in complex and intimate ways (see Théberge 2004). This is not only the case between professional recording studios, but also links musicians/recording artists working in home studios and professional recording studios. One interviewee described the remote nature of the relationship with one his clients:

> "...he doesn't leave his house much, he doesn't want to come down, it is more like a social issue, so he sends me a whole load of files each month and I mix them for him and I send them back. And we talk by phone, and we talk by e-mail, and essentially we never see each other." (Interview 10, male engineer, thirties)

Interviewees identified two particular advantages to remote collaboration. Firstly, a number of interviewees explained how internet technologies which allowed remote collaboration via file transfer had extended out their client bases into other geographic territories, markets that it would have otherwise been difficult to penetrate without a physical studio presence. As one interviewee explained:

> "...the internet's also broadened out the client base. I've had work in from the Netherlands, from Turkey, from Australia, from America, which wouldn't have happened in the past because sending tapes over would have been expensive and a pain. So the world is getting smaller." (Interview 3, male mastering engineer, fifties)

The same interviewee, a mastering engineer and owner-operator for a mastering studio, explained how there had been a distinct shift in the way work was coming in to the studio, such that the percentage of their work now being received via digital transfer was "quite high, it's got to be like 95, 96 per cent of the stuff that I'm working on is either going via our FTP server or is coming in as

You Send It, digital deliver files" (Interview 3, male mastering engineer, fifties). This, he went on to argue, had meant that the need for the studio to be located in central London had diminished so that in theory the studio could be located anywhere and still receive the same amount of work. The second advantage noted was the ability to send recordings to studios located in cities in different time zones, meaning that work could continue on the recording project throughout the night in UK time. As one interviewee noted about the use of internet technologies:

> "I think the biggest use of it is usually for file transfer protocol…. I'm doing it at the moment on the project. They're based in New York… sometimes you can if you were on a tight deadline I'll use the time zone, so I'll use people in New York or LA. So I go to bed they continue, wake up in the morning, pick it up again, and that's great, that's a really expedient way of working." (Interview 12, male engineer-producer, forties)

Without the face-to-face interactions which, as described earlier in the chapter, are key to creative collaboration and the building and maintaining of relationships in the studio, remote collaboration has required studio workers to develop new ways of working and communicating. A number of interviewees noted that, to compensate for the lack of face-to-face interactions, collaborating on a project remotely involves a constant stream of communication (usually via e-mail) as well as the need to send a whole series of working files between studios which can be edited and then commented upon. As one interviewee described:

> "I've also been on sessions where you've been working on tracking that's been sent somewhere else for mixing and then requests come back, 'oh, that's great can we do, can we have this, is it possible to have this in here'… kind of backwards and forwards, it's the same project that's being worked on in two locations." (Interview 8, male engineer, twenties)

Another interviewee describes how one of the main problems in communicating in such a way is not getting the level of dialogue that would part of a face-to-face conversation, and how he tries to encourage such a dialogue with his clients:

> "...it's trickier with projects over the internet because you have to do that thing by e-mail. It's look, I'm going to send you back what I think, you don't have to say 'yes' and 'no', you can say 'yeah, I like this' or 'I don't like that' or whatever, and only once we've got to the point where you're happy, that's where I take your money and get the thing. Don't just feel that you have to go 'yes'." (Interview 3, male mastering engineer, fifties)

He goes on to emphasise that while it would be much quicker to work through the creative process if the client were in the studio, it is important that despite this a dialogue be maintained with the client, in order that the client is able to communicate exactly what it is that they want from a project:

> "Oh it would be so much quicker. It's much quicker if they're with you. But the important thing is to, is to still go through the process even when they're not. Because it is a, it's a dialogue process and who am I to tell an artist what they want is wrong? They've composed it, they've performed it, I'm just trying to, from my perspective present it in the best light. If there's a particular thing that they're trying to achieve and I haven't got that for them they have to be able to tell me that." (Interview 3, male mastering engineer, fifties)

There are however a number of barriers in achieving effective communication at distance, especially when using e-mail. While the above interviewee emphasises the need to go through a detailed process of dialogue

when working remotely, the following interviewee expressed his frustrations when attempting to do this:

> "...that process doesn't really happen, because by the time you have written that into an e-mail and then you read the e-mail back and you go well, that sounds a bit arrogant for me to say that, that sounds a bit like, no, actually I have to rephrase that, f*cking hell… so maybe something might get lost" (Interview 13, male engineer-producer, forties)

In some instance, the 'client' that may not be able to effectively communicate their requirements for a project at distance may not be a musician or a recording artist, but a producer or engineer who has sent a recording digitally to another producer or engineer in another studio to be worked on, for example a recording to be mixed or mastered. One interviewee described his own experience of these difficulties and suggested that the difficulty in communicating detailed requirements at distance can put a strain on working relationships:

> "...I have done collaboration with another producer on some of my stuff where this producer that I know and trust and I think is amazing, and I have sent him files and just let him get on with it without being in the room. And then he sends stuff back and I wasn't happy with it at all. And then it is really difficult to communicate ideas when you are not sitting there, when you are not in the room choosing sounds with people. The same thing goes for mixing tracks, sending songs to America. A lot of guys do online mixing and mastering, sending the songs off to get mixed. He is the most respected guy, he charges a fortune and if you don't like his mix, it is really hard to tell him why you don't like his mix. Trying to communicate a list of things without making it sound like you have got two hundred bullet points that you need him to change, and that puts a

strain on relationships I think more than anything." (Interview 9, male engineer-producer, thirties)

Thus as creative working at distance becomes more prevalent in the industry and presents particular challenges in terms of creativity and communication, the need to build and maintain strong relationships with clients at distance becomes increasingly important (see for example Bryson, 2007).

As technologies that allow for remote collaboration have extended out the client bases of many studios into other geographic territories, significant barriers in communication can arise in terms of language, which add to the difficulty in fostering a dialogue at distance. As one mastering engineer explained, particular challenges can also arise in terms of:

"...cultural differences, what people expect from different territories. A very generalised statement, for instance, but the Italians like their poppy stuff, their poppy stuff seems to be quite bright. The Japanese seem to like it that way… you get all these localised sounds, which people are accustomed to I suppose.. Or, different languages with different problems. Some languages are far more sibilant, some of them have got sort of guttural sounds." (Interview 18, male mastering engineer, fifties)

The need that arises when working remotely to send a series of working files between studios and/or clients to be edited and commented upon also presents particular problems in terms of the limitations of current technologies. Not only does the editing process take time, but also large music files may take some time to upload where internet bandwidths are low, and therefore where constant re-working of files is needed, this can be extremely time-consuming, as one interviewee explained:

"...it is really time-consuming making changes and uploading them can take hours, can take six or seven hours to upload a single ProTools session. And then if someone comes back and says he doesn't like it, just change one thing, you have to upload it again which will take you another day. So it is not ideal yet, but I guess it all comes down to bandwidth and technology just catching up." (Interview 9, male engineer-producer, thirties)

While bandwidth and the reliability of internet connectivity can be improved, the required infrastructure can be prohibitive for all but the largest recording studios. As noted earlier, Air recording studios, for example, invested in installing Integrated Services Digital Network (ISDN) capability in each of its studio rooms in the 1990s, believing it to be an area of technology that would become increasingly important in the future (see Cunningham, 1998). Moreover, Air Studios today uses a costly high-speed internet connection provided by Sohonet, a company which provides high-speed managed internet connections for media and entertainment industries in central London (see http://www.sohonet.co.uk, accessed 17/06/11). ISDN allows for simultaneous recording, with musicians, producers and engineers able to collaborate in real-time at-distance. Two interviewees working in larger studios with ISDN technologies gave some examples of simultaneous collaborative working at-distance; the first described how "we had an American producer listening in to voice over sessions, so they're listening and the actor's doing the line to the voiceover. And they direct it from there." (Interview 8, male engineer, twenties), while the second gives the example of an orchestral recording project for a film score:

"So I'm there in London, I've got an audio feed that's going to three places… got the audio feed and we've got then a Skype call or an iChat call where we can talk to each other… so we can have a conversation In just about real time about the music… I can be recording something for somebody in London and there can be three different people have a conversation about it. It's not ideal, but it does mean that they don't have

to fly over. That's the thing with a big film score, you're getting composer, composer assistant, music editor, music assistant, director, director's assistant, two or three producers so there can be twelve people coming over from America to do a project sometimes, and now you don't have to do it anymore." (Interview 2, male engineer, thirties)

This quote touches on potentially the most significant advantage of remote working technologies; that of removing the need for travel. This is especially advantageous when project teams are large, as in the above example. One interviewee, who worked at a large studio with ISDN capability, when asked about the importance of technologies for remote working, noted that:

"It's not going to go away, and I think the industry's changed, and I think people want more life balance than before, and so actually the novelty of travel's definitely waned. If people don't have to get on an aeroplane and sleep over… and also ecology and all sort of stuff's on the map so I think it ain't going to go away…" (Interview 12, male engineer-producer, forties)

It was noted by interviewees however that there are significant challenges and problems of working with technology that is at a relatively early stage of development. For example, a number of interviewees working with ISDN technologies for simultaneous collaboration noted that what they could actually achieve with the technologies was relatively limited. One interviewee described how:

"We're nowhere close to actually being able to run a proper set of satisfying sessions real-time at the moment, and also at the moment we're still in a state of flux where we're dealing with technology that sort of works, and sort of works isn't great in a professional world…. I mean it would be wonderful if someone in LA can talk with us, with her in the

studio and just happen to be in LA, and that's really what we're wanting. So it's on our radar now and we really need to get it a lot better." (Interview 12, male engineer-producer, forties)

Another perhaps more significant disadvantage of remote working, whether this be simultaneous real-time working or working via file-transfer, is that it is inherently unsatisfactory to many producers and engineers when compared to face-to-face working in the space of the recording studio. For example, the use of ISDN seems to continue to be isolated due to the intimate level of communication required between musicians to create music which only face-to-face interaction gives. This is supported by one of the interviewees who noted that "a lot of them [recording studios] use ISDN to do their stuff. But I'm never really happy utilising that technology because, number one, you want to see the person and interact with them face to face" (Interview 5, male engineer, sixties). Two further interviewees, talking about remote working more generally, noted the importance of face-to-face working

"...although it is amazing to be able to do stuff remotely, it is difficult not to be in the same room. I think file sharing is awesome… but when it comes to actually making creative decisions, it is always helpful if you have the person who has got to sign it off with you and close by." (Interview 9, male engineer-producer, thirties)

"…ultimately I much prefer to being face to face, I think there's something about communication that is so difficult when you're not in the presence of the person who is ultimately looking to you to turn their work into a masterpiece… essentially I much prefer working with someone and therefore I would say the face to face communication aspects and the travel aspects is quite important" (Interview 10, male engineer, thirties)

The above quote suggests that in a time when studios are increasingly becoming networked through technologies (Théberge, 2004) allowing for remote creative collaboration, travel remains important. Travel facilitates face-to-face meetings (Faulconbridge *et al.*, 2009) both with clients and collaborators, and allowing for creative collaboration in cross-border recording projects. When asked if travel remains important to the job he performs, one interviewee responded that:

> "Yes I think it is going to be an important part of it because people always need to travel to get good results I think… Yes I think it makes a massive difference… I think in terms of building relationships which is what it is all going to be about. It is really, really important to just solidify your contacts for starters. And to be in the same room with the artists to make them feel comfortable and make sure that they have the support around that they need in terms of having the person that they trust in the room." (Interview 9, male engineer-producer, thirties)

Thus, despite new communication technologies in the recording studio sector, the need for 'meetingness' (Urry, 2003) remains.

7   Emotional labour and studio work

The previous chapter undertook a micro-level examination of work in the recording studio, specifically in terms of technology and its relationship with creativity and collaboration in and beyond the insulated space of the recording studio. However, as highlighted in the discussion of creativity and collaboration in Chapter 2, the work of producers and engineers in the recording studio cannot be considered purely in terms of performing a technical role; rather it involves working with people as much as it does technology. This chapter specifically examines the social and emotional elements of work in the recording studio, and in particular the importance of emotional labour to the work of producers and engineers. As noted in Chapter 1, to date the importance of emotions has received little recognition within economic geography debate; the aim of this chapter is to examine the important role of emotions in building trust in relationships, obviating personal problems, and building reputation in the recording studio sector.

The chapter is presented in two sections. The first section considers the performance of emotional labour inside the insulated space of the studio. In particular, it considers the importance of performing emotional labour to building personal relationships; to creating a creative atmosphere in the studio and managing the emotional performance of musicians and recording artists; and to managing the personalities, emotions and behaviours of clients in the studio. The second section then presents a discussion of reputation-building and getting work in the recording studio sector. In particular, it considers the importance of emotional labour and relationship building to building reputation, drawing on the concepts of 'social capital' and 'networked reputation'.

7.1 Emotional labour in the recording studio

The studio is a space in which creative relationships are built and maintained, often over a short but very intense period of work. Thus studio work highlights a particular form of creative labour that emphasises the relational nature of working rather than the task-based aspect of work per se (see Steinberg and Figart, 1999). In emphasising relational working, this form of labour involves the ability to build personal relationships and accordingly manage personal emotions in a way that is conducive to completing a particular task. Thus, while in defining the term 'emotional labour' Hochschild (1983) was considering service work in its widest context (see Chapter 3), the concept of emotional labour is particularly applicable to work in the recording studio sector, due to the relational nature of creative work in the studio; it is predominantly face to face, collaborative, and emotive. Indeed, for Leyshon (2009), emotional labour is considered to be part of the service being provided by recording studios. Performance, communication, and display of emotions are central to studio work, and as such, studio work cannot be conceptualised as solely an economic or technical performance. This contrasts strongly with the laboratory-like status of recording studios in the early 20th century, in which employees were considered purely as technical specialists and required to wear white coats at all times (Leyshon, 2009). In studio work, there are interactive effects between the work context, the work content, and the emotional state of the individual (Ashforth and Humphrey, 1993). Here the work content refers to the particular music recording project and the genre of music being recorded, while the work context refers to the particular studio space and the relationships between studio workers and clients involved in the project, as well as 'outside' influences such as budget and time pressures.

The following three sections examine emotional labour in the studio workplace. In particular, they will consider how emotional labour is performed

by studio workers in the specific context of recording studios and how the specific demands of emotional labour are articulated within the context of musical creativity. The first section examines the importance of emotional labour in the building of relationships between studio workers and their clients. The second section then examines emotional labour in relation to musical performance, creativity, and technical engineering in the studio. Building on this, the third section examines emotional labour specifically in relation to the role played by studio workers as 'diplomats' in the studio, regulating their own emotions whilst at the same time dealing with those of musicians and recording artists.

Building relationships

Following the argument of Ashforth and Humphrey (1993), we would expect that the manner in which a studio worker displays feelings to a client will have a strong impact on the attractiveness of the interpersonal climate within the studio. This type of relational work, involving the management of emotions in order to facilitate the building and maintenance of relationships, and termed as 'emotional labour' in academic literature, was to the producers and engineers interviewed understood to involve 'people skills'. Almost without exception the interviewees spoke about the importance of the ability to build relationships with musicians and recording artists in the studio. In many instances, these people skills were considered to be even more important than the ability to competently perform a technical role and operate complex studio equipment. As one producer-engineer from a major London recording studio described:

> "...the art of it is really people-based. So getting a good sound and all that stuff in the end ends up being five per cent of your job. Ninety five per cent is people... It's probably more people based than it is technical… you've obviously got to deliver on the technical but it's not

really the essence of the job" (Participant 12, male producer-engineer, forties).

An essential part of building relationships that allow for creative collaboration in the recording studio is the development of trust. Trust can be understood as an "interpersonal phenomenon" (Ettlinger, 2003: 146) and "a sociospatial process enacted by agents through relations" (Murphy, 2006: 429), shaped by, amongst other things, knowledge, emotions, reputation, and appearance. As Banks *et al.* (2000) assert new ties of trust, whether they be strong or weak, are an important part of the creative process, leading to collaboration and new cultural products. It is important from the offset that trust is very quickly developed in the relationship between the producer/engineer and the musician or recording artist. More specifically, following Ettlinger (2003: 146) we can identify two types of trust; firstly *emotive trust* "based one's personal feelings about others", and *capacity trust* "based on one's judgements about another's capacity for competent performance in a workplace". For Ettlinger (2003), capacity trust is often predicated on emotive trust. A critical part of developing emotive trust inside the recording studio is that studio workers 'locate' their clients in terms of a range of cultural categories (see Crang, 1994) and adjust their own performance to suit each situation. How engineers and producers communicate a specific social identity can foster feelings that facilitate the emergence of trusting sentiments (Murphy, 2006). One interviewee, an engineer producer from another major London recording studio, noted:

> "The moment I meet [a client] … I've got to try and work out, understand them, read all their body signals, read what they're up to, what they're thinking about… From the moment I meet them I'm always having to… I'm having to get their trust straight away" (Participant 2, male studio engineer-producer, thirties).

Another interviewee, an experienced engineer-producer running his own small studio in North London noted that:

"…if you can somehow get their trust, that's what production is about. It's totally about having the artist's confidence and trust in you. If you can do that quickly, then it saves a lot of time." (Interview 16, male engineer-producer, fifties)

Given that trust is rooted in experience with an individual (Christopherson, 2002), and that the development of trust involves a range of cognitive, emotive and communicative factors (Murphy, 2006), engineers and producers have to actively and energetically work to develop and sustain relationships of trust with their clients. This is something Giddens (1994b) terms 'active trust'. As recording projects progress, which may last from a few hours - for example recording a single vocal take, or guitar or drum track - to a number of months in the case of full studio albums being recorded in a single studio, studio engineers and producers look to build productive working relationships with studio clientele. One interviewee termed this as a 'rapport' between the engineer and recording artist that means that clients "can come into the studio and have a joke and get some work done" (Interview 11, engineer, male, twenties). Another interviewee described how:

"…friendship isn't really the right word. You get to know your clients really well, and it goes beyond do the job, take the money, thanks very much, goodbye. You go 'oh, we're all done now shall we go and have a pint?' You have a pint and a chat and you get to know one another, because for them it is such a personal thing. It's their song, it's what they've worked on for so long and I think you form a bond around that. It's so important to them… you get the repeat business because you've formed that bond" (Interview 3, male mastering engineer, fifties).

Where projects are of weeks or months in duration, and in particular where repeat work is involved, interviewee responses suggest that it is very typical to build quite close relationships with particular musicians or recording artists.

Engineering the performance

Music producers and recording studio engineers 'engineer the performance' of musicians and recording artists in two ways. Firstly, in the *technical* sense they are required to capture the performance of musicians in the studio and use their in-depth knowledge of technical equipment to edit and mould the captured sounds to create a musical recording. This is a role performed predominantly by studio engineers. Secondly in the *performativity* sense, central to the work of studio workers is the ability to get the best performance from musicians while the recording session is in progress. While producers have traditionally worked most closely with musicians and recording artists in a creative sense, this is also an important skill for recording engineers. This is increasingly the case for those engineers who assist musicians with the production of their music and make judgments about music and performance, a role traditionally performed by producers (Longhurst, 1995). As one engineer noted "it used to be a lot easier because you'd leave a producer to deal with that aspect of it, and you'd just be able to concentrate on the sound" (Interview 11, engineer, male, twenties).

As highlighted in the previous chapter, creating a relaxed atmosphere that is conducive to the process of creating music was noted as being important to creativity in the studio by those producers and engineers responding to the questionnaire survey. During interviews, participants most often referred to this as creating the right 'vibe' in the studio, a combination of both a relaxed atmosphere that is conducive to creativity and an open and creative relationship between the producer/engineer and the musician or recording artist. In this sense, emotional labour can be considered as a deliberate attempt to direct

behaviour towards clients in such a way as to foster a certain interpersonal climate (Ashforth and Humphrey, 1993). It was made clear by interviewees that creating the right vibe in the studio is essential to making musicians and recording artists feel relaxed and comfortable in the studio, making the process of recording enjoyable, and encouraging musicians and recording artists to give their best performance and be creative. A large part of this is the attitude of the engineer or producer working in the studio. In order to create a relaxed atmosphere, they must themselves project a relaxed and friendly disposition, whatever their own feelings at the time. As Hochschild (1983) asserts, emotional labour involves the need to induce or suppress feeling in order to sustain a particular outward countenance. One interviewee likened it to the day on which the interview for this research was undertaken, as he explained that "this morning I cut my finger and you say, 'it's not your day'. I just never take that vibe do you know what I mean? It's just like every day is going to be brilliant, every day is very positive..." (Interview 4, male producer, forties).

A number of the interviewees spoke about the importance of the time between when a client arrives at the studio and when a recording session formally begins. This time, which is 'off the clock' in the sense that the client is not charged for it, is a chance for the producer or engineer to get to know the artists, especially if it is the first time they have met, to discuss the session ahead, and to "listen to records for a bit, have a cup of tea and talk about stuff" (Interview 19, male producer, forties). As the same interviewee notes, this is "just part of the whole vibe of it all... it's getting everybody relaxed and into it and finding out what's going on". Another interviewee posed the rhetorical question "if a client feels happy and comfortable they are more likely to be creative aren't they?" (Participant 4, male producer, forties). This is supported by another interviewee, who explains how getting the best performance from a musician or recording artists is not about attempting to force a performance through putting people under pressure; rather, it is about creating a relaxed atmosphere and teasing out a performance, often by being relaxed and easy-going and putting often tense and nervous clients at ease:

"Sometimes once that red light goes on people do tend to tense up a bit so getting the best performance isn't about going out there and throwing tea cups at the wall like Alex Ferguson and that you know it really doesn't work I don't think. You're really got to the get the atmosphere right and get everybody relaxed. And sometimes it happens and sometimes it doesn't" (Interview 19, male producer, forties).

Nervousness, tension, and a lack of confidence in musicians and recording artists when faced with recording in a formal studio space is often prohibitive to producing their best performance. An important role played by studio producers and engineers therefore is to provide encouragement and support for clients and be enthusiastic about the recording project. One interviewee noted that often "it just takes one sentence to transform everybody's performance" (Interview 17, male engineer-producer, forties) and that providing such input is a big part of being a producer. Another suggested that it is sometimes what is not said as much as what is said. Encouragement and support is especially important for those musicians and recording artists who are entering the studio environment for the first time. In the words of one interviewee, "a lot of people go, oh f**king hell, I'm in a studio" (Interview 13, male engineer-producer, forties). Another interviewee, an engineer-producer who runs his own small project studio in South London, explains:

"…as a producer you've got to be supportive, you've got to see them through it, just kind of hold their hand through it sometimes really and just be there for them. And they appreciate that, at the end of the day they come away feeling good about the session…" (Interview 1, male engineer-producer, thirties)

The relaxed disposition of studio workers and their encouragement of the creative process must also extend to the uses, and often abuses, of the

recording space. Often, relaxing artists and fostering the required creative atmosphere requires studio workers to have a liberal attitude towards the consumption of alcohol and use of illegal drugs inside the space of the studio. A number of the interviewees suggested with regard to alcohol consumption, that the musicians or recording artists having a couple of drinks to relax before recording was common place and 'not a problem'. One interviewee, a producer-engineer running his own mid-size studio in West London explains his own liberal attitude to the use of the studio space and studio equipment:

"…ideally people don't spill beer on the desk and stuff but generally it's like, there are no rules and regulations as such in this space. You know, feel free to do what you want and things are there to be used. You know, microphone, drop it, I am not going to freak out about it." (Interview 13, male producer-engineer, forties)

Further, the music industry has a reputation in the popular imagination for the high level availability and use of illegal drugs, taken to enhance the creativity of talented musical performers: see for example Shapiro (2003), Raeburn *et al.* (2003), and Miller and Quigley (2011) on substance use among musicians across a range of musical genres; and also Singer and Mirhej (2006) on the role played by illicit drugs in the evolution of Jazz music in the United States. This popular image is often born out in the concrete space of the studio. As one producer explained, as he pointed to a table sitting next to a couch on one side of the studio, "I've seen that table covered in coke, do you know what I mean? And it's, there has been so much" (Interview 4, male producer, forties). He goes on to explain that "there's always weed being smoked… and I'm not really sure why that is really. You do get clients that come down and smoke grass". Thus part of the role of the record producer or engineer becomes about controlling the use of drugs within the studio, and dealing with the consequences of drug use. However, these consequences can extend beyond managing the performances and behaviour of clients to have more direct impacts on studio workers; having been in the presence of people using drugs in the studio for a

number of years, the same interviewee explained how "I didn't participate for most of the time, and then I succumbed for about seven years". The experiences of this particular producer are revealing of the potential physical, mental, and emotional effects of such an environment on the people that work in them.

Producers and recording engineers are privileged to the most intimate moments of emotive performance. In many instances, songs, and in particular lyrics will be loaded with feeling and emotion drawn from particular emotional experiences of musicians and recording artists. Producers and engineers must therefore show sensitivity to the performance of musicians and recording artists and make efforts to understand and have empathy with the emotions being expressed. As England and Farkas (1986) assert, emotional labour involves "efforts made to understand others, to have empathy with their situation, to feel their feelings as part of one's own" (pg. 91). One interviewee noted the need to be very sensitive when suggesting any alterations to such songs, particularly when it comes to suggesting changes to lyrics. Another interviewee also noted the need to be very sensitive in such situations in order for the recording artists to develop trust in the producer or engineer:

> "...it is a very exposing experience for a lot of artists to come into the studio and say here's a song I've written because they trust you to not turn around and say it's crap, your voice sounds terrible, your lyrics are awful and you've just told me the whole story about your failed love life and I'm going to rip the p*ss out of you about it. (Interview 10, engineer-producer male, thirties)

Through such emotive performances, the producer or engineer is exposed to the personal emotions of the recording artist. One interviewee explained how, because projects contain a lot of personal material from the recording artist, "sometimes you do get brought into their personal lives" (Interview 12, male

producer-engineer, forties). He then goes on to say "but that's part of the job." This understanding of the personal situation of clients is often a necessary one not only to be able to display empathy towards clients, but also in getting the best performance. As one interviewee explained, in order to get a believable and emotive performance from a recording artist, particularly with vocal performances, it is often necessary to get them into a particular emotional state. An important element of emotional labour in the recording studio is then managing the emotions of others. With parallels to Grindstaff's (2002) and Hesmondhalgh and Baker's (2008) accounts of television workers being required to elicit the strongest possible version of the emotions felt by contestants on confessional talk shows and talent shows respectively, studio producers and engineers must elicit strong emotions from the musician or recording artists to capture the most emotive performance possible. As one interviewee explains:

> "... when you're trying to capture a good vocal take you need to believe that they're saying what they're saying, it needs to be believable. So you really need to put them in a position where, if they're singing a sad song, they've been dumped by their boyfriend, something like that, you've kind of got to put them in that position, get them in that frame of mind." (Interview 11, male engineer, twenties)

While many of the interviewees noted that getting the most emotive performance from a musician or recording artist is central to getting the best sounding recording, a number noted that getting a suitable performance was sometimes very challenging. One interviewee noted that one of the most difficult situations is when a musician or recording artist believes that they are producing a good performance, but the producer believes the performance is not of the required standard. He went on to explain that the difficultly lies in critiquing a performance whilst at the same time maintaining the confidence of the performer:

"We don't test people out before they come in to record so if they're coming in and they're really not able to perform, not able to sing in tune… probably the most difficult thing is when you've got to get them to perform better and also increasing their confidence as they're going along." (Interview 14, male engineer-producer, thirties)

One interviewee, a young studio engineer in his twenties, suggested that he found critiquing performances particularly difficult when working with older musicians or recording artists who are in their forties and fifties. This was supported by another interviewee, a freelance engineer also in his twenties, who noted that he encountered similar problems working with musicians or recording artists more experienced than him. Using the example of the former Beatle Paul McCartney, he suggested that a failure on behalf of the producer or engineer to offer constructive criticism can be to the detriment of the final product, saying, "Paul McCartney's very hard to produce… he's said it himself that no one tells him that's a sh*t song because he wrote Hey Jude…" (Interview 8, male engineer, twenties). As Ashforth and Humphrey (1993) assert, the less status power the service agent has relative to the customer, the greater the conformity will be to certain emotional 'display rules', that is to say in these instances a display of pleasure at the performance of the more experienced musician or recording artist.

Diplomacy in the studio

Ashforth and Humphrey (1993) argue that emotional labour is particularly relevant to service encounters, as, given the uncertainty created by customer participation in the service, such encounters often have a dynamic and emergent effect. Interview responses supported this assertion, with interviewees documenting a wide range of different encounters with studio clients. Given that the studio environment is a very enclosed space, the pressure of undertaking a recording project with often tight time constraints often means that recording is, in the words of one interviewee:

"… quite an intense process... you're all basically in a small room together for 18/20 hours sometimes doing this thing and living it. You basically live with these people for a really intense period of time sleeping very little, working in a really focused kind of environment...." (Interview 15, male studio engineer, twenties)

It was clear from interviewees that the majority of the recording sessions are productive and enjoyable. One interviewee estimated that "about ninety per cent of sessions, even with the big stars, are great… they realise the pressure they're under and the pressure everybody else is under..." (Interview 2, male engineer, thirties). However, it is inevitable in such an environment, in which a number of people come together for a very intense period of work in an enclosed space, that tensions will at times rise and egos will clash, and occasionally this may result in disputes. Therefore, besides relationship building and the 'engineering' of performance, the other major aspect of emotional labour provided by predominantly producers, but also increasingly by engineers taking on producer roles, is the management of the different personalities in the studio and often finding solutions to disputes. This was termed by a number of interviewees as 'diplomacy'. One interviewee noted that the role of studio workers is "as much about being diplomatic as being creative" (Interview 5, producer-engineer, sixties) while another suggested that:

"...you have to be as diplomatic as possible and do some ego massaging often, and make sure that everyone is comfortable. It always comes down to what the client wants." (Interview 9, male producer-engineer, thirties)

At times this 'diplomacy' may involve taking a back seat and letting the musicians and artists experiment and perform until a point that the producer or engineer feels they need to intervene. As one interviewee noted, "sometimes it's what you don't say" (Interview 19, male producer, forties). This is often

considered best to avoid the creation of tension and to let the session progress unhindered. At other times, for producers and engineers this 'diplomacy' element of emotional labour involves the regulation of their own emotions in order to deal with other people's feelings (see James, 1989). Whatever the emotions felt by the studio worker, they must maintain the correct outward countenance towards clients. This may be particularly difficult when the emotions of the producer or engineer are directed towards the clients, as one interviewee explained:

> Yesterday I had five Japanese people in here and it was very unpleasant… I get an enormous amount of pleasure working with people if they know what they want, I get furious with rage if I'm working with people who are fussy and pernickety for the sake of it… when people like yesterday they came in they were a bloody nightmare and they kept all of them pitching in and you have to be professional and pleasant and nice to them, but at the end of the day I was in an absolute rage."
> (Interview 6, male mastering engineer, fifties)

Moreover, a producer or engineer may often have to ignore how they are being treated by clients, and how this makes them feel, in order to keep the recording session on-track and not upset the client any further. As one interviewee explains:

> "…if someone's being a d*ck you have to let them if there's time pressures and you've got to get them to do their performance. You've got to get over the fact that they're calling you an a*se hole or they're being a pain… you still have to do your job in that fixed timescale so you do it." (Interview 2, male engineer, thirties)

A number of the interviewees noted the importance of not making mistakes while performing their technical role to the relationship of trust formed

with clients. As Murphy (2006) asserts, trust is a subjective construct that emerges when one agent - in this instance the producer or engineer - complies with the expectancies of a relationship. Thus studios work hard to maintain the 'capacity trust' (Ettlinger, 2003) of their clients, that is to say the client's trust in their ability for competent technical performance in the recording studio. One interviewee who worked at a major London recording studio emphasised that "we work meticulously hard to make sure that things don't go wrong" (Interview 17, male producer-engineer, forties). However, when such mistakes are made, interviewees noted the need to be honest with clients. One interviewee suggested that engineers need to be 'transparent' in this respect. For the most part, interviewees suggested that the good working relationships they had with clients in the studio meant that there were very few strong negative reactions from clients to mistakes. One interviewee noted how most people are "stripped down" when trying to perform in the studio, whatever their fame or reputation outside the studio, and therefore they "can't have a massive strop every time something goes wrong" (Interview 19, male producer, forties).

However, an important part of emotional labour is dealing with negative reactions from clients when they do occur. Here, emotional labour is important in regulating interaction and obviating interpersonal problems (Ashforth and Humphrey, 1993). Furthermore, an important emotional implication of studio work is the suppression of anger and frustration on the part of the studio worker in the name of good working relations with clients (see also Hesmondhalgh and Baker, 2008, on emotional labour in the television industry). It is important that the producer or engineer attempts to placate the musician or recording artists and set the mistake within the context of what they are attempting to achieve on the recording project. As one interviewee noted:

> "…if you're an engineer in a studio and you erase over the wrong performance, you'll know about it very, very quickly. And I'm quite often trying to say to clients, 'Actually, we're making music. We're not solving the Middle East peace crisis. We're just trying to make music here.'"
> (Interview 17, male producer-engineer, forties)

On occasions the emotions and behaviour of artists in the studio may become more extreme, especially when alcohol and drugs are involved. A number of such particular instances were noted by interviewees. One stated that someone they knew had experienced an incident where a recording artist had "taken a few too many drugs and has ripped the tape off the tape machine" (Interview 2, male engineer, thirties), while another who had to run a recording session with a drunken client compared the emotional labour involved to counselling:

"...there's so much more to production that you would not believe and sometimes you are a counsellor... I was working with one artist and she turned up and she had a bottle of Jack Daniels and she'd drunk three quarters of it..." (Participant 4, male producer, forties)

As noted previously, a number of the interviewees suggested that, with regard to alcohol consumption, the musician or recording artists having a couple of drinks to relax before recording was not a problem. However, as one experienced engineer noted, artists "getting off their faces where there's serious work to be done" (Interview 16, male engineer, fifties) is not conducive to a good performance and a successful recording project. He went on to explain his experiences of engineering a famous guitar band in the early 1990s, who for the majority of the recording project were "fairly off their faces… they were taking a lot of drugs" (Interview 16, male engineer, fifties). As another interviewee noted of his own experience of working with a high-profile band, "well, it's just amazing that you can do that many drugs and actually come out with something at the end of it" (Interview 4, male producer, forties). While artists may feel that this enhances their creativity, it can make it very difficult for producers and engineers to successfully manage recording projects within tight timeframes.

It is evident from the above discussion that the performance of emotional labour is of crucial importance to the management of the creative process of producing and recording music. The role performed by the record producer

and/or recording engineer is then not a purely technical one; interview responses highlight how 'people skills' are just as important as technical skills and how producers and engineers work with people as much as they do with technologies and sound.

7.2 Reputation-building and getting work

Reputation is central to getting work in the music industry and the creative industries more widely. This centrality is in large part due to the project-based nature of these industries, but also in part derives from the features of cultural and media production, specifically the very public nature of the products, transmitted or circulated to audiences of at least hundreds and sometimes millions (Hesmondhalgh and Baker, 2008). Grabher (2001) suggests that reputation in project working has two key elements:

"Reputation in project organization refers, first and foremost, to the techniques of the trade, particularly in settings like media, in which crucial skills are hardly codified into certificates. Second, the success of projects, more generally, depends on co-operative attitude, reliability and other inter-personal skills that, rather than objectivized in formal degrees, are bound to personal experience" (Grabher, 2001: 1329-1330)

The first element is what Grabher terms the 'techniques of the trade', which in the recording studio sector we can think of as the technical and tacit craft skills required by studio producers and engineers to perform their technical and creative roles in the studio. These were discussed in some detail in section 0. The second element is a set of skills in which Grabher includes a 'co-operative attitude' and 'inter-personal skills'. As discussed in section 7.1, these skills are

part of the emotional labour performed by producers and engineers in the studio.

Emotional labour and reputation building

As discussed in the previous section (7.1), emotional labour is of crucial importance to the maintenance of creative relationships within the enclosed studio environment during a given recording session. However, it is not just in this respect that emotional labour is important. Interview responses highlighted that emotional labour is also an important part of building a wider reputation and therefore is an important part of attracting new and repeat work. As Leyshon (2009) argues, emotional support and encouragement of the creative process is an asset that studios can actively cultivate and promote as reputational asset. This reputation becomes attached to a studio through the emotional labour performed by producers and engineers working within that studio. It is an important reputational asset for freelance producers and engineers. Thus, for studio workers emotional labour becomes a part of the "intensification of the self-commodification processes by which each individual seeks to improve his/her chances of attracting gainful employment" (Ursell, 2000: 807). For Ashforth and Humphrey (1993), emotional labour can be considered as:

> "…a form of impression management to the extent that the labourer deliberately attempts to direct his or her behaviour towards others in order to foster certain social perceptions of both him or herself and a certain interpersonal climate" (Ashforth and Humphrey, 1993: 90)

It was clear from interviews that the management of impressions and the ability to build personal relationships with clients is vital to gaining repeat work, due to the way in which studio clients look to develop a personal relationship of trust with a particular producer or engineer, and who they will then return to for future projects. One interviewee likened this to "going to a favourite

hairdresser... you only want to go to the person that you know and trust, even though there might be a bunch of other hairdressers that can probably do as good a job" (Interview 9, male engineer-producer, thirties), while another interviewee noted how "it is a very, very personal thing for some people" (Interview 10, engineer-producer, male, thirties). A client's choice of producer or engineer thus becomes about something more than the technical competence of that person in the studio. Rather client perceptions of good service hinge on the extent to which the studio worker is helpful, supportive and conveys a sense of genuine interpersonal sensitivity and concern. As a number of the interviewees described:

> "...I would say that a lot of the repeat business I get and recommendations I get is because I get on with people in the studio and I think the most important aspect for me is that people feel comfortable, like I said I'm dealing with a lot of people who could feel quite exposed in a studio environment…" (Interview 10, male engineer, thirties)

> "…trust I think is very important. I haven't got an enormous amount of individual clients, but the people that do stick with me, I'm nice to them so it's a personal friendship. I don't know if friendship is the word, but we just get on and I go out of my way to be pleasant and helpful." (Interview 6, male mastering engineer, fifties)

> "… there are more experienced engineers here and probably more technically able. I mean the chief engineer has been doing stuff for 25 years, he knows the equipment here back to front obviously better than I do, but some people prefer to work with me than to work with him, presumably because they got on with me alright and I find it's important to make people comfortable in the studio and kind of relaxed and get on with them, which is just a personality thing really where some people are more comfortable working with you than others." (Interview 14, male engineer-producer, thirties)

In the recording studio sector, where formalised criteria for evaluating performance are not present, more informal, 'softer' personality characteristics and symbolic attributes can become a more important means by clients legitimate studio producers and engineers (see also Zafirau, 2008, on the Hollywood talent industry; also Jones, 2002). Many clients will judge their experience of working in a studio on the atmosphere of the studio and service offered rather than the end product *per se*. As such, the higher the producer or engineer's empathetic and expressive abilities, the higher the client's satisfaction will be (see Ashforth and Humphrey, 1993) and the higher the chances of gaining repeat work from that client. Furthermore, emotional labour is central to the development of relationships of 'emotive trust' (Ettlinger, 2003) in the recording studio:

> "Feelings or emotional energies may be associated with symbolic representations of morality, trust-worthiness, or honesty, and an agent's ability to control his or her emotions, in accordance with the norms associated with a social situation, increases the probability that trust is achieved. For example, empathy is an emotional response that contributes to trust building practices…" (Murphy, 2006: 434)

Correspondingly, if a producer or engineer does not convey a sense of genuine interpersonal sensitivity and concern, or has poor empathetic and expressive abilities, the level of client satisfaction may be low, and trust may not develop. One interviewee recognised that his own difficulties in delivering emotional labour present particular challenges in terms of getting client trust, compared to those who may have less developed technical skills but who have better empathetic and expressive abilities:

> "Having a good way with people is vital. But the thing is I don't really have such a good way with people, which is a major problem for me. It's harder for me to win people's trust than [for] a lot of producers… I have

seen a lot of producers who are very, very good at gaining people's confidence and their trust but actually aren't very good at production." (Interview 16, male engineer, fifties)

As discussed previously, pressure to finish recording projects on-time and to deliver a product which meets the expectations of a record company and/or will be commercially successful, and so add to a producer's or engineer's reputation, can result in producers and engineers being dictatorial in their approach to the recording process. As one interviewee noted with regards to the role of 'diplomacy' and getting repeat business:

"...that works for repeat business, really, in the sense that they find you helpful. And that's when the diplomacy really comes into it… Because obviously if you're hard and say "no, no, no, you've got to do that again"… you can't do that. You've got to be, I wouldn't say the underdog, but you've got to listen to the person that's feeding you… and that's where a lot of people fall down on. Personal skills. They might be able to do the job properly, but if they're argumentative or whatever, then forget it. No one's going to work with you again." (Interview 5, male producer-engineer, sixties)

Therefore, in attempting to enhance their own personal reputation, client satisfaction may well be lower and this will reduce opportunities for repeat business from that client. Thus, as Hesmondhalgh and Baker (2008: 113) note, a contradiction exists here where "the pressure to deliver work that will help build one's reputation impacts on the individual's ability to do emotional labour. Yet building one's reputation hinges upon the management of emotions".

Experience and reputation

The previous section has highlighted that the performance of emotional labour is an essential part of building relationships that allow for creative collaboration in the recording studio and the development of trust. This type of trust is built through face-to-face working in the studio. However, at the time that a client, be they a recording company, musician or recording artist, is taking the decision to work with a particular producer or engineer on a particular recording project, they may not have met the producer or engineer. They therefore will not have had the opportunity to engage in the usual forms of confidence-building activities that contribute to the development of trust in more traditional, enduring forms of organisation (Grabher, 2001). Rather, they will know them by their reputation, and it is this reputation that will be the basis of the trust placed in a producer or engineer when they are commissioned to work on a recording project. Grabher (2001) terms this 'swift trust', which he describes as a category-driven trust where actors can deal with one another more as *roles* than as *individuals.* Consequently, expectations of producers and engineers are more standardised and stable and defined more in terms of tasks than personalities. One interviewee describes this relationship between reputation and the trust placed in him to undertake large-budget recording projects:

> "I mean the thing I always say is there's a trust thing that happens in that when I'll be working on a, I can be recording something that someone's costing two hundred and fifty thousand pounds for example and I will never have met that person before. I might be able to have a conversation with them, but they've come to me based on my reputation." (Interview 2, male engineer, thirties)

As noted in the previous section, this reputation is in large part built through emotional labour in the recording and resulting creative relationships and client experiences of the recording process. However it is also in large part a result of the experience of the producer and engineer, such as described by one interviewee:

"…the wealth and experience I give it is immeasurable… because I've done everything. I've worked with the biggest rock stars on the planet, I've worked on the biggest films, I've worked on the smallest films as well. I've worked for every single kind of budgets that are miniscule or done stuff for free, to stuff that is multi-million dollars." (Interview 2, male engineer, thirties)

These experience-based skills become 'attached' to reputation through the portfolio of previous projects undertaken by a producer or engineer. One interviewee explained how "this is my 40th year doing this. So you build up your reputation, good or bad. But you build up a reputation over that time, of experience. And partly because of the projects that I've worked on over the years I suppose" (Interview 5, male engineer-producer, sixties). For Grabher projects operate in a "milieu of recurrent collaboration" (2001b: 1329) where clients will draw on core members of successful previous projects to serve on successor projects. Grabher argues that "project business is reputation business" (2001b: 1329) and such chains of repeated cooperation are held together by the reputation members have gained in previous collaborations. This repeated cooperation is of great importance to producers, engineers and recording studios; as one interviewee noted "you have to be re-booked. You can't survive on having a great CV and then having loads of one-off bookings" (Interview 4, male producer, forties). Another discussed how:

"We have regular customers who've been coming in for years and years. Yeah, I'm sure it's important from a business point of view. We tend to have to look after our regular customers, mainly because they're obviously a reliable source of income." (Interview 14, male engineer, thirties)

However, a producer or engineer's portfolio of previous projects is not only important for repeated cooperation, but also in developing a reputation that attracts work from new clients. As one interviewee described:

"I think the main reason people come to me is because I've got a track record, because obviously people don't know me until they come down. So the main reason, what brings the carrot is the track record. People want their song to be produced on a level, they want to know their single has no compromise whatsoever." (Interview 4, male producer, forties)

Another interviewee noted that a track record of successful previous projects is particularly important to getting work with record companies, where success in these cases is judged by the commercial sales of the recording: "record companies pretty much all they think about is 'did he have a hit recently?' That's really all they're worried about because that obviously means that he'll have another one" (Interview 19, male producer, forties). This focus on the reputation of producers, engineers and recording studios based upon their previous commercial successes can be explained by the fact that the record companies often invest heavily in artists and need to get a good result from expensive studio time. As one interviewee explains, for record companies there is a pressing need to:

"...pass it to someone that you can almost guarantee a good result from. Lots of companies are investing thousands of pounds in the band... that's the reason a record company would hire a producer is that they're passing it on to someone who knows a little bit more about the recording side so that they can say, if we give it to him we'll definitely get a good record, doesn't matter what happens." (Interview 11, male engineer, twenties)

Similarly, having invested a large amount of money in the recording process, record companies will also carefully select a mastering studio and mastering engineer who will finalise the project:

"…having invested however much the record company's spent in the recording and mixing… they're going to want to make sure that it's done absolutely right. Which is why people do get so choosy about what mastering room they use. Because if you've spent fifty grand getting it to the point where it's going to be mastered, you want to put it somewhere you're, where you're confident that your money's not being wasted." (Interview 3, mastering engineer, fifties)

A number of interviewees noted that their reputation increased considerably following their first commercial success, resulting in a significant upward turn in their career paths in the industry. As one interviewee described:

"I ended up producing four tracks on his album and I also wrote, co-wrote with him and produced a track called [name omitted] which was number one. And from that point onwards my career just absolutely blew up... it was massive and that gave me the recognition. I made a lot of money during the sessions and that's how I built the studio..." (Interview 4, male producer, forties)

Another interviewee noted how the development of such a reputation may in large part be down to chance in terms of the producer or engineer getting the initial opportunity to work on a recording project that is successful in terms of sales:

"…possibly by chance you've worked on a record that's done really, really well and then on, because you've done that one you get another

one and because that's got [the] backing of a record company, that one's going to do well as well. So then you're now the man who's done two. And then you become the man who's done three and four… and so it goes." (Interview 3, male mastering engineer, fifties)

This particular type of reputation is often spread through the credits for the producer, engineers or recording studios given in the sleeve notes of commercially successful albums: "...my big break was [name omitted]. And then after that people just really got in contact with me through seeing my name on the record" (Interview 19, male producer, forties). A number of the interviewees noted how this type of commercial success is often valorised over other reputational assets. As the same interviewee noted, "if you've had some success then yeah people take you more seriously", going on to say that "other guys have got bad reputations and their people still want to work with them if they're successful" (Interview 19, male producer, forties). This is further demonstrated in the discussion in section 7.1, in which it was highlighted how the same interviewee attempted to ensure the quality of the final product above everything else, even if it meant not being particularly responsive to the creative input being offered by the musicians or recording artists. Moreover, the work done by producers and engineers in the studio may be devalued by a record company if it is not felt that the output will have quantifiable commercial success. As one interviewee explained, "I've always felt that the most important thing, the most important people I have to please are the artists. They have to like it. But unfortunately if it's a major label and the artist likes it and the record label doesn't, they won't put it out" (Interview 16, male engineer, fifties).

However, the 'good work 'on which reputations are built (Hesmondhalgh and Baker, 2008) can be considered more widely than commercial success alone. For some studios, it is rare for any of the music recorded at the studio to go on to have quantifiable success, and thus the quality of the output must be judged by other criteria. Some producers and engineers will work for example in niche markets where total sales may only be small but reputation may be high

within that niche market due to producing or engineering a hit in specialist charts. The above interviewee described how:

> "I haven't done anything sort of high media profile in fifteen or twenty years, but I've done a lot of stuff that has cult level in the kind of area that people I work with move in. They'll have heard, a lot will have heard them and said 'oh yes, that sounded pretty good' or 'we like that'" (Interview 16, male engineer, fifties)

Other producers and engineers may gain a reputation based on their technical ability in the studio and the way this translates into recorded output of a particular quality. One interviewee explained how "sometimes it's the actual music itself that you can get credit for which of course you have been involved in, but sometimes people say "oh, I love the way that was recorded"" (Interview 2, male engineer, thirties). Another example of 'good work' performed in the studio is that which results in client expectations being met and thus high levels of client satisfaction, and so will result in the client returning to a studio, or a particular producer or engineer, for future recording projects; one interviewee suggested that "when people's expectations have been met, that's when they're most likely to come back" (Interview 10, male engineer, thirties).

In the same way that a positive reputation can be beneficial to a producer or engineer attracting new or repeat work, so the development of a negative reputation can be damaging in this respect. As Grabher (2001b) argues repeated cooperation can be cut off by the reputation members lose in previous collaborations; this can also cut off potential new lines of work. One interviewee noted how "you can't really ever have a bad day, you can't have an off day…. you're only as good as your last game" (Interview 2, male engineer, thirties). This sentiment, that poor performance can damage a painstakingly built reputation, is echoed by workers in a range of cultural industries, including film (see Blair, 2001; Jones, 1996) and television (see Hesmondhalgh and

Baker, 2008). This drive for success and a highly-regarded reputation can lead some producers and engineers to be very selective about the clients they choose to work with on recording projects. One interviewee, for example, described how:

> "...because your work goes by word of mouth, it's important that the networks that you establish are networks of musicians and artists that you want to continue working with. So it's really important to say no to work if it's in an area that's going to start dragging the quality of the output of the studio... Just make sure that the clients that you're working with are the right ones that are going to maintain your reputation… a successful producer is often someone who's made a good choice to collaborate with someone..." (Interview 17, male engineer-producer, forties)

Reputation and networking

For Glückler (2007), two significant types of reputation can be distinguished (see also Glückler and Armbrüster, 2003; Glückler, 2005). The first is public reputation, which is public domain information, published and communicated freely in media and press. As noted in the above discussion, one way in which the reputation of producers or engineers is spread is through the sleeve credits given on albums which. This can be thought of as a form of public reputation which, depending on the commercial success of an album, may be widely spread or confined to particular niche areas. The second type of reputation is 'networked reputation'. Glückler (2007) argues that reputation is networked when new contacts learn about each other's reputation through joint trusted contacts within their social network.

Following Glückler's line of argument, if we were to consider the role of networked reputation in the recording studio sector, it can be argued that if a

producer or engineer is referred to a potential client (be they a self-funding artist, a record company, or a producer) through a mutual contact, the client would be more likely to commission this producer or engineer to work on their recording project. As Zafirau (2008) argues, reputation is an important feature in the interactional contexts of work in the creative industries. This is due to the way it acts as a stabilising feature of an otherwise uncertain business, helping to make contacts, facilitating the development of trust within networks, and marking competency. In their study of three cultural industries, including the recording industry, Hesmondhalgh and Baker (2010) noted that there was a strong sense that the contacts which eventually lead to contracts rely on sociability.

Responses to interviews undertaken in this research support this finding, with the importance of networking reputation though the development of a social network of contacts recognised by a number of the interviewees. One interviewee for example, when asked about the importance of word-of-mouth in getting new work, stated that "I think that's how we get most of our business here. The website helps. But I don't think, when people are searching for studios and things like that, I think a recommendation from a friend is a lot more valuable than all these things" (Interview 11, male engineer, twenties). Another interviewee, in response to the same questions, responded that "it is very much about creating a social circle, yeah definitely. It's very hard to get your name out there any other way because, obviously you can post yourself over the internet but how does anybody find you on the internet?" (Interview 1, male engineer-producer, thirties). Creating such a network of contacts can then be considered as active 'reputation work' (Zafirau, 2008), through which producers and engineers enhance their networked reputation.

In the above responses, both interviewees emphasised the importance of networked reputation above the more public reputation afforded by web pages on the internet. In addition, a number of interviewees discussed how attempts to advertise their services publically during lean periods of work had

failed to attract new clients. One interviewee noted how "it's total word of mouth. I mean in the lean times last year I did try advertising and that brought no work at all" (Interview 16, male engineer, fifties), while another noted that "advertising doesn't really pay. It's all word of mouth and reputation. That's how it sort of works really" (Interview 5, male engineer, sixties). A third noted that "I had a slow phase, basically nothing, and then I started advertising… nothing came back from that" (Interview 13, male engineer-producer, forties). Thus in sectors such as the recording studio, where high levels of uncertainty prevail with regards to getting continued work, networked reputation is particularly important. The above interviewee goes on to describe the nature of developing networks of clients in the music industry:

> "You work with a band. There're four, five members in a band. That band splits up. All of a sudden you've got new bands. There's now twenty four people that band's all working with. They've split up and now you've got eighty plus. So, it's kind of like that… it's like branches on a tree really." (Interview 5, male engineer, sixties)

Following Bourdieu (1986), we can understand the personal networks developed by the engineers and producers as being their stock of social capital. This social capital can help to reduce the uncertainties associated with uncertain demand in project working. The higher the quality of social capital on which an engineer or producer can draw, the more likely they are to be paid to work on interesting projects (Haunschild and Eikhof, 2009). The producer or engineer's own structural position (access to industry contacts, skills, education etc.) will determine whether they are more or less capable of making the required contacts and building social capital. Accordingly the outcome of networking activity may be "more or less 'successful' depending on the resources a job seeker has prior access to as a result of their own structural position in addition to the structural position of their network of connections" (Blair, 2009: 125). As one interviewee explained about one of his social circle, a producer who worked on a commercially successful recording project:

> "...because of that [commercially successful project] he'll get a lot of work coming his way through certain people, and they'll recommend him to other people and suddenly, once you're in there with someone quite often you're in there with a lot of people" (Interview 8, male engineer, twenties)

Thus through working on a particular project and with particular people, the structural position of this particular producer has been improved, increasing his potential to develop a stock of high quality social capital.

The importance of social networks of contacts to getting work and achieving networked reputation was made particularly clear through the responses of three interviewees, one of which had moved to London from abroad and two that were considering moving away from London to work abroad. In the first case, a now London-based engineer-producer and studio owner had originally moved from Sydney, Australia, to work in London. His account tells of how the technical skills he developed in Sydney were worth little when he arrived in London as he did not have an established network of contacts through which he could obtain work:

> " After doing six solid years [in Sydney], three years of making tea and then three years of starting to engineer projects, I was probably in a good position to have most of the skills to make a record. But what I didn't have is any support network when I came to London. So I then went for a year or two without any work at all… So I'd got to the point where I was too experienced to be tea-boying but I wasn't established in London. And so that was probably, in retrospect, quite an awkward place to be because I had to build things up from the start. What I would have done if I could have gone back and done it again is just gone straight into studios and just said 'I want to be tea boy. I want to work for nothing'." (Interview 17, male engineer-producer, forties)

Put in Bourdieu's (1986) terms, when he arrived in London, this interviewee lacked a sufficient stock of social capital to gain work. This highlights how a lack of personal networks can make new entry into a new project ecology very difficult (see also Johns, 2010, on the film and television industry in Manchester), and how leaving an established regional network of contacts to move elsewhere can come at a cost to career development (see also Christopherson, 2002, on new media workers). Supporting this finding, another of the interviewees was acutely aware of the problems associated with lacking a network of contacts. He described how he had worked with a leading American producer on a recording project in London, who had subsequently offered him work out in the United States. However, he felt that he would be lacking a social network that would give him sufficient work outside the few times that the producer would require his engineering services:

> "I worked with an American producer... he wanted me to go over and work with him in the states... it would have been a great opportunity but then it would have been hard because if I wasn't working with him I would have no contacts at all... he makes about four records a year, because that's all he needs to make a fortune... for me I'd have got paid a certain amount of money which I probably could have survived on but there would have been no other little bits for me to pick up and I'd have to start making contacts, going round, asking for work and all that kind of stuff, which is fine but I think it would have been really difficult for a couple of years" (Interview 15, male engineer, thirties)

As had occurred with the first interviewee, building a sufficient stock of social capital would then effectively require him to begin his career again from the beginning, despite the high level of technical skills and networked reputation he had developed in London. In the case of another interviewee, a freelance recording engineer who had taken the decision to move from London to Melbourne, Australia for family reasons, he had already travelled out there on a

short visit and worked free of charge in an attempt to build a network of contacts before moving permanently. Here he describes building network reputation as gaining 'cred' (short for credibility) which would allow him to get work on projects when he moved to Melbourne permanently:

"...I thought well I'll try and make some contacts ... I had a friend there who already knew a studio and I did some research on the internet... I put a couple of ads on bulletin boards and things as said, look, anyone up for doing some recording, you don't have to pay me, I'll finish things off in London. All you have to pay for is the studio and I'll come and work for you for nothing. And two people responded and two people took me up on it... I didn't get paid for that but it got me in with the studio out there... and hopefully... when we do move over there then I'll be able to get some work there... I'm hoping that I might get a little bit of a resume behind myself [so] that when I go out there eventually I will have enough cred... I'll be out there and have a bit of cred behind [me] I might be able to get some decent stuff in straight away and see where we go from there really" (Interview 8, male engineer, twenties)

The case of the above interviewee highlights the way in which networking is an active, on-going and conscious process in which producers and engineers knowingly and instrumentally engage. Blair (2009) terms this 'active networking', arguing that "individuals consciously act to make and maintain contacts with other individuals and groups, assuming that a variety of forms of information or opportunities for work will be more readily available as a consequence" (Blair, 2009: 122). In the case of the above interviewee, who would continue to work on a freelance basis in Melbourne, the establishment and maintenance of a network of contacts through which opportunities of work become available is of particular importance to reducing employment uncertainty. As Blair (2009) asserts:

"Freelancers operating in this manner build up a large number of contacts on whom they draw for information and for job opportunities. The reduction of employment uncertainty, rather than taking place through a fixed set of working relationships, is more dependent upon a wide net of contacts in positions either to recommend, set up a job or offer a job directly." (Blair, 2009: 131)

This networking is however not just about making and maintaining contact to potential buyers of labour power and to people who can make referrals; it also includes scanning of the markets for future employment opportunities, actively selling oneself for future projects, and enhancing one's employability by updating and developing skills (Haunschild and Eikhof, 2009).

8   **Discussion**

The aim of this chapter is to draw together the main themes emerging from the analysis of interview data presented in the preceding two chapters. These themes are brought together via the notion of *relationality*. The first section of this Chapter presents a discussion of the constituent parts of this relationality. In this section, a discussion is presented of the relationalities of creativity inside the space of the studio. The section considers the nature of creative relationships both between studio workers and their clients, and between studio workers, recording technologies and the material space of the recording studio. The second section of the Chapter presents a discussion of how recording studios operate as relational networks that stretch beyond the insular space of the studio. The section considers the role of internet technologies in networking studios and clients in geographically distant locations, the physical mobility of studio workers, and the importance of networked reputation. The third section of the Chapter then moves on to consider recording studios as economic sites where particular sets of relations between employee and employer are played out, and, in particular, the precarious nature of studio work. The final section draws the above sections together to consider recording studios as being relational creative social and economic spaces that exist simultaneously on multiple geographic scales, and spaces that are constituted by a set of social networks that are continuously being made and remade.

8.1 The relationalities of creativity in the recording studio

"What we hear when we listen to recorded music is not just a product of musician's creativity, but an emotive performance produced in particular spaces and through affective relations between musicians, producers, engineers and technologies" (Gibson, 2005: 192).

Viewing recording studios from a relational perspective, Gibson (2005) argues that creative moments in the recording studio are produced not by the musician alone, but through the embodied relations between musicians, producers, and engineers. Findings from this research support the assertion that musical creativity in the recording studio relies on particular sets of social relations. Creativity is realised as a creative act in the recording studio through the social encounter between producer and engineer and musician/recording artist. As Horning (2004) emphasises, the recording studio is a site of collaboration between engineers and artists, where maximum creativity requires a symbiotic relationship demanding skills that are at the same time both technical and artistic.

The importance of co-working was highlighted by Interviewee 4 owner and operator of a small studio in West London, in an interview for this research. Beginning his career as a session keyboard player, he would go on to become one of London's leading recording producers in the pop and R&B genres, producing fourteen top-10 UK hits. He explained how his ability to produce these styles of music was very much dependent on working with other skilled people in the studio, describing how "no producer is independent. I am dependent on engineers and DJs and vocal producers". He also went on to explain how his decision to produce using young, talented black DJs gave him an 'edge' in terms of music production, especially given that "I do black music and I'm white. It's important that I have a black DJ in the room while I'm doing

it". His emphasis on the importance of the relationship between himself and DJs in his production is demonstrative of the fact that, in the recording studio, record producers, sound engineers and other skilled musical professionals are as important in the production of recorded output as are the musicians or recording artists themselves (Pinch and Bijsterveld, 2004).

Findings from this research show that within the relationship between studio worker and client, the level of collaboration exists between two extremes; on one hand a producer or engineer may be extremely hands-on, strongly directing the recording process, or on the other may take a back seat and let the musicians and artists direct the creative process. In the case of the latter, the increased prevalence of such a 'service ethic', wherein the client's needs are valorised above all others, has corresponded with the rise of independent project studios (Leyshon, 2009). More commonly, it would seem that the creative process relies on a level of collaboration somewhere between these two ends of a scale, in which both the producer/engineer and the musicians/recording artists work together towards achieving the desired outcome. The creative guidance and input that is offered by producers and engineers is accordingly central to the continued value of recording studios in the contemporary music industry, despite the availability of home recording technologies that might appear to dispense with the need for them.

However, it is not only relationships between studio workers and clients that involve particular levels of hierarchy; so too do relationships between record producers and studio engineers. In the studio, typically a producer will take the lead role in guiding the creative process, including the work of the studio engineer(s), although once again ideally creative collaboration is achieved. However, often this producer-engineer hierarchy can be abused, an example of which was given by Interviewee 13, the owner and operator of a recording studio in Fulham, London. Over a period of four years, he worked as an engineer and producer with a female recording artist on her debut album, released on a major independent record label in 2003. The artist, who had

previously collaborated with a successful music producer based in LA, was keen to involve this producer in the production process. This resulted in the recording artists and the interviewee flying out to LA to work on the production of the album. He described in the interview how working with this producer was a very difficult process, given that he was "very dictatorial… impossible and very alpha male, not very rational or intellectual in any way". At times, this dictatorial behaviour would escalate to become aggressive and irrational behaviour. This resulted in a very tense and uncreative working environment in the studio, which required the producer to adopt a passive role in the relationship, and which caused the process of recording the album to become very drawn out.

The above example leads on to the discussion of another important part of studio work, namely sociality and emotional work. Record producers and recording engineers do not only provide technical and creative input and guidance to the recording process; as creative work in the studio is predominantly face-to-face, collaborative, and emotive; their performance, communication, and their displays of emotions are also all central to their work in the studio. Thus the concept of emotional labour (Hochschild, 1983) is particularly applicable to work in the recording studio sector. The findings of this research suggest that for producers and engineers, skills with people and the ability to mediate performances through emotional working are at least equally as important as the ability to competently perform a technical role and operate complex studio equipment. Often, to do this, producers and engineers must manage the emotions of the performers to get them into a particular emotional state, eliciting strong emotions from the musician or recording artists to capture the most emotive performance possible, whilst at the same time showing sensitivity to the performance of musicians and recording artists, and inducing or suppressing particular feelings in order to sustain an outward countenance that provides the appropriate interpersonal climate (Ashforth and Humphrey, 1993).

Moreover, through performing emotional labour, studio workers can often be exposed to the personal emotions of their clients. Thus an important part of emotional labour is the management of client behaviour within the studio environment, which ranges from finding solutions to disputes, to dealing with inappropriate or sometimes aggressive behaviour, perhaps fuelled by alcohol and drugs. One example of this was given by Interviewee 16, who worked with a successful guitar in the early 1990s, under two leading producers. At that time the band were becoming notorious in the popular music press for the their large narcotic intake, and in the interview the engineer explained how for most of the recording project the band had taken so many drugs that it was extremely difficult to get them to perform to a sufficient standard in the studio. Sessions were also disrupted by people from the record company hanging out in the studio and sharing in the intake of narcotics. He explained how is emotions were quite often mixed between the excitement of working on a very cool project and the frustration of trying to engineer in a difficult working environment. As demonstrated by the unrelated example of the use of drugs by a producer in the previous chapter, the extreme behaviours of clients in the studio can result in detrimental physical, mental, and emotional effects for some studio workers.

It is, however, not just social relationships that are central to the process of creating music in the studio. In Chapter 6, the importance of the material space of the studio to the process of creating music was noted. As Leyshon (2009: 1320) asserts, each recording studio is a unique recording space given "the acoustic environment in each studio often develops incrementally and organically in relation to the nature of the materials used in its construction or to subsequent experiments with baffling and other materials introduced to the studio fabric." As Nisbett (1995) suggests, recordings can pick up these physical characteristics of the studio as much as those of the players/artists, with the studio acting as a 'sounding board' to instruments and its shape and size giving character to the music. The studio effectively becomes a musical instrument in its own right as audio engineers develop better control of the ability to manipulate sound (Horning, 2004).

However, just as important as the materiality of the studio in shaping music is the equipment used to record, process, edit and create sounds. As Leyshon (2009) suggests, although generic equipment will be found in many studios, in addition to the variations in their acoustic environment, different studios may work with different, and in some cases distinctive and unique, palates of technologies. Various pieces of recording equipment are used and employed by different engineers and producers in different ways and in different contexts, resulting in a variety of different sounds, and very often in unintended outcomes that in themselves are an important part of musical creativity and production. As such, rather than being simply technological resources, these technologies and their various capabilities "intervene actively to push action in unexpected directions" (Callon and Law, 1997: 178). Rather than being inert spaces, studios are material and technological spaces that influence and shape human actions and social inter-actions. They are thus 'sociotechnical spaces' (Leyshon, 2009), 'machinic complexes' (Sheller, 2004; Gibson, 2005) housing assemblages of bodies and technologies. An intimate relationship exists between the acoustic environment of the studio, recording technologies, the producer and engineer, and musicians and their musical instruments. For Gibson:

"Musicians and engineers interact with technologies and acoustic spaces. Their perceptions are not of inanimate, non-human actors but of 'live' spaces and technologies that mutate sound and shape a finished product, sometimes adding a special aural quality beyond the capacities of the musicians or technicians concerned" (Gibson, 2005: 200).

The specific recording configuration of a particular studio will often have been determined based on experimentation, trial and error, and innovative thinking (Horning, 2004), with different forms of recording technology selected due to the way in which they lend themselves to particular recording projects. The materiality of the acoustic space in the studio also determines the types of

recording projects for which the studio is suitable. For many studios, unique palates of technologies and a unique acoustic environment have become unique selling points. Such is the importance of the relationship between the acoustic environment of the studio, recording technologies, the producer and engineer, and musicians, that these become crucial in attracting clients, both producers/engineers and musicians/recording artists, to the studio. As noted previously, for example, different producers and engineers specialise on, and prefer to use, particular recording desks. Leyshon (2009) notes how certain consoles have become obligatory passage points for studios wishing to attract producers and engineers, who bring with them clients to a studio. One example of this emerging from the empirical work concerned the Miloco Studios group, who operate 19 studios across the UK and Europe, and one particular studio called The Engine Room, located in Bermondsey in London.

Figure 8-1: SSL mixing desk, The Engine Room studios, South East London

(Source: http://www.miloco.co.uk/studios/the-engine-room/, accessed 19/01/12)

This particular studio was previously equipped with a Neve mixing desk, but in 2010 the decision was made to replace the Neve mixing desk with an SSL

mixing desk, obtained and refurbished following the closure of the famous Olympic Studios in London at the cost of tens of thousands of pounds (Figure 8-1). This decision was made due to declining client numbers, and the switch to an SSL mixing desk opened up a new and much larger client base of SSL engineers for the studio who had been previously put off it was believed not by issues such as price, staff expertise or acoustics, but by the Neve mixing desk.

The relationship between studio space, technology and studio worker is perhaps at its most intimate in the process of mastering. As noted in the previous chapter, this is due to the way in which mastering engineers require studio spaces with particularly high levels of acoustic treatment and expensive monitoring equipment to be able to listen to music at high volumes and at high levels of detail, in order to make very fine changes to music and vocals. Interviews with mastering engineers revealed how they look to develop a very intimate knowledge of the acoustic space in which they are working. This relationship is so well balanced that mastering engineers have a particular point within the studio room at which they perform their work, a point at which they judge that the relationship between sound, monitoring equipment, and the acoustic space of the studio is at its optimum. As the development of this relationship between engineer and the physical space of the studio takes some time - interview responses suggested a period of months or even years - it acts to lock particular mastering engineers into particular mastering spaces and reduce, or in many cases prevent, their mobility.

Therefore, as described above, rather than being freelance like many of their recording engineer counterparts, mastering engineers tend to be permanently contracted to particular studios, spaces with which they become intimately familiar. This results in the concentration of the mastering process into a relatively small number of studios that are organised and constructed specifically to undertake this process, as is demonstrated in the extensive social network analysis in Chapter 4. A very small number of mastering studios have thus become obligatory *points of passage* (Callon, 1986) in global

networks of musical production; the record labels and recording artists that come under the production networks of the major record corporations are forced to converge on these key locations of sound engineering in order to achieve sales success in the major Anglophone music markets of the world.

8.2   Recording studios as relational networks

While the materiality of studios and particular palates of technologies exist as part of an intimate relationship between the studio space and studio workers and musicians/recording artists, technologies also allow for the development of new relationalities between studios by enabling social actors to develop and maintain social relations that span out across geographical space (see Dicken *et al.*, 2001). In Chapter 4, the quantitative social network analysis demonstrated how geographically distant recording studios are linked into national and global networks of music production by the working flows that pass between and through them when they are part of temporary creative projects that are brought together to produce recorded music albums, audiobooks or related recorded output. As Rogers (2001: 663) argues "even when creative practices are situated, they operate through networks and flows that link locations together".

These working links are complex and intimate (see Théberge, 2004). They are in part the result of both new technologies that allow for the increased mobility of recordings, as well as, in some cases, simultaneous remote working, which removes the need for physical travel of producers and engineers. However, results from this research suggest that more localised and routinised forms of physical mobility amongst producers, engineers and musicians/recording artists also remain important in the contemporary recording industry. This is in part due to the significant challenges and problems of working with technologies that are at a relatively early stage of development, such as simultaneous remote working via ISDN.

However, results from this research suggest that the need for travel remains predominantly because of the way in which face-to-face interactions are key to creative collaboration and creative decision-making in the studio, and to meeting the client's expectations and requirements. Face-to-face interaction allows for sociality and facilitates the building and maintaining of relationships in the intimate space of the studio, relationships which may endure for a long period of time and open up particular career opportunities. One example of this is Interviewee 19, who worked as the engineer to a leading recording artist and his band. In an interview for this research, the interviewee described how:

> "... I was a massive fan of his when I was a kid so it was like 'wow'. But it's funny after a while it does get easier... when you see someone every day for thirteen or fourteen hours then it just becomes like another and you forget that other image."

His account tells of how working with such a famous recording artist became normalised over the many hours spent performing and recording within the insulated space of the recording studio. Working together for a number of years he would subsequently form a very close relationship with the recording artist, and this would lead to his first production credits, on the artists first solo album.

The interviewee described how the artist advised him "why don't you just produce and get somebody else to press the buttons?" The interviewee went on to be the artist's main record producer for a period of 16 years, obtaining production credits on nine albums, and working in a wide range of recording studios across the UK. Through his friendship with the artist, the interviewee would also produce tracks with a number of other famous recording artists and a number of new bands championed by the artist. The commercial success of these recordings would lead to the interviewee becoming one of the best known producers in the UK music industry. Financially it allowed him to custom-build

his own studio in north-west London, which contains amongst a wide range of vintage equipment a Neve recording console from 1969.

Furthermore, the mobility of producers and engineers between recording studios has been revealed as being of high importance to the learning of London-based record producers and studio engineers. Results suggest that a high level of mobility allows engineers and producers to gain valuable experience of work in other studios, not only within London, but also often in other cities and in other countries (especially Western Europe and North America), and with other engineers and producers, which enables them to gain a set of skills that only such experiences can provide. This high level of learning is of vital importance to the dissemination of knowledge internally within London's recording studio sector. With an increasing number of independent studios providing the spaces for freelance producers to work beyond any one particular studio, levels of mobility have increased, and so to have levels of knowledge exchange between recording studios.

In particular, results suggest that it is young skilled freelance engineers who are particularly important in this respect. Highly mobile, as they move between studios they take with them new ideas, skills and techniques, which present valuable learning opportunities for other engineers and producers who work collaboratively with them, and who may not be mobile themselves. Furthermore, the short-term 'cycling' of artists between studios also plays an important role in the transfer knowledge in the recording studio sector, as artists bring with them often intimate knowledge of digital recording technologies that are available for use in home studios. In this way they challenge the technical knowledges of more established studio engineers and producers.

However, despite the importance of physical mobility and face-to-face contact highlighted in this research, at-distance working and the development of sociality at-distance are an important part of studio work. Indeed, social

relationality is a crucially important part of studio work whether it is performed face-to-face in the space of the studio, or at-distance through networking technologies. Thus the rise of remote collaboration has required studio workers to develop new ways of working and communicating that allow for the development of a social relationality at-distance that is not primarily dependent on face-to-face contact. As well as finding suitable ways of communicating with clients - the use of e-mail is central in creative dialogue between musicians/recording artists and studio workers collaborating at-distance – it is also increasingly necessary for studio workers to perform 'distanciated emotional labour' (see Bryson, 2007), that is emotional labour performed at a distance.

The importance of this was highlighted in a research interview with Ray Staff, a leading mastering engineer based at Air Studios in North West London, one of London's largest recording studios. He explained how digital files are increasingly being sent to the studio for mastering via e-mail by clients across the world, with requests to make the recording sound a particular way or to sound like a particular established band or recording artist. Here he suggested that there was a need to be both clear and sensitive in communication with the client that very often the recordings sent are either too far away from the required sound in either quality or style. He also noted the need to be constructive and positive, to suggest ideas and work closely with the client to make sure they are happy and that their expectations are realistic. Being able to apply such 'personal skills' at distance, he suggested, was key to getting repeat work from these clients.

However, despite the development of such a series of 'coping mechanisms' for dealing with the challenges of remote working, results from this research suggest that, for the majority of producers and engineers, working at-distance remains inherently unsatisfactory when compared to face-to-face working within the space of the recording studio. Hence, travel remains an important part of working in distanciated project networks. Travel facilitates

face-to-face meetings (Faulconbridge *et al.*, 2009) both with clients and collaborators, allows for creative collaboration in cross-border recording projects, and as demonstrated in Chapter 4 plays a key role linking together studios across the globe. Despite new communication technologies in the recording studio sector, the need for 'meetingness' (Urry, 2003) remains. As Théberge (2004: 779) asserts, what may become the most significant issue for studios as they become more integrated with one another is "the quality of the musical and social relationships that are made with and through them".

Related to the above, the ability to build relationships with clients was seen by interviewees as being vital to gaining repeat work due to the way in which studio clients look to develop personal relationships of 'emotive' and 'capacity' trust (see Ettlinger, 2003) with a particular producer or engineer, and who they will then return to for future projects. A client's choice of producer or engineer thus becomes about something more than the technical competence of that person in the studio; where formalised criteria for evaluating performance are not present, more informal, 'softer' personality characteristics and symbolic attributes can become a more important means by clients legitimate studio producers and engineers. However, at the time that a client is taking the decision to work with a particular producer or engineer on a particular recording project, they may not have met the producer or engineer. Rather, they will know them by their reputation, and it is this reputation that will be the basis of the trust (see Murphy, 2006) placed in a producer or engineer when they are commissioned to work on a recording project.

This reputation is built through emotional labour in the recording studio, and the resulting creative relationships and client experiences of the recording process, but is also in large part a result of the experience of the producer and engineer. Experience-based skills become 'attached' to reputation through the portfolio of previous projects undertaken by a producer or engineer. Such

portfolios are central to developing a reputation that attracts work from new clients, and represent a form of 'public reputation' (see Glückler, 2007), which is public domain information, published and communicated freely in media and press, and, in the specific case of the recorded music industry, in the sleeve credits given on albums or recorded output. Depending on the commercial success of an output, this public reputation may be widely spread or confined to particular niche areas.

However, findings from this research suggest that even more important than public reputation is the development of 'networked reputation' (Glückler, 2007), when new contacts learn about each other's reputation through joint trusted contacts within their social network. Here, findings support Hesmondhalgh and Baker's (2010) finding that in the cultural industries, there is a strong sense that the contacts which eventually lead to contracts rely on sociability, that is to say that the importance of networking reputation though the development of a social network of contacts is widely recognised. The creation of such a network of contacts involves 'active networking' (Blair, 2009) or active 'reputation work' (Zafirau, 2008), an on-going and conscious process in which producers and engineers knowingly and instrumentally engage in order to enhance their networked reputation, building a stock of 'social capital' which is related to working in particular studios. Social capital (see Coleman, 1988; Bourdieu, 1986) can be understood as a relational resource capability that is constructed spatially but cannot be possessed or built without the active involvement of others (Bathelt and Glückler, 2005). This social capital is important in reducing the uncertainties associated with uncertain demand in project working, as strong social capital offers a set of opportunities for gaining future work that recording engineers and record producers can "draw from the quality and structure of their relations with other actors in order to pursue individual objectives" (Bathelt and Glückler, 2005: 1555; see also Bathelt and Glückler, 2003). Thus the higher the quality of social capital on which an engineer or producer can draw the more likely they are to be in continuous paid employment.

8.3 Studio work and employment relations

As well as being creative social spaces, recording studios are also economic sites where particular sets of economic relations between employee and employer are played out. These relations have altered quite dramatically over the course of the last three decades. Since the 1970s, there has been a marked shift of successful producers and engineers to adopting a freelance status. This trend has been accelerated by a growth in the number of independent studios, and, more recently developments in affordable computer-based technologies for recording that have facilitated the growth of small 'project' studios and home studios. Contracted salaried positions are now rare in the recording studio sector, even in major studios, in which, in recent years, many engineers are moved from being permanent employees to retained staff, getting paid a small salary to be available to work for the studio, with their pay increasing when there is work to do. When not working at the studio at which they are retained, they act as freelance engineers, obtaining work at other studios. This changing situation has led to the development of a new set of employment relations between retained and freelance engineers and recording studios. Examples of this are found in the management companies being set up by major recording studios to manage their retained and freelance engineers and producers. Implicit within this 'managed' relationship between studio and engineer is that both parties promote each other to potential clients.

Such strategies then aim to draw a competitive advantage from the social capital and networked reputation of both parties. Examples of this include the Air Management Company, operated by Air Studios; as well as Miloco Studios, which owns a number of major recording studios across London, the UK and Europe, and which operates a similar model for managing the work of its freelance engineers. While such arrangements might suggest something of a symbiotic relationship, these new employment relations are often balanced

unevenly towards recording studios, who, in paying staff a retainer only or moving staff on to freelance contracts, move the pressure of obtaining work, and the financial risk of not doing so, away from the studio management and on to producers and engineers.

As such, it places considerable demands on their self-reliance and resourcefulness (see Entwistle and Wissinger, 2006) and leaves them in a position where they are responsible for their own success or failure (see Storey *et al.*, 2005). This in turn encourages the self-interest and self-preservation of freelance workers, who look to actively form networks and make associations through which they can win work. These networks may indirectly advance the interests of their studio employers, but predominantly will directly prioritise the personal interests above those of the employer. As such, the logics that inform the workplace and networking practices of workers in the recording studio sector cannot be understood "solely in narrow economic terms or in terms of one single rationality, and accordingly, can not be unconsciously equated or conflated with those of the 'firm'" (Boggs and Rantisi, 2003: 112). Rather, as Yeung argues:

> "Economic actors are seen as embedded in diverse social discourses and practices, and cannot be conceived as rational and mechanistic economic entities. These actors are influenced by a broad array of hybrid relations among humans and nonhumans, and their action is significantly shaped by multiple logics and trajectories whose significance varies in different contexts" (Yeung, 2005b: 41).

The demands being placed on self-reliance and resourcefulness by these changing employment relations go hand-in-hand with short tenure employment and constant employment uncertainty for engineers in particular. This type of precarious employment is of course not unique to the recording studio sector or the music industry; rather it is a noted characteristic of employment in project-

based work in the creative industries more generally (see Gill and Pratt, 2008; also Murdock, 2003).

8.4 Recording studios as relational creative social and economic spaces

As demonstrated in the above discussion, creativity in studios can be considered to occur simultaneously on multiple geographical scales. On one hand, recording studios are insulated spaces of creativity, isolated from the city and wider world outside, which give musical creatives the conditions required to experiment and create music. Yet, they are also spaces influenced directly by the wider contexts in which the studios operate. These include local contexts (for example the aesthetics, musicians and skilled labour that constitute a music 'scene') which play an important role in the development of approaches to recording and an influence on the resulting sounds. They also include global contexts, given the mobility of skilled studio workers and new technologies facilitating the networking of studios in geographically distant locations in complex and intimate ways and co-ordination of musical recordings on a global scale (see Théberge, 2004). As demonstrated in Chapter 4, links between recording studios stretch out across the globe, linking cities together in complex networks of competition and cooperation, networks in which particular cities - in particular New York, Los Angeles, and London – are both powerful and central due to their unrivalled concentrations of recording studios and wider music industry infrastructure.

Thus recording studios can be considered as articulating the local with the global, that is to say as key agents in the integration of local music scenes and music industry clusters into the global musical economy. The networked nature of recording studios is resulting in new relational geographies of music creativity and recording across multiple spatial scales. This relationality is not simply a product of technologies that network studios, but is a product of the

relational nature of creative music production, both within and beyond the studio space. Studios are then relational spaces, operating across multiple and overlapping and interconnected geographical scales, geographical scales that are themselves understood as being relationally constructed and historically produced under the aegis of capitalism (Yeung, 2005b). As demonstrated through this research, often subtle variations in practices – both technical practices of recording and social and emotional practices - exist within, and between, these different scales. As Yeung argues, if relationality is constituted through interactions and tensions, then there is "clearly a great deal of *heterogeneity* and *unevenness* in these relational processes" (Yeung, 2005b: 44; emphasis in original). Studios are then revealed through this research as *relational creative economic and social spaces.* Thus to develop a relational approach for researching and understanding the music industry, research must aim to develop an "understanding of intentions and strategies of economic actors and ensembles of actors and the patterns of how they behave" (Bathelt and Glückler, 2003: 125).

The progression of the research presented in this thesis has been one from an initial extensive mapping of social networks (presented in Chapter 4), through to a more intensive examination of creative and networking practices of individual engineers and producers (presented in Chapters 6 and 7). This progression has demonstrated how in analyses of networks, it is important not to overlook the "heterogeneity of links for the benefit of a unified picture of interconnected entities" (Thévenot, 2001: 408) and not to "privilege ties and networks over nodes and agents" (Sunley, 2008: 1). As Yeung suggests, the structure of a network tells us little about the qualitative nature of the relations among actors "that are far more important than structures *per se*" (2005b: 45). While networks are often considered in a horizontal sense as involving mostly static ties between actors, actors in networks are not static in time or space, here it is stressed that they are dynamic and evolving in relational ways (Yeung, 2005b). For Ettlinger (2003: 157), theories privileging network relations are "insufficient to explain how different types of connections among different types of actors make a difference, and do so in different contexts".

A key finding of this research is that recording studios are effectively a "messy constellation of multiple identities" (Yeung, 2005a: 451), constituted by spaces and flows of network relations. They are a set of social networks that are continuously made and remade by a mixture of permanent and freelance studio workers embedded in on-going discursive processes. Key for the economic success of recording studios is their enrolment into processes and networks of production that span geographical space. This enrolment is an outcome of the quality of the musical and social relationships that are made by record producers and studio engineers within, through and between studios (Théberge, 2004), relationships that emerge and that are maintained through project-based working. This research has revealed how the ability of recording studio engineers and producers to reach across space and act at-distance, and thus enrol the studios at which they work in wider networks of production, ultimately depends upon the quality of their social relations with other actors, as well as the availability of effective technologies and development of effective creative practices. Thus, as Ettlinger (2001) argues, labour is not a passive part of the production system; but rather, through social relations, influences production processes and culture, engendering the production.

Underpinning this relationality is the project-based working that is so prevalent within the recorded music industry. Project working determines creative practices; drives competition, innovation and technological development; shapes employment practices; and necessitates networking, mobility, and the development of individual social capital. Operating over pre-determined periods of time to produce musical recordings, projects in the music industry pull together a variety of different agents, including skilled studio workers and the studios in which they operate, into temporary networks of collaboration of varying intensities and geographical reach. In the recording studio sector, as in the wider music industry, projects are carried out predominantly within the market, rather than inside the resource boundaries of any one particular recording studio. As participating skill holders employed are

typically freelancers, projects transcend the boundaries of firms. This is the case today even in the largest of recording studios, whose staff are employed on a freelance basis. This form of project-based organisation allows for projects to include new and shifting resources and skills, skill holder motivations and deal with tasks that render internal governance and planning inefficient (Lorenzen and Frederisken, 2005). As DeFillippi and Arthur (1998) assert, such fluid project working challenges the idea of core competencies existing as internal resources, and the knowledge base required to produce a recorded musical product is often outside that of any one recording studio, and in some cases, outside that of any one producer or engineer. In order to produce successful products on global markets, record companies must be able to draw on relevant knowledge bases for the relevant part of the value chain in production (Asheim, 2002), in this instance the production and recording of music, and draw essential competencies into the project as required.

8.5 Concluding comments

In Chapter 3, the argument was made as to the importance of bringing a sociological perspective to bear on project working. Taking such a perspective, and following Christopherson (2002) it is possible to identify three inter-related forces shaping work in the recording studio sector, which correspond to those in project-based creative and media industries more widely. Firstly, skilled workers in the recording studio sector are predominantly employed on a freelance basis. This move has led to an expectation of 'precarity' (see Neilson and Rossiter, 2005; Gill and Pratt, 2008) in work in the sector, high levels of job turnover, and mobility from project to project and from employer to employer. Secondly, and related to the above, studio workers need to maintain a close connection with, and obtain information on, their prospective employers (studios) and clients (musicians, recording artists) in order to position themselves to get work as and when it becomes available. Finally, and related to the above points, studio workers have a reliance on personal networks to obtain employment and to build a career. As Wittel (2001) argues, networking is the 'emblematic practice'

in projects. The research presented in this thesis has highlighted the importance of 'active networking' (Blair, 2009), 'reputation work' (Zafirau, 2008), and the development of 'networked reputation' (Glückler, 2007), in this respect. It has also demonstrated the importance of 'emotional labour' (Hochschild, 1983) in the building of reputation. However, while the building of personal networks and their associated 'social capital' (Bourdieu, 1986; Coleman, 1988) are vital for survival in a precarious economic environment, the social-network basis for job matching in the recording studio sector may be intensifying inequalities in pay and opportunities between studio workers (see also Christopherson, 2002, on the media industries more widely).

This chapter has presented a discussion that pulls together the combined empirical findings from three research methods (extensive social network analysis, questionnaire survey, and intensive semi-structured interviews) with literature from a range of academic disciplines on cultural production, creative practice and project-based working. Emphasising that recording studios are relational creative social and economic spaces, the chapter has highlighted the central role of sociality and 'active' networking in project-based working in the recording studio sector. This sociality may be more or less intensive and more or less stretched, from the often intense face-to-face creative encounters in the space of the studio, to the more stretched sociality required; while technologies continue to be developed for networking studios in geographically distant locations, sociality remains an important part of creative practice at all scales of production.

Recording studios are "messy constellations" (Yeung, 2005a: 451) of multiple identities, constituted by spaces and flows of network relations. Recording studios of course have no agency within themselves; rather they are enrolled and positioned within networks of musical production by the producers and engineers who work within them and move through them, with varying

degrees of intensity and duration, as they individually actively network and build social capital in their attempts to forge a career in an precarious project-based sector of the creative economy. Similarly, as is demonstrated in Chapter 4, cities also are enrolled and positioned within networks of musical production by the social networks of producers and engineers working within them and moving through the studio located within them. Recording studios can then be considered as local anchoring points in the cultural metropolises of the global urban network; they are sites and spaces of creative practice through which network relations flow, enrolling cities within global urban networks of music production and positioning them as more or less central and more or less powerful within these networks.

As such, the connections that exist between cities with concentrations of music industry companies and infrastructure through their production and distribution of music cannot be accurately captured and measured through an intra-firm analysis, but require quantitative measures and in-depth qualitative research strategies that are able to capture the complexities of social networks. Such a strategy has been developed in this research to analyse and unpack relational practice in London's recording studios. The research has unpacked the creative and network practices that enrol actors in London's recording studio sector into local and global networks of music production, and accordingly give London a pre-eminent position within national and global networks of music production (see again Chapter 4).

9 Conclusions

The research presented in this thesis has taken inspiration from a number of recent theoretical and empirical shifts in the field of economic geography; in particular shifts from structure to agency; from macro-scale to micro-scale analyses; and from intra-firm relations to complex social networks. Adoption of these new positions has allowed the development of a relational perspective on creative production, focused specifically on the recording studio sector of the recorded music industry in the global city of London. This perspective has three key features. Firstly, rather than considering the economic *structure* of the recording sector *per se*, the focus of the research has been on the placed and embodied *agency* of studio workers, that is to say the people involved in the 'daily practices of work' (Ettlinger, 2003) in the recording studio sector - on the technical and creative roles they perform, on their performance of emotional labour, and on their networking activities. Secondly, the research has moved from a macro-scale analysis of the intra- and inter-studio network patterns observable at the global scale, to a micro-scale analysis that uncovers the practices that form, maintain, and sometimes inhibit or break, social networks between individuals and between recording studios. Finally, and related to the last two points, while the majority of literature on the recorded music industry has focused on record companies as the firms at the centre of production networks, privileging the firm as the central unit of analysis (see for example earlier research presented in Watson, 2008), this study has focused on the social networks being built in and around recording studios, which have been presented here as important sites of trans-local work.

9.1 Principal findings

Through developing a relational perspective on cultural production, and applying this to the recording studio sector, the research has revealed how recording studios are constituted by a number of different types of relations. Firstly, studios are spaces which enable a *material and technological relationality* between studio workers and the studios within which they work, with record producers and recording engineers utilising both the studio space and technologies to record music. Studios are material and technological spaces that influence and shape human actions and social inter-actions. Thus studios can be considered 'sociotechnical spaces' (Leyshon, 2009) or 'machinic complexes' (Sheller, 2004; Gibson, 2005), housing assemblages of bodies and technologies. To employ actor network theory terminology (see Latour, 2005), recording technologies represent crucial non-human intermediaries that "play a critical role in embodying and shaping action" (Law, 1994; 383) in the production and recording of music.

Thus, following Felix Guattari, the artistic practices performed by engineers and producers through the use of technologies can be considered as 'machinic performances'. Rather than being simply technological resources or passive actors, these technologies and their various capabilities "intervene actively to push action in unexpected directions" (Callon and Law, 1997: 178), with technologies 'shifting-out' functions from the bodily to the mechanical domain (Latour, 1992). With different 'palates' of technologies found in different recording studios (Leyshon, 2009), the various pieces of recording equipment are used and employed by different engineers and producers in different ways and in different contexts, resulting in a variety of different sounds, and very often in unintended outcomes that in themselves are an important part of musical creativity and production.

Furthermore, technologies that allow the networking of recording studios, such as file sharing technologies and ISDN technologies for remote simultaneous working, enable social actors to develop and maintain social relations that span out across geographical space (see Dicken *et al.*, 2001). As such, the creative networks constructed in and between recording studios are diverse, heterogeneous networks involving both human and non-human actants (see Sunley, 2008). Arguably for studios to be economically successful, these networks need to be both as dense and as stretched as possible, as demonstrated through the social network analysis presented in Chapter 4.

Secondly, studios are sites of *social relationality*, as studios workers collaborate with musicians/recording artists to create music. The ability to construct and maintain social relations within and beyond the space of the studio is of particular importance in two respects. Firstly, the ability to build and maintain relationships with clients is central to the management of the creative process of producing and recording music. The research presented in this thesis highlights the importance in this respect of the emotional labour performed by studio workers. Social relationality may be localised to the insulated space of the recording studio, or 'stretched' as engineers and producers move through and between studios or utilise new internet technologies that allow remote working with clients in geographical dispersed locations. The building of social networks by recording engineers and record producers is vital to the economic success of recording studios. Given that recording studios typically have very few permanent employees or internal resources (apart from recording equipment), they can be considered as a "messy constellation of multiple identities" (Yeung, 2005a: 451), and as essentially a set of social networks that are developed by a mixture of permanent and freelance studio workers embedded in on-going discursive processes.

Constructing social relations appears crucial in building the individual social capital of studio workers. Social capital (see Bourdieu, 1986; Coleman,

1988) can be understood as a relational resource capability that is built collectively and cannot be possessed or built without the active involvement of others (Bathelt and Glückler, 2005). Strong social capital offers a set of opportunities (in this case, opportunities for future work) that recording engineers and record producers can "draw from the quality and structure of their relations with other actors in order to pursue individual objectives" (Bathelt and Glückler, 2005: 1555; see also Bathelt and Glückler, 2003). Supporting the findings of Hesmondhalgh and Baker (2010), there was a clear understanding amongst studio workers that the contacts which eventually lead to contracts rely on sociability. An important part of building this social (and cultural) capital is 'networked reputation'. Following Glückler (2007), we can posit that reputation is networked when new contacts learn about each other's reputation through joint trusted contacts within their social network. The building of a social network can then also be understood as active 'reputation work' through which producers and engineers spread and enhance their networked reputation. As Zafirau (2008) argues, reputation is an important feature in the interactional contexts of work in the creative industries, acting as a stabilising feature of an otherwise uncertain business, helping to make contacts, facilitating the development of trust within networks, and marking competency (see also Murphy, 2006).

Finally, studios are sites of changing *employment relations* between studio workers and studio as employers. A relational perspective draws attention to the ways in which the interests of individuals within firms coincide with, or diverge from, the material interests of the firm, and the implications this has for firm practices (Boggs and Rantisi, 2003). In the recording studio sector, a complex and changing set of employment practices have re-defined the relationship between employee and employer, and shape these coinciding or diverging interests. Contracted salaried positions are now rare in the recording studio sector; studio workers predominantly work on a freelance basis, sometimes retained to particular studios. This situation has led to the development of new employment strategies by studios, which aim to be mutually beneficial to both the retained/freelance engineer/producer and the

recording studio and as such result in the coincidence of the individual interests of individual engineers and producers and the material interests of the studio. However, results from this research suggest that these employment relations are balanced unevenly towards recording studios, which, in paying staff a retainer, or moving staff on to freelance contracts, move the pressure of obtaining work, and the financial risk of not doing so, away from the studio management and on to producers and engineers. As such, these new employment relations are characterised by constant employment uncertainty for freelance studio workers. This in turn encourages the self-interest and self-preservation of freelance workers, who look to form networks and make associations through which they can win work, networks which may advance the interests of their studio employers, but will certainly prioritise personal interests.

Underpinning the above is the project-based working that is so prevalent within the recorded music industry. Operating over pre-determined periods of time to produce musical recordings, projects in the music and recording industry pull together a variety of different agents, including skilled studio workers and the studios in which they operate, into temporary networks of collaboration of varying intensities and geographical reach. At the same time, they drive competition in the sector, not only between different record companies and different recording studios, but also between individual workers in the recording studio sector. Projects thus determine creative practices, drive technological development and innovation, shape employment practices, and necessitate networking and mobility. Put short, *relational working* requires *relational practice*.

These three types of relations constitute recording studios as distinctive relational creative social and economic spaces. In developing a relational understanding of recording studios, this research has demonstrated the ways in which creativity interacts with the physical form and material space of the recording studio, technology, and the various actors in networks of creativity

and production, in complex ways. The research has also looked to add to this understanding by drawing on sociological perspectives on cultural work to understand the ways in which employment relations and working conditions also influence creativity. The research has highlighted how these various types of relations and networks are manifest at a multiplicity of interconnected geographical scales; from the often intimate relationships formed in the insulated creative space of the recording studio; through to the global-scale creative collaboration, facilitated by the mobility of skilled studio workers and by new technologies allowing collaborative working at-distance, that links cities globally together into networks of production.

The importance of taking a relational geographical approach to studying creative production is thus highlighted in the way that recording studios are at once sites of spatial and temporal closeness and convergence, and spatial and temporal distance and dispersion. Recording studios are not however unique in this respect as relational sites and spaces of creative production and project-based working. Creative practice and project-based work is inherently relational. As demonstrated through this research, project-based workers (and particularly those in sectors of precarious employments such as those found in the creative industries) are active networkers, developing the social capital and networked reputation that is vital to their continued employment. The relations they develop extend over space and time with different degrees of intensity and reach, linking production sites together into networks; as Rogers argues, "even when creative practices are situated, they operate through networks and flows that link locations together" (2011: 663). As such, a wide variety of sites and spaces of creative practice and project-based work become materially emergent within "their unfolding event relations" with other sites (Marston *et al.*, 2005: 426). A relational perspective is therefore central to progressing geographical accounts of work and production in the cultural industries, and in project-based industries more widely, due to the way in which such a perspective is sensitive to the geographical scales at which social actors and their networks operate.

The research presented in the thesis has successfully met its overall aim, namely to examine the validity of a relational economic geography framework for researching and understanding this particular sector of the music industry. Specifically, it has addressed two related shortcomings in relational economic geography, as identified in the introduction to this thesis. The first of these relates to the continued focus in economic geography on networks at the meso-level of inter-organisational networks (Storper and Salais, 1997; Grabher (2004a), at the expense of more detailed micro-scale examinations of networking practice. The second relates to lack of the role played by emotion in developing trust and reputation in networks practice (see Ettlinger, 2003).

With these shortcomings in mind, the research presented in this thesis makes moves the relational economic geography framework forward in three key respects. First, rather than considering the economic structure of a particular organisation or industry, the approach employed in this thesis places emphasis on the embodied agency of workers in project-based industries. It that sense it is concerned with the people involved in the 'daily practices of work' (Ettlinger, 2003) that are often uncritically subsumed into inter-firm networks.

Secondly, the approach challenges the centrality of the firm in economic geography, in its focus on the social networks that are so crucial in project-based industries increasingly characterised by freelancing and precarity. Empirical work has demonstrated that individuals may form networks within and outside firms that can either advance the interests of their employers (see for example Amin and Cohendet, 1999) or prioritise personal interests over those of their employers (see for example Christopherson, 2002). As Boggs and Rantisi (2003: 112) emphasise, "the logics that inform workplace practices cannot solely be understood in narrow economic terms or in terms of one single rationality, and accordingly, cannot be unconsciously equated or conflated with

those of the firm". As Yeung (2005) argues that there is a need for a relational conception of the firm as social networks in which actors are embedded in on-going power relations and discursive processes.

Finally, and associated with the above, the approach demonstrates the ways in which fine-grained, micro-level analysis of economic activity are able to uncover the "full heterogeneity of network practices in economic geography" (2012: 80). These include not only social, cultural and economic practices. An important contribution of the thesis in this respect is to highlight the little-recognised importance of informal, 'softer' personality characteristics and symbolic attributes, and the performance of emotional labour, in the building and maintenance of social networks, trust and reputation.

While each of these three 'shifts' – from structure to agency, from firm to social networks, and from macro/meso to micro-level analysis – have been outlined in a theoretical sense in the body of literature on the relational turn in economic geography (see in particular Boggs and Rantisi 2003), little literature has successfully translated these ideas into empirical work an empirical framework. The framework outlined in this thesis offers an empirical approach to incorporating these shifts into work in economic geography. Doing so successfully is central to developing understandings of relational work and project-based working that are sensitive to the geographical scales across which actors and their networks operate (see Dicken et al. 2001). Furthermore, drawing on such a framework can enable economic geographers to provide more nuanced accounts and critiques of the neo-liberalisation of work across project-based industries.

9.2 Directions for future research

The research presented in this thesis suggests a number of interesting and valuable directions for future research, both into the recording studio sector specifically, and the cultural economy more widely.

Emotional labour

The first of these avenues for future research relates to emotional labour. As an area of the economy on which little research on emotional labour has focused to date (with the exception of Kennedy, 2005, and Hesmondhalgh and Baker, 2010), the creative industries and new media represent a fruitful area for future research on emotional labour outside of the formal service economy.

The concept of emotional labour was not initially considered or researched during the early stages of this research project. Rather, it was something that emerged strongly from the qualitative interviews when questions were asked regarding building and maintaining creative working relationships within the studio. The findings from this research have subsequently highlighted there are a number of contradictions between the original emotional labour thesis offered by Hochschild (1983) and emotional work in recording studios. Each of these contradictions suggests interesting avenues for future research. Firstly, while Hochschild's thesis draws on the assertion of Wright Mills' (1959) that the rise in the importance of service work and the associated 'personality' market represents a shift from 'skills with things' to 'skills with people', recording studio workers, especially recording engineers, must have highly developed skills with 'things' – in this instance recording studio equipment - and with people. Further research is then required into work in other sectors outside of the service economy, including the recording studio sector, in which people

primarily performing technical or other specialist roles are also being required to perform emotional labour as part of their role, often without formal training in dealing with people. This is the case with studio workers, who require multiple competencies in order to work with sound technologies and people, but who are usually only formally trained in the technological competency.

Secondly, Hochschild (1983) argues that emotional labour cannot be considered gender neutral, with empirical research demonstrating that forms of employment that appear to demand significant amounts of emotional labour are dominated by women (see for example, Taylor and Tyler, 2000, and Tyler and Abbott, 1998, on the airline industry). However, this research has revealed the emotional labour being performed within a recording studio sector in which music production and recording engineering remain almost exclusively male forms of employment. Further investigation is then required into the performance of emotional labour by male workers not only in the recording studio sector, but also in a wide range of sectors of the economy.

Finally, while emotional labour is usually understood to be implicated in face-to-face encounters between service producers and consumers, the technologically-networked nature of recording studios is increasing the importance of 'distanciated emotional labour' (see for example Bryson, 2007, on the offshoring of corporate services) in the work undertaken by studio workers. Thus more research is required into how emotional labour is being performed at-distance across a wide range of sectors in which businesses and workers deal with clients through information technologies rather than through face-to-face transactions.

Wider urban contexts

The first of these avenues relates to the wider urban context in which music production is situated. The findings from this research are very specific to music production in the city of London, and the extent to which these findings are more generalisable to music production in the urban contexts of other music-producing cities, whether major globally-important producer cities (Los Angeles and New York) or smaller nationally-important urban centres of music production (such as Cardiff and Bristol in the UK, Nashville in the US, or Sydney and Melbourne in Australia; see Chapter 4) is questionable. While the high level of network flows between the three major centres of production does suggest some level of shared cultural and economic context, the creative and economic processes and patterns of music production in each urban centre may well be very different. Brandellero and Pfeffer (2011), in their study of the transnational geographies of world music production, suggest that successful large centres of production do not only depend on positive externalities beneficially impacting production activities, but also appears to reflect the ability of a metropolitan area to draw upon and combine multiple scales and networks of cultural production.

One example of further research in this area would be then to examine why musicians, engineers and producers are attracted to live and work in particular cities, and whether the decision to do so relates purely to the economic and employment benefits offered by strong clusters of music industry infrastructure, or whether other factors relating to urban context (lifestyle and culture, for example) are also important. Another example relates to trust, and specifically to the development of a relational understanding of trust. There is much scope for empirical research into the recording studio sector, and into the music industry and cultural industries more widely, that examines trust in relation to the agents, spaces, and places where it emerges – people's

"universes of action" (Ettlinger, 2003: 146) - and its importance in establishing and maintaining collaborative relationships. As Murphy (2006) argues, such a perspective would move understandings of trust past solely instrumental conceptualisations that see trust as an economic asset or input.

The economic sustainability of recording studios

Finally, there is a third and very important avenue for future research. This relates to the economics of the recording studio sector, and specifically the continued future sustainability of both individual recording studios and the wider recording studio sectors in which they are situated. Such studies would be extremely timely due to the current economic crisis in the sector (see Leyshon, 2009) set within the context of the digitalisation of music (including the continued development of digital technologies that allow for home recording) and the resulting crisis in the wider music industry (see Leyshon, 2001, 2003; Leyshon *et al.*, 2005). A significant amount of data emerged on this issue from the qualitative interviews undertaken as part of this research, with participants extremely keen to discuss issues regarding economics and employment. However, there was not the scope within this thesis to present and analyse this data in the detail it deserved, other than that information emerging on changing employment patterns within the industry. Building on the work of Leyshon, further research is urgently required to ascertain the impact of digitalisation on both the music industry and the recording studio sector, especially research which speaks to policy.

References

Aksoy, A. (1992) "Mapping the information economy: integration for flexibility" in Robins, K. (ed.) *Understanding Information: Business, Technology, and Geography.* London: Belhaven Press

Alderson, A.S. and Beckfield, J. (2004) "Power and position in the World City system" *American Journal of Sociology* **109** (4), pp. 811-851

Allen, J. (1997) "Economies of power and space" In Lee, R. and Wills, J. (eds.) *Geographies of Economies.* London: Arnold, pp. 59-70

Allen, R. and Wilcken, L. (2001) *Island sounds in the global city: Caribbean popular music and identity in New York.* Chicago: University of Illinois Press

Alveson, M. and Skoldberg, K. (2000) *Reflexive Methodology: New Vistas for Qualitative Research.* London: Sage

Amin, A. (2002) "Spatialities of globalization" *Environment and Planning A* **34**, pp. 385-389

Amin, A. (2007) "Re-thinking the urban social" *City* **11**, pp. 100-114

Amin, A. and Cohendet, P. (1999) "Learning and adaption in decentralized business networks" *Environment and Planning D: Society and Space* **17**, pp. 87-104

Amin, A. and Thrift, N. (2007) "Cultural-economy and cities" *Progress in Human Geography* **31** (2), pp. 143-161

Anderson, B., Morton, F. and Revill, G. (2005) "Practices of music and sound" *Social and Cultural Geography* **6** (5), pp. 639-644

Andersson, A. E. and Andersson, D. E. (2006) *The Economics of Experiences, the Arts and Entertainment.* Cheltenham: Edward Elgar

Antcliff, V., Saundry, R., and Stuart, M. (2007) "Networks and social capital in the UK television industry the weakness of weak ties" *Human Relations* **60** (2), pp.371-393

Arksey, H. and Knight, P. (1999) *Interviewing for Social Scientists: An Introductory Resource with Examples.* London: Sage

Asheim, B. T. (2002) "Temporary organizations and spatial embeddedness of learning and knowledge creation" *Geografiska Annaler* **84 B** (2), pp. 111-124

Ashforth, B.E. and Humphrey, R.H. (1993) "Emotional labour in service roles: the influence of identity" *The Academy of Management Review* **18** (1), pp. 88-115

Attali, J. (1985) *Noise: The Political Economy of Music.* Minneapolis: University of Minnesota Press

Bailey, C., White, C., and Pain, R. (1999) "Evaluating qualitative research: dealing with the tension between 'science' and 'creativity'" *Area* **31** (2), pp. 169-183

Banks, M. (2007) *The Politics of Cultural Work.* Basingstoke: Palgrave MacMillan

Banks, M. and Hesmondhalgh, D. (2009) "Looking for work in creative industries policy" *International Journal of Cultural Policy* **15** (4), pp. 415–430

Banks, M., Lovatt, A., O'Connor, J. and Raffo, C. (2000) "Risk and trust in the cultural industries" *Geoforum* **31**, pp. 453-464

Bathelt, H. (2005) "Cluster relations in the media industry: exploring the 'distanced neighbour' paradox in Leipzig" *Regional Studies* **39**, pp. 105-127

Bathelt, H. (2006) "Geographies of production: growth regimes in spatial perspective 3 – toward a relational view of economic action and policy" *Progress in Human Geography* **30** (2), pp. 223-236

Bathelt, H. and Glückler, J. (2003) "Toward a relational economic geography" *Journal of Economic Geography* **3**, pp.117-144

Bathelt, H. and Glückler, J. (2005) "Resources in economic geography" *Environment and Planning A* **37**, pp.1545-1563

Bathelt, H. and Glückler, J. (2011) *The Relational Economy: Geographies of Knowing and Learning.* Oxford: Oxford University Press

Baumann, A. (2002) "Informal labour market governance: the case of British and German media production industries. *Work, Employment and Society* **16** (1), pp. 27-46

Baxter, J. and Eyles, J. (1997) "Evaluating qualitative research in social geography: establishing 'rigour' in interview analysis" *Transactions of the Institute of British Geographers* **22**, pp. 505-525

Beale, A. (1999) "From 'Sophie's Choice' to consumer choice: framing gender in cultural policy" *Media, Culture & Society* **21**, pp. 435-458

Bennett, A. (1999a) "Subcultures or neo-tribes? Rethinking the relationship between youth, style and musical taste" *Sociology* **33** (3), pp. 599-617

Bennett, A. (1999b) "Hip hop am Main: the localization of rap music and hip hop culture" *Media, Culture and Society* **21** (1), pp. 77-91

Bennett, A. (2000a) *Popular music and youth culture: music, identity and place.* Basingstoke: Palgrave Macmillan

Bennett, A. (2000b) *Cultures of popular music.* Maidenhead: Open University Press

Bennett, A. (2002) "Music, media and urban mythscapes: a study of the 'Canterbury Sound'" *Media, Culture and Society* **24** (1), pp. 87-100

Bennett, A. and Peterson, R. A. (2004) (eds.) *Music Scenes Local, Translocal, and Virtual.* Nashville: Vanderbilt University Press

Black, T.R. (1999) *Doing Quantitative Research in the Social Sciences.* London: Sage

Blair, H. (2001) ""You're only as good as your last job": the labour process and labour market in the British Film Industry" *Work, Employment and Society* **15** (1) pp. 149-169

Blair, H. (2009) "Active networking: action, social structure and the process of networking" in McKinlay, A and Smith, C (eds.) *Creative Labour: Working in the Creative Industries.* Basingstoke: Palgrave Macmillan

Blair, H., Culkin, N. and Randle, K. (2003) "From London to Los Angeles: a comparison of local labour market processes in the US and UK film industries" *The International Journal of Human Resource Management* **14** (4), pp. 619-633

Blair, H., Grey, S. and Randle, K. (2001) "Working in film: employment in a project based industry" *Personnel Review* **30** (2), pp. 170-185

Boggs, J.S. and Rantisi, N.M. (2003) "The 'relational turn' in economic geography" *Journal of Economic Geography* **3**, pp. 109-116

Borgatti, S. P., Everett, M. G., and Freeman, L. C. (2002) *UCINET for Windows: Software for Social Network Analysis*, Harvard: Analytic Technologies

Bourdieu, P. (1984) *Distinction: A Social Critique of the Judgment of Taste.* London: Routledge and Kegan Paul

Bourdieu, P. (1986) "The forms of capital" in Richardson, J. (ed.) *Handbook for Theory and Research for the Sociology of Education.* New York: Greenwood Press, pp. 241-258

BPI (2009) *BPI Statistical Handbook 2009.* British Phonographic Institute

Bradley, L. (2001) *Bass Culture: When Reggae was King.* London: Penguin

Brandellero, A.M.C. and Pfeffer, K. (2011) "Multiple and shifting geographies of world music production" *Area* **43** (4), pp. 495-505

Brewer, R. (2000) "String musicians in the recording studios of Memphis, Tennessee" *Popular Music* **19** (2), pp. 201-215

Brown, J.S. and Duguid, P. (1991) "Organizational learning and communities-of-practice: towards a unified view of working, learning and innovation" *Organization Science* **2**, pp. 40-57

Bryman, A. (2000) *Quantity and Quality in Social Research.* London: Routledge

Bryman, A. (2004) *Social Research Methods.* 2nd edition. Oxford: Oxford University Press

Bryman, A. (2008) *Social Research Methods.* 3rd edition. Oxford: Oxford University Press

Bryson, J.R. (2007) "The 'second' global shift: the offshoring or global sourcing of corporate services and the rise of distanciated emotional labour" *Geografiska Annaler B* **89** (1) pp. 31–43

Burnett, R. (1996) *The Global Jukebox: The International Music Industry.* London: Routledge

Burnett, R. (2001) "Global strategies and local markets: explaining Swedish music export success" in Gebesmair, A. and Smudits, A. (eds.) *Global Repertoires.* Aldershot: Ashgate

Callon, M. (1986) "Elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay" in Law, J. (ed.) *Power, Action and Belief: A New Sociology of Knowledge?* London: Routledge, pp. 196-233

Callon, M. and Law, J. (1997) "After the individual in society: lessons on collectivity   from science, technology and society" *Canadian Journal of Sociology* **22** (2),   pp. 165-182

Charmaz, K. (2000) "Grounded Theory: Objectivist and Constructivist Methods" in Denzin, N.K, and Lincoln, Y. (2000) (Eds.) *Handbook of Qualitative Research.* London: Sage

Charmaz, K. (2003) "Grounded theory" in Smith, J.A. (Ed.) *Qualitative Psychology: A Practical Guide to Research Method.* London: Sage

Charmaz, K. (2006) *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis.* London: Sage

Christopherson, S. (2002) "Project work in context: regulatory change and the new geography of media" *Environment and Planning A* **34**, pp. 2003-2015

Christopherson, S. (2004) "The divergent worlds of new media: how policy shapes work in the creative economy" *Review of Policy Research* **21** (4) pp. 543-558

Christopherson, S. and Storper, M. (1989) "The effects of flexible specialisation on industrial politics and the labor market: the motion picture industry" *Industrial and Labor Relations Review* **42** (3), pp. 331-347

Cogan, J. and Clark, W. (2003) *Temples of sound: inside the great recording studios.* San Francisco: Chronicle

Cohen, S. (1991a) *Rock culture in Liverpool: popular music in the making.* Oxford: Oxford University Press

Cohen, S. (1991b) "Popular music and urban regeneration: the music industries of Merseyside" *Cultural Studies* **5** (3), pp. 332-346

Cohen, S. (1995) "Sounding out the city: music and the sensuous production of place" *Transactions of the Institute of British Geographers* **20** (4), pp. 434-446

Cohen, S. (2007) *Decline, renewal and the city in popular music culture: beyond the Beatles.* Aldershot: Ashgate

Cohen, S. and Lashua, B. (2010) "Pubs in the precinct: music making, retail developments and the characterization of urban space" in Leonard, M. and Strachan, R. (eds.) *The Beat Goes On: Liverpool, Popular Music and the Changing City.* Liverpool: Liverpool University Press

Cole, A. (2008) "'Distant neighbours: the new geography of animated film production in Europe" *Regional Studies* **42** (6), pp. 891-904

Coleman, J. (1988) "Social capital in the creation of human capital" *American Journal of Sociology* **94** (special supplement), pp. S95-S120

Connell J., and Gibson, C. (2003) *Sound tracks: popular music, identity, and place.* London: Routledge

Connell, J. and Gibson, C. (2004a) "World music: deterritorializing place and identity" *Progress in Human Geography* **28** (3), pp. 342-361

Connell, J. and Gibson, C. (2004b) "Vicarious journeys: travels in music" *Tourism Geographies* **6** (1), pp. 2-25

Cooper, C. (2004) *Sound clash: Jamaican dancehall culture at large.* New York: Palgrave Macmillan

Crang, P. (1994) "It's Showtime: on the workplace geographies of display in a restaurant on Southeast England" *Environment and Planning D* **12**, pp. 675-704

Crewe, L. (1996) "Material culture: embedded firms, organizational networks and the local economic development of a fashion quarter" *Regional Studies* **30**, pp. 257-272

Critcher, C. (2000) "'Still raving': social reaction to ecstasy" *Leisure Studies* **19** (3), pp. 145-162

Cummins-Russell, T.A. and Rantisi, N.M. (2012) "Networks and place in Montreal's independent music industry" *The Canadian Geographer* **56** (1), pp. 80-97

Cunningham, M. (1998) *Good Vibrations: A History of Record Production.* London: Sanctuary Publishing

Currid, E. (2007a) *The Warhol economy: how fashion, art, and music drive New York City.* Princeton, NJ: Princeton University Press.

Currid, E. (2007b) "How art and culture happen in New York" *Journal of the American Planning Association* **73** (4), pp. 454-467

Davenport, J. (2006) "UK film companies: project-based organisations lacking entrepreneurship and innovativeness?" *Creativity and Innovation Management* **15** (3), pp. 250-257

DCMS (2011) *Creative Industries Economic Estimates, Full Statistical Release.* Department for Culture, Media and Sport, 8 December 2011 http://www.culture.gov.uk (accessed 26/03/12)

DeFillippi, R. J. and Arthur, M. B. (1998) "Paradox in project-based enterprise: the case of film making" *California Management Review* **40** (2), pp. 125-139

Denzin, N.K. and Lincoln, Y. (2000) (eds.) *Handbook of Qualitative Research.* London: Sage

De Vaus, D.A. (1991) *Surveys in Social Research.* London: UCL

De Vaus, D.A. (2001) *Research Design in Social Research.* London: Sage

Dex, S., Willis, J., Peterson, R. and Sheppard, E. (2000) "Freelance workers and contract uncertainty: the effects of contractual changes in the television industry" *Work, Employment & Society* **14** (2), pp. 283-305

Dicken, P. (2011) *Global Shift: Mapping the Changing Contours of the World Economy.* Sixth Edition. London: Sage

Dicken, P., Kelly, P.F., Olds, K. and Yeung, H.W. (2001) "Chains and networks, territories and scales: towards a relational framework for analysing the global economy" *Global Networks* **1** (2), pp. 89-112

Dicken, P. and Malmberg, A. (2001) "Firms in territories: a relational perspective" *Economic Geography* **77**, pp. 345-363

Drake, G. (2003) "'This place gives me space': place and creativity in the creative industries" *Geoforum* **34** (4), pp. 511-524

Dudrah, R. (2007) *Bhangra.* Birmingham: Punch

Du Gay, P., Salaman, G. and Rees, B. (1996) "The conduct of management and the management of conduct: contemporary managerial discourse and the constitution of the 'competent' manager" *Journal of Management Studies* **33** pp. 263-282

Ebdon, D. (1992) *Statistics for Geographers.* Oxford: Blackwell

Ekinsmyth, C. (1999) "Professional workers in a risk society" *Transactions of the Institute of British Geographers* **24** (3), pp. 353-366

Ekinsmyth, C. (2002) "Project organization, embeddedness and risk in magazine publishing" *Regional Studies* **36** (3), pp. 229-243

Ekstedt, E., Lundin, R., Söderholm, A. and Wirdenius, H. (1999) *Neo-Industrial Organising: Renewal by Action and Knowledge Formation in a Project-Intensive Economy.* London: Routledge

England, P. and Farkas, G. (1986) *Households, Employment, and Gender: A Social, Economic and Demographic View.* New York: Aldine

Entwistle, J. and Wissenger, E. (2006) "Keeping up appearances: aesthetic labour in the fashion modelling industries of London and New York" *The Sociological Review* **54** (4), pp. 774 – 794

Ettlinger, N. (2001) "A relational perspective in economic geography: connecting competitiveness with diversity and difference" *Antipode* **33**, pp. 216-227

Ettlinger, N. (2003) "Cultural economic geography and a relational and microspace approach to trusts, rationalities, networks and change in collaborative workplaces" *Journal of Economic Geography* **3** (2), 145-171

Faulconbridge, J.R., Beaverstock, J.V., Derudder, B. and Witlox, F. (2009) "Corporate ecologies of business travel in professional service firms" *European Urban and Regional Studies* **16** (3), pp. 295-308

Florida, R. (2002a) *The Rise of the Creative Class – and How It's Transforming Work, Leisure, Community and Everyday Life.* New York, Basic

Florida, R. (2002b) "The Economic Geography of Talent" *Annals of the Association of American Geographers* **92** (4), pp.743-755

Florida, R. (2002c) "Bohemia and economic geography" *Journal of Economic Geography* **2**, pp. 55-71

Florida, R (2005) Cities and the Creative Class. London: Routledge

Florida, R. and Jackson, S. (2010) "Sonic city: The evolving economic geography of the music industry" *Journal of Planning Education and Research* **29** (3), pp. 310–321

Florida, R., Mellander, C. & Stolarick, K. (2009) "Music scenes to music clusters: the economic geography of music in the US, 1970-2000" *Environment and Planning A* **42** (4), pp. 785-804

Foord, J. (1999) "Reflections on 'hidden art" *Rising East* **3** (2), pp. 38-66

Fowler, F.J. (1988) *Survey Research Methods.* London: Sage

Fraser, A. and Ettlinger, N. (2008) "Fragile empowerment: the dynamic cultural economy of British drum and bass music" *Geoforum* **39** (5), pp. 1647-1656

Friedman, J. (2001). "The iron cage of creativity: an exploration" In: Liep, J. (ed.) *Locating cultural creativity.* London: Pluto Press, pp. 46-61

Frith, S. (1996) *Performing rites: on the value of popular music* Cambridge, MA: Harvard University Press.

Frith, S. and Goodwin, A. (1990) *On record: rock, pop, and the written word.* London: Routledge.

Furia, P. (1992) *The poets of Tin Pan Alley: a history of America's great lyricists.* New York: Oxford University Press

Gallan, B. (2012) "Gatekeeping Night Spaces: the role of booking agents in creating 'local' live music venues and scenes" *Australian Geographer* **41** (1), pp. 35-50

Gann, D.M. and Salter, A.J. (2000) "Innovation in project-based, service-enhanced   firms: the construction of complex products and systems" *Research Policy* **29**, pp. 955-972

Gertler, M.S. (2003) "Tacit knowledge and the economic geography of context, or the undefinable tacitness of being (there)" *Journal of Economic Geography* **3**, pp. 75-99

Gibson, C. (1999) "Subversive sites: rave culture, spatial politics and the internet in Sydney, Australia" *Area* **31** (1), pp. 9-33

Gibson, C. (2002) "Rural transformation and cultural industries: popular music on the New South Wales far north coast" *Australian Geographical Studies* **40** (3), pp. 337-356

Gibson, C. (2005) "Recording studios: relational spaces of creativity and the city" *Built Environment* **31** (3), pp. 192–207

Gibson, C. and Connell, J. (2005) *Music and tourism.* Bristol: Channel View Publications

Gibson, C. and Davidson, D. (2004) "Tamworth, Australia's 'country music capital': place marketing, rurality, and resident reactions" *Journal of Rural Studies* **20** (4), pp. 387-404

Gibson, C. and Homan, S. (2004) "Urban redevelopment, live music and public space: cultural performance and the re-making of Marrickville" *International Journal of Cultural Policy* **10** (1), pp. 67-84

Giddens, A. (1994a) *Beyond left and right: the future of radical politics.* Cambridge: Polity Press

Giddens, A. (1994b) "Replies and critiques" in Beck, U., Giddens, A., Lash, S. (eds.) *Reflexive Modernisation; Politics, Tradition, and Aesthetics in the Modern Social Order.* Cambridge: Polity Press

Gill, R. (2002) "Cool, creative and egalitarian? Exploring gender in project-based new media work in Europe" *Information, Communication and Society* **5** (1), pp. 70-89

Gill, R. and Pratt, A.C (2008) "In the social factory? Immaterial labour, precariousness and cultural work" *Theory, Culture and Society* **25** (7-8), pp. 1- 30

Gill, W. (1993) "Region, agency and popular music: the northwest sound, 1958-1966" *The Canadian Geographer* **37** (2), pp. 120-131

Gillett, C. (1996) *The Sound of the City: The Rise of Rock and Roll.* 2nd ed. New York: Da Capo Press

Glaser, B.G. and Strauss, A.L. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research.* Chicago: Aldine

Glover, T. D. (2003) "Regulating the rave scene: exploring the policy alternatives of government" *Leisure Sciences* **25** (4), pp. 307-325

Glückler, J. (2005) "Making embeddedness work: social practice institutions in foreign consulting markets" *Environment and Planning A* **37**, pp. 1727 – 1750

Glückler, J. (2007) "Geography of reputation: the city as locus of business opportunity" *Regional Studies* **41** (7), pp. 949-961

Glückler, J. and Armbrüster, T. (2003) "Bridging uncertainty in management consulting: the mechanisms of trust and networked reputation" *Organization Studies* **24**, pp. 269-297

Goodwin, A. (1988) "Sample and hold: pop music in the digital age of reproduction" *Critical Quarterly* **30** (3), pp. 34-49

Goodwin, A. (1998) "Drumming and memory: scholarship, technology and music-making" in Swiss, T., Sloop, J. and Herman, A. *Mapping the Beat: Popular Music and Contemporary Theory.* Oxford: Blackwell

Goulding, C., Shankar, A. and Elliott, R. (2002) "Working weeks, rave weekends: identity fragmentation and the emergence of new communities" *Consumption, Markets and Culture* **5** (4), pp. 261-284.

Grabher, G. (2001a) "Ecologies of creativity: the village, the group, and the heterarchic organisation of the British advertising industry" *Environment and Planning A* **33** (2) pp. 351-374

Grabher, G. (2001b) "Locating economic action: projects, networks, localities, institutions" *Environment and Planning A* **33** (8) pp. 1329-1331

Grabher, G. (2002a) "Cool projects, boring institutions: temporary collaboration in social context" *Regional Studies* **36**, 205-214

Grabher, G. (2002b) "Fragile sector, robust practice: project ecologies in new media" *Environment and Planning A* **34**, pp. 1911-1926

Grabher, G. (2002c) "The project ecology of advertising: task, talents, and teams" *Regional Studies* **36**, pp. 245–262.

Grabher, G. (2004a) "Learning in projects, remembering in networks? Communality, sociality, and connectivity in project ecologies*" European Urban and Regional Studies* **11** (2), pp. 103-123

Grabher, G. (2004b) "Temporary architectures of learning: knowledge governance in project ecologies" *Organization Studies* **25**, pp. 1491-1514

Grabher, G. (2006) "Trading routes, bypasses, and risky intersections: mapping the travels of 'networks' between economic sociology and economic geography" *Progress in Human Geography* **30** (2), pp. 1-27

Granovetter, M. (1985) "Economic action and social structure: the problem of embeddedness" *American Journal of Sociology* **91**, pp. 481-510

Gregg, M. (2008) "Testing the friendship: feminism and the limits of online social networks" *Feminist Media Studies* **8** (2) pp. 197-223

Grindstaff, L. (2002) *The Money Shot: Trash, Class, and the Making of TV Talk Shows.* Chicago: University of Chicago Press

The Guardian (2011) "Universal Music to buy EMI's recorded music division for £1.2bn" November 11th. Available at http://www.guardian.co.uk (accessed 13/11/11)

Guile, D. (2006) "Access, learning and development in the creative and cultural sectors: from 'creative apprenticeship' to 'being apprenticed'" *Journal of Education and Work* **19** (5), pp. 433-453

Guile, D. (2009) "Conceptualizing the transition from education to work as vocational practice: lessons from the UK's creative and cultural sector" *British Educational Research Journal* **35** (5), pp. 761-779

Gunderson, P.A. (2004) "Danger Mouse's *Grey Album*, mash-ups, and the age of composition" *Post-Modern Culture* **15** (1), no pagination

Hakim, C. (1987) *Research Design: Strategies and Choices in the Design of Social Research.* London: Routledge

Halfacree, K. H. and Kitchin, R. M. (1996) "'Madchester rave on': placing the fragments of popular music" *Area* **28** (1), pp. 47-55

Hall, P. (1998) *Cities in civilization.* London: Phoenix

Hanneman, R. A. and Riddle, M. (2005) Introduction to social network methods, Riverside, CA: University of California http://faculty.ucr.edu/~hanneman/nettext/

Hardt, M. and Negri, A. (2001) *Empire* London: Harvard University Press

Hastrup, K. (2001) "Othello's dance: cultural creativity and human agency" In: Liep, J. (ed.) *Locating cultural creativity.* London: Pluto Press, pp. 31-45

Haunschild, A. and Eikhof, D.R. (2009) "Bringing creativity to market: actors as self-employed employees" In McKinlay, A and Smith, C (eds.) *Creative Labour: Working in the Creative Industries.* Basingstoke: Palgrave Macmillan

Helms, D. and Phleps, T. (2007) (eds.) *Sound and the city: Populäre Musik im urbanen Kontext.* Bielefeld: transcript

Henninger, A. and Gottschall, K. (2007) "Freelancers in Germany's old and new media industry: beyond standard patterns and work and life" *Critical Sociology* **33**, pp. 43-71

Hennion, A. (1989) "An intermediary between production and consumption: the producer of popular music" *Science, Technology, and Human Values* **14** (4), pp. 400-424

Henwood, K. and Pigeon, N. (2003) "Grounded theory in psychological research" in Carnic, P.M., Rhodes, J.E. and Yardley, L. (eds.) *Qualitative Research in Psychology.* American Psychological Association Press

Hesmondhalgh, D. (1996) "Flexibility, post-Fordism and the music industries" *Media, Culture and Society* **18**, pp. 469-488

Hesmondhalgh, D. (1998) "The British dance music industry: a case study of independent cultural production" *The British Journal of Sociology* **49** (2) pp. 234-251

Hesmondhalgh, D. (2010) "User-generated content, free-labour and the cultural industries" *Ephemera* **10** (3/4), pp. 267-284

Hesmondhalgh, D. and Baker, S. (2008) "Creative work and emotional labour in the television industry" *Theory, Culture and Society* **25** (7-8) pp. 97-118

Hesmondhalgh, D. and Baker, S. (2010) "'A very complicated version of freedom': conditions and experiences of creative labour in three cultural industries" *Poetics* **38** pp. 4-20

Hobday, M. (2000) "The project-based organisation: an ideal form for managing complex products and systems" *Research Policy* **29**, pp.871-893

Hochschild, A.R. (1983) *The Managed Heart: Commercialization of Human Feeling.* Berkeley: University of California Press

Homan, S. (2002) "Cultural industry or social problem? The case of Australian live music" *Media International Australia incorporating Culture and Policy* **102**, pp. 88-100

Horning, S. S. (2004) "Engineering the performance: recording engineers, tacit knowledge and the art of controlling sound" *Social Studies of Science* **34** (5), pp. 703-731

Hoyler, M. and Mager, C. (2005) "HipHop ist im Haus: cultural policy, community centres, and the making of hip hop music in Germany" *Built Environment* **31** (3), pp. 237-254

Hubbard, P. (2006) *City.* London: Routledge

Hudson, R. (1995) "Making music work? Alternative regeneration strategies in a deindustrialized locality: the case of Derwentside" *Transactions of the Institute of British Geographers* **20** (4), pp. 460-473

Hughes, A. (1999) "Constructing economic geographies from corporate interviews: insights from cross-county comparison of retailer-supplier relationships" *Geoforum* **30**, pp. 363-374

Hughes, J. and Lang K. R. (2003) "If I had a song: the culture of digital community networks and its impact on the music industry" *International Journal on Media Management* **5** (3), 180-189

IFPI (2005) "IFPI release definitive statistics on global market for recorded music" http://www.ifpi.org (Accessed 01/02/06)

IFPI (2009) *Digital Music Report 2009: New Business Models for a Changing Environment* International Federation of the Phonographic Industry, January 2009, http://www.ifpi.org/content/library/DMR2009.pdf

Ingham, J., Purvis, M. and Clarke, D. B. (1999) "Hearing places, making spaces: sonorous geographies, ephemeral rhythms, and the Blackburn warehouse parties" *Environment and Planning D: Society and Space* **17** (3), pp. 283-305

Jacobs, J. (1961) *The Death and Life of Great American Cities.* New York: Random House

James, N. (1989) "Emotional labour: skill and work in the social regulation of feelings" *Sociological Review* **37** (1) pp. 15-42

Jazeel, T. (2005) "The world is sound? Geography, musicology and British-Asian soundscapes" *Area* **37** (3), pp. 233-241

Jessop, B., Brenner, B., and Jones, M. (2008) "Theorizing socio-spatial relations" *Environment and Planning D: Society and Space* **26**, pp. 389-401

Johns, J (2010) "Manchester's film and television industry: project ecologies and network hierarchies" *Urban Studies* **47** (5), pp. 1059-1077

Johnston, R., Hepple, L., Hoare, T., Jones, K., and Plummer, P. (2003) "Contemporary fiddling in human geography while Rome burns: has quantitative analysis been largely abandoned – and should it be?" *Geoforum* 34, pp. 157-161

Jones, C. (1996) "Careers in project networks: the case of the film industry" In Arthur, M.B. and Rousseau, D.M. (eds.) *The Boundaryless Career: A New Employment Principle for a New Organizational Era.* Oxford: Oxford University Press

Jones, C. (2002) "Signalling expertise: how signals shape careers in creative industries" In Peiperl, M.A., Arthur, M.B., and Anand, N. (eds.) *Career*

creativity: explorations in the remaking of work. Oxford: Oxford University Press, pp. 209-228

Jones, L. (1963) *Blues people.* New York: Morrow

Jones, M. (2009) "Phase space: geography, relational thinking, and beyond" *Progress in Human Geography* **33** (4), pp. 487-506

Katz, D. (2003) *Solid foundation: an oral history of reggae.* London: Bloomsbury Publishing

Kealy, E. (1979) "From craft to art: the case of sound mixers and popular music" *Sociology of Work and Occupations* **6**, pp. 3-29

Kealy, E. (1990) "From craft to art: the case of sound mixers and popular music" In Frith, S. and Goodwin, A. (eds.) *On Record: Rock, Pop and the Written Word.* London: Routledge, pp. 207-220

Kennedy, H. (2009) "Going the extra mile: emotional and commercial imperatives in new media work" *Convergence: The International Journal of Research into New Media Technologies* **15** (2), pp. 177-196

Kennedy, H. (2010) "Net work: the professionalization of web design" *Media, Culture & Society* **32** (2), pp. 187-203

Klein, R.R. (2011) "Where music and knowledge meet: a comparison of temporary events in Los Angeles and Columbus, Ohio" *Area* **43** (3), pp. 320-326

Kloosterman, R.C. (2005) "Come together: an introduction to music and the city" *Built Environment* **31** (3), pp. 181-191

Knight, D.B. (2006) *Landscapes in music: space, place and time in the world's great music.* Lanham, MD: Rowman and Littlefield.

Knoke, D. and Yang, S. (2008) *Social Network Analysis.* London: Sage

Kong, L. (1995) "Popular music in geographical analyses" *Progress in Human Geography* **19** (2), pp. 183-198

Kong, L. (1997) "Popular music in a transnational world: the construction of local identities in Singapore" *Asia Pacific Viewpoint* **38** (1), pp. 19-36

Kong, L. (2006) "Music and moral geographies: constructions of 'nation' and identity in Singapore" *GeoJournal* **65** (1-2), pp. 103-111

Koskinen, K.U., Pihlanto, P., and Varharanta, H. (2003) "Tacit knowledge acquisition and sharing in a project work context" *International Journal of Project Management* **21**, pp. 281-290

Kosser, M. (2006) *How Nashville became music city, U.S.A.: 50 years of music row.* Milwaukee, WI: Hal Leonard

Krätke, S. (2003) "Global media cities in a worldwide urban network" *European Planning Studies* **11** (6), pp. 605-628

Krätke, S. (2004) "City of talents? Berlin's regional economy, socio-spatial fabric and 'worst practice' urban governance" *International Journal of Urban and Regional Research* **28** (3), pp. 511-529

Krätke, S. and Taylor, P. J. (2004). "A world geography of global media cities" *European Planning Studies* **12** (4), pp. 459-477

Krims, A. (2000). *Rap music and the poetics of identity.* Cambridge: Cambridge University Press

Krims, A. (2002) "Rap, race, the 'local', and urban geography in Amsterdam" in Young, R. (ed.) Music, popular culture, identities. Amsterdam: Rudopi, pp. 165-179

Krims, A. (2007) *Music and Urban Geography.* London: Routledge

Latour, B. (1992) "Where are the missing masses? The sociology of a few mundane   artefacts" in Bijker, W.E. and Law, J. (eds.) *Shaping Technology/Building Society: Studies in Sociotechnical Change.* Cambridge, MA: MIT Press, pp.   225–259

Latour, B. (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory.* Oxford: Oxford University Press

Law, J. (1994) *Organising Modernity.* Oxford: Blackwell

Leitner, H. and Miller, B. (2007) "Scale and the limitations of ontological debate: a commentary on Marston, Jones and Woodward" *Transactions of the Institute of British Geographers* **32**, pp. 116-125

Leyshon, A. (2001) "Time-space (and digital) compression: software formats, musical networks, and the reorganization of the music industry" *Environment and Planning A* **33** (1), pp. 49–77

Leyshon, A. (2003) "Scary monsters? Software formats, peer-to-peer networks, and the spectre of the gift" *Environment and Planning D* **21** (5), pp. 533–558

Leyshon, A. (2009) "The software slump?: digital music, the democratization of technology, and the decline of the recording studio sector within the musical economy" *Environment and Planning A* **41**, pp. 1309-1331

Leyshon, A., Matless, D. and Revill, G. (1995) "The place of music" *Transactions of the Institute of British Geographers* 2**0** (4), pp. 423-433

Leyshon, A., Matless, D. and Revill, G. (eds.) (1998) *The place of music.* New York: The Guilford Press

Leyshon, A., Webb, P., French, S., Thrift, N., and Crewe, L. (2005) "On the reproduction of the musical economy after the Internet" *Media, Culture and Society* **27**, pp. 177–209

Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic Enquiry.* London: Sage

Lloyd, R. D. (2006) *Neo-Bohemia: art and commerce in the post-industrial city.* New York: Routledge

Longhurst, B. (1995) *Popular Music and Society.* Cambridge: Polity Press.

Lorenzen, M. and Frederiksen, L. (2005) "The management of projects and product experimentation: examples from the music industry" *European Management Review* **2** (3), pp. 198-211

Luckman, S., Gibson, C., Willoughby-Smith, J., and Brennan-Horley, C. (2008) "Life in a northern (Australian) town: Darwin's mercurial music scene" *Continuum* **22** (5), pp.623-637

Lundin, R. A. and Midler, C. (1998) "Evolution of projects as empirical trend and theoretical focus" In Lundin, R. A. and Midler, C. (eds.) *Projects as Arenas for Renewal and Learning Processes.* Norwell: Kluwer Academic, pp. 1-9

Lundin, R. A. and Söderholm, A. (1995) 'A theory of the temporary organization' *Scandinavian Journal of Management,* **11**, pp. 437-455

Mager, C. (2007) *HipHop, Musik und die Artikulation von Geographie.* Stuttgart: Steiner

Marston, S.A., Jones III, J.P. and Woodward, K (2005) "Human geography without scale" *Transactions of the Institute of British Geographers* **30**, pp. 416-432

Maskell, P. (2001) "The firm in economic geography" *Economic Geography* **77** (4), pp. 329-344

Maskell, P. and Malmberg, A. (1999) "Localised learning and industrial competiveness" *Cambridge Journal of Economics* **23**, pp. 167-186

Mason, J. (2002) *Qualitative Researching.* London: Sage

Massey, D. (2004) "Geographies of responsibility" *Geografiska Annaler* **86 B** (1), pp. 5-18

McDowell, L. (1997) *Capital Culture: Gender at Work in the City.* Oxford: Blackwell

McGuigan, J. (2010) "Creative labour, cultural work and individualisation" *International Journal of Cultural Policy* **16** (3), pp. 323-335

McRobbie, A. (1994) *Postmodernism and popular culture.* Routledge: London

McRobbie, A. (2002) "Clubs to companies: notes on the decline of political culture in speeded up creative worlds" *Cultural Studies* **16** (4), pp. 516-531

Meyerson, D., Weick, K.E., and Kramer, R.M. (1996) "Swift trust and temporary groups" In Kramer, R.M. and Tyler, T.R. (eds.) *Trust in Organizations: Frontiers of Theory and Research.* Thousand Oaks: Sage

Midler, C. (1995) "'Projectification' of the firm: the Renault case" *Scandinavian Journal of Management* **11**, pp. 363-375

Miller, K.E. and Quigley, B.M. (2011) "Sensation-seeking, performance genres and substance use among musicians" *Psychology of Music* **39** (3), pp. 1-22

Miller, S.I. and Fredericks, M. (1999) "How does grounded theory explain?" *Qualitative Health Research* **9** (4), pp. 538-551

Mitchell, T. (1996) *Popular music and local identity: rock, pop and rap in Europe and Oceania.* Leicester: Leicester University Press

Mitchell, T. (2001) *Global noise: rap and hip-hop outside the USA.* Middletown, CT: Wesleyan University Press

Montgomery, J. (2005) "Beware the 'creative class': creativity and wealth creation revisited" *Local Economy* **20** (4), pp. 337-343

Munro, I. (2012) "The management of circulations: biopolitical variations after Foucault" *International Journal of Management Reviews* **14** (3), pp. 345-362

Murdock, G. (2003) "Back to work: cultural labour in altered times" In Beck, A. (ed.) *Cultural Work: Understanding the Cultural Industries.* London: Routledge

Murdock, J. (2006) *Post-structuralist geography: a guide to relational space.* London: Sage

Murphy, J.T. (2006) "Building trust in economic spaces" *Progress in Human Geography* **30** (4), pp. 427-450

National Music Council (2002) *Counting the Notes: The Economic Contribution of the UK Music Business.* London: National Music Council

Negus, K. (1992) *Producing Pop: Culture and Conflict in the Popular Music Industry* London: Edward Arnold

Negus, K. (1993) "Global harmonies and local discords: transnational policies and practices in the European recording industry" *European Journal of Communication* **8** (3) pp. 295-361

Negus, K. (1996) Popular Music in Theory: An Introduction. Cambridge: Polity

Negus, K. (1999) *Music Genres and Corporate Cultures.* London: Routledge

Negus, K. and Pickering, M. (2004) *Creativity, communication and cultural value.* London: Sage

Neilson, B. and Rossiter, N. (2005) "From precarity to precariousness and back again: labour, life and unstable networks" *Fiberculture* **5**, no pagination

Nisbet, A (1995) *The Sound Studio.* Oxford: Focal Press

Olson, M. J. (1998) "Everybody loves our town: scenes, spatiality, migrancy" In: Swiss, T., Sloop, J. and Herman, A. (eds.) *Mapping the beat: popular music and contemporary theory.* Malden, MA: Blackwell, pp. 269-289

Parfitt, J. (1997) "Questionnaire design and sampling" in Flowerdew, R. and Martin, D. (eds.) *Methods in Human Geography: A Guide for Students doing Research Projects.* Harlow: Longman

Peck, J. (2005) "Struggling with the creative class" *International Journal of Urban and Regional Research* **29** (4), pp. 740-770

Perlman. M. (2004) "Golden ears and meter readers: the contest for epistemic authority in audiophilia" *Social Studies of Science* **34**, pp. 783-807

Perry-Smith, J. and Shalley, C. (2003) "The social side of creativity: a static and dynamic social network perspective" *Academy of Management Review* **28** pp. 89-106

Pinch, T. and Bijsterveld, K. (2004) "Sound studies: new technologies and music" *Social Studies of Science* **34** (5), pp. 635-648

Pongratz, H.G. and Voß, G.G. (2003) "From employee to 'entreployee': towards a 'self-entrepreneurial' work force? *Concepts and Transformations* **8** (3), pp. 239-254

Porcello, T. (2002) "Music mediated as live in Austin: sound, technology, and recording practice" *City and Society* **14** (1), pp. 69-86

Porcello, T. (2004) "Speaking of sound: language and the professionalization of sound-recording engineers" *Social Studies of Science* **34** (5) 733-758

Power, D. and Hallencreutz, D. (2002) "Profiting from creativity? The music industry in Stockholm, Sweden and Kingston, Jamaica" *Environment and Planning A* **34** (10), pp. 1833-1854

Power, D. and Hallencreutz, D. (2007) "Competitiveness, local production systems and global commodity chains in the music industry: entering the US market" *Regional Studies* **41** (3), pp. 377-389

Power, D. and Jansson, J. (2004) "The emergence of a post-industrial music economy? Music and ICT synergies in Stockholm, Sweden" *Geoforum* **35** pp. 425-439

Pratt, A.C. (2000) "New media, the new economy and new spaces" *Geoforum,* **31**, pp. 425-436

Pratt, A.C. (2002) "Hot jobs in cool places. The material cultures of new media product spaces: the case of south of the market, San Francisco" *Information, Communication and Society* **5** (1), pp. 27-50

Pratt, A.C. (2004) "The cultural economy: a call for spatialized 'production of culture' perspectives" *International Journal of Cultural Studies* **7** (1), pp. 117-128

Pratt, A.C. (2006) "Advertising and creativity, a governance approach: a case study of creative agencies in London" *Environment and Planning A* **38** (10), pp. 1883-1899

Pratt, A.C. (2008) "Creative cities: the cultural industries and the creative class" *Geografiska Annaler: Series B - Human Geography* **90** (2), pp. 107-117

PRS (2010) *Economic Insight Issue 23.* Performing Rights Society for Music, 04/08/11. Available from http://www.prsformusic.com (accessed 13/12/11)

Quispel, C. (2005) "Detroit, city of cars, city of music" *Built Environment* **31** (3), pp. 226-236

Raeburn, S.D., Hipple, J., Delaney, W., and Chesky, K. (2003) "Surveying popular musicians' health status using convenience samples" *Medical Problems of Performing Artists* **18**, pp. 113–119.

Raffo, C., O'Connor, J., Lovatt, A. and Banks, M. (2000) "Attitudes to formal business training amongst entrepreneurs in the cultural industries:

situated business learning through 'doing it with others" *Journal of Education and Work* **13** (2), pp. 215–230

Randle, K. and Culkin, N. (2009) "Getting in and getting on in Hollywood: freelance careers in an uncertain industry" In McKinlay, A and Smith, C (eds.) *Creative Labour: Working in the Creative Industries.* Basingstoke: Palgrave Macmillan

Robson, C. (2002) *Real World Research.* Oxford: Blackwell

Rogers, R. A. (1998) "A dialogics of rhythm: dance and the performance of cultural conflict" *The Howard Journal of Communication* **9**, pp. 5-27

Rogers, A. (2011) "Butterfly takes flight: the translocal circulation of creative practice" *Social & Cultural Geography,* **12** (7), pp. 663-683

Ross, A. (2003) *No-Collar: The Human Workplace and its Hidden Costs.* Philadelphia: Temple University Press

Ross, A. (2008) "The new geography of work: power to the precarious? *Theory, Culture and Society* **25** (7-8), pp. 31-49

Sadler, D. (1997) "The global music business as an information industry: reinterpreting economies of culture" *Environment and Planning A* **29** (11), pp. 1919-1936

Said, E. W. (1990) "Figures, confrontations, transfigurations" *Race and Class* **32** (1), pp. 1-16

Saldanha, A. (2002). "Music tourism and factions of bodies in Goa" *Tourist Studies* **2** (1), pp.43-62

Saldanha, A. (2005) "Trance and visibility at dawn: racial dynamics in Goa's rave scene" *Social and Cultural Geography* **6** (5), pp. 707-721

Sarup, M. (1996) *Identity, culture and the postmodern world.* Edinburgh: Edinburgh University Press

Saundry, R., Antcliff, V. and Stuart, M. (2007) "'It's more than who you know' – networks and trade unions in the audio-visual industries" *Human Resource Management Journal* **16** (4), pp. 376-392

Saundry, R. and Nolan, P. (1998) "Regulatory change and performance in TV production" *Media, Culture & Society* **20**, pp. 409-426

Saundry, R., Stuart, M. and Antcliff, V. (2007) "Broadcasting discontent – freelancers, trade unions and the internet" *New Technology, Work and Employment* **22** (2), pp. 178-191

Scott, A. J. (1997) "The cultural economy of cities" *International Journal of Urban and Regional Research* **21** (2), pp. 323-339

Scott, A. J. (1999a) "The cultural economy: geography and the creative field" *Media, Culture and Society* **21** (6), pp. 807-817

Scott, A. J. (1999b) "The US recorded music industry: on the relations between organisation, location, and creativity in the cultural economy" *Environment and Planning A* **31** (11), pp. 1965-1984

Scott, A. J. (2000) *The Cultural Economy of Cities: Essays on the Geography of Image-Producing Industries.* London: Sage.

Scott, A.J. (2004) "The other Hollywood: the organisational and geographic bases of television program production" *Media, Culture & Society* **26** (2), pp. 183-205

Scott, J. (1991) *Social Network Analysis.* London: Sage

Seman, M. (2010) "How a music scene functioned as a tool for urban redevelopment: a case study of Omaha's Slowdown project" *City, Culture and Society* **1** (4), pp. 207-215

Shapiro, H. (2003) *Waiting for the Man: The Story of Drugs and Popular Music.* London: Helter Skelter Publishing

Sheehan, K. (2001) "E-mail survey response rates: a review" *Journal of Computer-Mediated Communication* **6** (2), no pagination

Sheller, M. (2004) "Mobile publics: Beyond the network perspective" *Environment and Planning D: Society and Space* **22**(1), pp. 39–52

Short, J. R., Kim, Y., Kuss, M. and Wells, H. (1996) "The dirty little secret of world city research" *International Journal of Urban and Regional Research* **20**, pp. 697-717

Shorthose, J. (2004) "Accounting for independent creativity in the new cultural economy" *Media International Australia incorporating Culture and Policy* **112**, pp. 150-161

Shuker, R. (1994) *Understanding popular music.* London: Routledge

Singer, M. and Mirhej, G. (2006) "High notes: the role of drugs in the making of Jazz" *Journal of Ethnicity in Substance Abuse* **5** (4) pp. 1-38

Skelton, T. (1995) "'Boom, Bye Bye'. Jamaican ragga and gay resistance" In Bell, D. and Valentine, G. (eds.) *Mapping desire: geographies of sexualities.* London: Routledge, pp. 264-283

Skilton, P. (2008) "Similarity, familiarity and access to elite work in Hollywood" *Human Relations* **61** pp. 1743-1773

Smith, R.G. (2007) "Postructuralism, power and the global city" In P. J. Taylor, Derudder, B., Saey, P. and Witlox F. (eds.) *Cities in Globalization: Practices, Policies and Theories* London: Routledge, pp. 258-270

Smith, S.J. (1994) "Soundscape" *Area* **26** (3), pp. 232-240

Smith, S. J. (1997) "Beyond geography's visible worlds: a cultural politics of music" *Progress in Human Geography* **21** (4), pp. 502-529

Smith, S.J. (2000) "Performing the (sound) world" *Environment and Planning D: Society and Space* **18** (5), pp. 615-637

Staber, U. (2004) "Networking beyond organisational boundaries: the case of project organizations" *Creativity and Innovation Management* **13** (1), pp. 30-40

Steinberg, R.J. and Figart, D.M. (1999) "Emotional labour since: the managed heart" *The Annals of the American Academy of Political and Social Science* **561** (8), pp. 8-26

Stokes, M. (1994) *Ethnicity, identity and music: the musical construction of place.* Oxford: Berg

Storey, J., Salaman, G. and Platman, K. (2005) "Living with enterprise in an enterprise economy: freelance and contract workers in the media" *Human Relations* **58** (8), pp. 1033-1054

Storper, M. (1997) *The Regional World: Territorial Development in a Global Economy.* New York: Guilford Press

Storper, M. and Salais, R. (1997) Worlds of Production. Cambridge, MA: Harvard University Press

Storper M. and Venables A.J. (2004) "Buzz: face-to-face contact and the urban economy" *Journal of Economic Geography* **4**, pp. 351–70

Strauss, A. and Corbin, J.M. (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques.* London: Sage

Straw, W. (1991) "Systems of articulation, logics of change: communities and scenes in popular music" *Cultural Studies* **5** (3), pp. 368-388

Sunley, P. (2008) "Relational economic geography: a partial understanding or a new paradigm?" *Economic Geography* **84** (1), pp. 1-26

Tankel, J.D. (1990) "The practice of recording music: remixing as recording" *Journal of Communication* **40** (3), pp. 34-46

Taylor, M. (1996) "Industrialisation, enterprise power, and environmental change: an exploration of concepts" *Environment and Planning A* **28**, pp. 1035-1051

Taylor, M. and Asheim, B. (2001) "The concept of the firm in economic geography" *Economic Geography* **77** (4), pp. 315-328

Taylor, P.J. (2004) *World City Network: A Global Urban Analysis* London: Routledge

Taylor, P. J., Ni, P., Derudder, B., Hoyler, M., Huang, J., and Witlox, F. (2011) (eds.) *Global Urban Analysis: A Survey of Cities in Globalization.* London: Earthscan

Taylor, S. and Tyler, M. (2000) "Emotional labour and sexual difference in the airline industry" *Work, Employment and Society* **14** (1) pp. 77–95

Terranova, T. (2004) *Network Culture: Politics of the Information Age.* London: Pluto Press

Théberge, P. (1997) *Any Sound You Can Imagine: Making Music/Consuming Technology.* Hanover, NH: Wesleyan/University Press of New England

Théberge, P. (2004) "The network studio: historical and technological paths to a new deal in music making" *Social Studies of Science* **34** (5), pp. 759-781

Thévenot, L. (2001) "Organized complexity: conventions of coordination and the composition of economic arrangements" *European Journal of Social Theory* **4** (4), pp. 405-425

Thrift, N. (1996) *Spatial Formations.* London: Sage

The Times (2006) May 24th

Todorović, M. and Bakir, A. (2005) "Inaudible noise: Belgrade's Academy Club: legacy, old locals and new spaces" *Leisure Studies* **24** (4), pp. 415-434

Törnqvist, G. (1990) "Towards a geography of creativity" in Shachar, A. and Oberg, S. (eds.) *The World Economy and the Spatial Organization of Power.* Aldershot: Avebury, pp. 103-127

Törnqvist, G. (2004) "Creativity in time and space" *Geografiska Annaler: Series B, Human Geography* **86** (4), pp. 227-243

Toop, D. (2000) *Rap attack #3: African rap to global hip hop.* 3rd ed. London: Serpent's Tail

Townley, B., Beech, N. and McKinlay, A. (2009) "Managing in the creative industries: managing the motley crew" *Human Relations* **62** (7), pp. 939-962

Toynbee, J. (2000) *Making popular music: musicians, creativity and institutions.* London: Arnold

Tse, A.C.B. (1998) "Comparing the response rate, response speed and response quality of two methods of sending questionnaires: e-mail vs. mail" *Journal of the Market Research Society* 40, pp. 353-61

Tyler, M. and Abbott, P. (1998) "Chocs away: weight watching in the contemporary airline industry" *Sociology* **32** (3) pp. 433–450

Urry, J. (2003) "Social networks, travel and talk" *British Journal of Sociology* **54** (2), pp. 155-75

Ursell, G. (2000) "Television production: issues of exploitation, commodification and subjectivity in UK television labour markets" *Media, Culture and Society* **22** pp. 805-825

Ursell, G. (2006) "Working in the media" In Hesmondhalgh, D. (ed.) *Media Production.* Maidstone: Open University Press

Valentine, G. (1995) "Creating transgressive space: the music of KD Lang" *Transactions of the Institute of British Geographers* **20** (4), pp. 474-485

Valentine, G. (1997) "Tell me about: using interviews as a research methodology" in Flowerdew, R. and Martin, D. (eds.) *Methods in Human Geography: A Guide for Students doing Research Projects.* Harlow: Longman

Valentine, G. (2001) "At the drawing board: developing a research design" in Limb, M. and Dwyer, C. (eds.) *Qualitative Methodologies for Geographers.* London: Arnold

von Bernuth, C. and Bathelt, H. (2007) "The organizational paradox in advertising and the reconfiguration of project cooperation" *Geoforum* **38**, pp. 545-557

Waksman, S (2004) "California noise: tinkering with hardcore and heavy metal in southern California" *Social Studies of Science* **34** (5) pp. 675-702

Ward, G. C. and Burns, K. (2000) *Jazz: a history of America's music.* New York: Alfred A. Knopf

Warner, T. (2003) *Pop music – technology and creativity: Trevor Horn and the digital revolution.* Aldershot: Ashgate

Watson, A (2006) *Economies of Culture in the Global City: Clustering and Non-Scalar Knowledge Networks in London's Music Industry.* Unpublished MSc thesis, Department of Geography, Loughborough University

Watson, A. (2008) "Global music city: knowledge and geographical proximity in London's recorded music industry" *Area* **40** (1) pp. 12-23

Wellington, C.A. and Bryson, J.R. (2001) "At face value? Image consultancy, emotional labour and professional work" *Sociology* **35** (4) pp. 933-946

Wenger, E. (1998) *Communities of Practice: Learning, Meaning and Identity.* Cambridge: Cambridge University Press

Whiteley, S., Bennett, A. and Hawkins, S. (2004) (eds.) *Music, space and place: popular music and cultural identity.* Aldershot: Ashgate

Williamson, J. and Cloonan, M. (2007) "Rethinking the music industry" *Popular Music* **26** (2), pp. 305-322

Wittel, A. (2001) "Toward a network sociality" *Theory, Culture and Society* **18** (6) pp. 51-76

Wood, N. (2002) ""Once more with feeling": putting emotion into geographies of music" in Bondi, L. (ed.) Subjectivities, knowledges, and feminist geographies: the subjects and ethics of social research. Lanham, MD: Rowan & Littlefield

Wood, N., Duffy, M., and Smith, S.J. (2007) "The art of doing (geographies of) music" *Environment and Planning D: Society & Space* **25** (5), pp. 867–889

Wright Mills, C. (1953) *White Collar Work: The American Middle Classes.* New York: Oxford University Press

Yeung, H.W. (2003) "Practicing new economic geographies: a methodological examination" *Annals of the Association of American Geographers* **93** (2) pp. 442-462

Yeung, H. W. (2005a) "The firm as social networks: an organizational perspective" *Growth and Change* **36** (3) pp. 307-328

Yeung, H. W. (2005b) "Rethinking relational economic geography" *Transactions of the Institute of British Geographers* **30**, pp. 37-51

Zafirau, S. (2008) "Reputation work in selling film and television: life in the Hollywood talent industry" *Qualitative Sociology* **31**, pp. 99-127

Appendix A: Methodology

A1   Questionnaire survey

A questionnaire survey was employed in this research project for two reasons. The first is to obtain contextual information on the roles and employment of recording studio engineers and producers. The second is to gain more specific opinions and attitudes on the technical and creative practices that occur in recording studios and on personal and professional networks of individual producers and engineers. Surveys are multi-purpose research tools that are able to produce descriptive statistics of an entire study population (Hakim, 1987). The questionnaire was developed and hosted online as a web-survey using the online survey software Qualtrics. Although a number of studies have found that online surveys typically generate lower response rates than postal questionnaire surveys (see for example Sheehan, 2001; Tse, 1998), the decision to use a web-based survey was taken based on previous experience of a large-scale postal questionnaire to the music industry (Watson, 2006), which highlighted that only very low response rates could be expected from postal questionnaires sent to music industry companies in London, partly due to the high turnover rate of companies in the industry.

There are a number of significant advantages to using a web-survey. Firstly, assuming that the researcher has access to a web-survey hosting website without a fee through their institution, the survey can be administered free of any costs through links sent by e-mail. Where such a subscription is not available, there are a number of commercial websites that host web-surveys for a small fee. Compared to postal surveys and interview-administered surveys, the costs of a web-survey can be significantly lower. Secondly, there is also anonymity to receiving a survey link via e-mail and returning a response via the web, which is important in studies which survey employees of organisations, as respondents may express opinions that conflict with those of the organisation. Finally, as it is becoming easier to locate and reach a specific person by e-mail,

e-mails can be sent directly to personal e-mail accounts, enabling the researcher to have greater confidence in, and control over, who actually completes the questionnaire. This often presents a significant problem in postal questionnaire surveys (see de Vaus, 1991). There is however a major issue and limitation with an online survey in that not everyone is online or has the technical ability to handle questionnaires in either e-mail or web formats (Bryman, 2008).

The questionnaire was organised as follows. Section A of the questionnaire asks questions about the studio staff, specifically their technical role, contract, career, and a section which asked them to rate a number of factors that might have influenced decision to work in London. Section B asks the producer/engineer about the creative process within the studio, asking them to rate the importance of a series of factors relating to their technical role, ability to be creative, and to being successful in their role. Section C asks the producer/engineer about their personal and professional networks, asking them to rate the importance of a series of factors relating to being successful in their chosen career, as well as questions on cooperation with other producers/engineers and working oversees. Finally, the questionnaire invited the respondents to contribute to the research further by taking part in an interview at their studio in London. A copy of the questionnaire is included in Appendix B.

Alongside a series of closed and open question to obtain contextual information on the producers and engineers, the questionnaire included a number of questions aimed at measuring the attitudes and opinions of the producers and engineers to a range of statements on technical and creative practice. As Black (1999) suggests, attitudes can help us to understand *tendencies.* Attitudes, however, are notoriously difficult to measure. One method is the use of 'attitude batteries' based on a Likert scale format (see Bryman, 2008; also Black, 1999; Robson, 2002), which have been coded on the questionnaire. The main advantage of this format is that it leads the

respondent quickly through a range of statements exploring the topic (Parfitt, 1997). Once completed, these individual measures can be combined into an aggregate attitude measure. The extent to which producers and engineers rated the various factors presented in the questionnaire can be tested using a contingency table method, a flexible method of analysing relationships (see Ebdon, 1992; Bryman, 2008). Responses can also be tested using a statistical analysis of variance (ANOVA), a statistical test of mean responses.

As de Vaus (2001) argues, as long as the initial sample is well selected, a cross-sectional survey should yield data that are reflective of the population. However, sampling errors will inevitably exist, as the sampling frame can never be perfect (Parfitt, 1997; see also Fowler, 1988). For a large population, one could expect to have to draw a probability sample. However, in terms of recording studios, the National Music Council (2002) estimates that there are just under 200 'economically significant' studios in London. This represents a relatively small number, and even if one were to take account of those studios not considered to be economically significant, the entire population of a cluster could potentially be surveyed in cross-sectional research. As Parfitt states, "the ideal source of information from which to sample any population is an up-to-date list of all the members of that population for the study area" (1997: 95). A list of recording studios in London was available in the form of a directory of music industry companies and recording studios published by Music Week, a music industry magazine. However, this directory was not entirely comprehensive, providing a total sample of 115 studios.

Before implementing the full survey, a pilot study was undertaken on a small sample of the recording studios listed in the directory. For this pilot, the first twenty studios listed in the directory as being located in London were selected as the sample. E-mails were sent to the sample of studios with the questionnaire distributed as an attachment to the e-mail, in Microsoft Word format. The results of the pilot suggested that response rates to this method of distributing the survey would be low. In a two-week period, only two responses

were received from the 20 studios contacted, both of which were from a single studio. Furthermore, significant problems were encountered with the response from one studio engineer when the format of the questionnaire produced a conflict across differing computer operating systems. Based on this pilot, the decision was then taken to switch to a web-based survey, as described previously, to avoid such problems and in an attempt to increase response rates. A second round of e-mails was subsequently sent to these 20 studios containing a link to the web-survey.

Following the pilot study, e-mails containing a link to the web-survey were then sent to the remainder of the recording studios listed within the directory as being located within London. As the directory of companies was not completely comprehensive, the initial sample of 115 studios was subsequently supplemented through internet research. This increased the total sample to 168 studios. Where individual producers and engineers working at these studios could be identified, e-mails were directed to these named individuals. Where individual producers and engineers could not be identified, e-mails were directed to studio managers or studio administrators, requesting that they forward the e-mail on to their technical staff. A first round of reminders was sent to those studios from which responses had not been received within two weeks, and a final reminder sent after a further two weeks. Responses were received from 47 studios, which represent a response rate of 28 per cent. Against Magnione's (1995) classification of bands of response rates for postal questionnaires, only response rates of 50% and above are considered acceptable. However, as noted earlier, online surveys typically generate lower response rates than postal questionnaire surveys, and therefore this response rate is considered acceptable within the limits of this research. In total 64 responses were received to the web-survey, as multiple responses were received from individual studios where a number of producers and or engineers working at the studio completed the survey. If this figure were used, it would represent a higher response rate of 38%. It should be noted here though that because the true sample size was not known (because the number of technical

staff working at each studio was not known), a true response rate cannot therefore be calculated.

A2   Qualitative interviews

Following the quantitative social network analysis and questionnaire study, the research employed qualitative interviewing to move the analysis towards greater conceptual depth. Semi-structured interviewing was used to allow specific issues to be addressed based around pre-determined but flexible questions (see Bryman, 2008; also Robson, 2002), with improvisation to explore meanings and emerging areas of interest (Arksey and Knight, 1999). A fundamental characteristic of qualitative interviewing is sensitivity towards, and commitment to understand, the perspectives of the social actors being studied (Valentine, 1997; Bryman, 2000; Denzin and Lincoln, 2000). As Hakim (1987) suggests, qualitative research offers substantively different and complementary information on attitudes and experiences to quantitative research, and is able to examine causal processes at the level of the intentional and knowledgeable actor:

> "…if one is looking at the way people respond to… external social realities at the micro-level, accommodating themselves to the inevitable, re-defining the situation until it is acceptable or comfortable, kicking against constraints, or fighting to break out of them, or even to change them, then qualitative research is necessary" (Hakim, 1987: 28)

Interviewing was considered a suitable method for two reasons. Firstly, there are likely to be practical limitations on being able to use more textured in-depth ethnographic research methods due to the size of the networks. Secondly, the studio recording engineers and producers themselves are likely to impose limits on the use of ethnographic methods through a reluctance to be observed whilst

performing their role within the studio (see for example Hughes, 1999, on corporate interviews). In this particular study, these studio workers control access to knowledge and information (see Valentine, 1997); however, not even these actors have perfect access to information, and therefore as Hughes (1999) argues the self-reporting of interviews must be critically interpreted.

Qualitative techniques should be approached in as rigorous a way as quantitative techniques (Baxter and Eyles, 1997; Valentine, 2001). It is therefore important that the research process is made explicit, in particular with regard to respondent selection. Unlike quantitative research, qualitative research does not aim to be statistically representative (Valentine, 1997, 2001), but rather to encapsulate a *relevant range* (Mason, 2002). Qualitative researchers usually employ illustrative (Valentine, 1997, 2001) or theoretical (Mason, 2002) sampling, in which the researcher draws on their theoretical understanding of the issues to decide who to interview and which perspectives to explore. Development of an interview schedule, included in Appendix C, was then based around ideas of important themes with reference to the analysis of the questionnaire survey undertaken previously, and previous literature relevant to the topic. Separate interview schedules were developed for recording studio engineers and producers and mastering engineers, given the differing nature of their roles. This qualitative analysis thus builds on the generalised findings of the quantitative analyses presented earlier, by gaining an understanding of technical and creative *processes* in the studio. The method provides detailed empirical and qualitative information.

For this study, the initial sample of interviewees was determined by those engineers and producers who had responded to the questionnaire survey (see the previous chapter) and indicated that they would be willing to take part in an interview. This approach had two significant advantages. Firstly, contextual information had already been gained to help inform the questioning during the interview. Secondly, and perhaps most significantly, it countered some of the problems inherent in developing contacts within recording studios

who are willing to give up some of their valuable time for a research interview. A number of additional interviews were then able to be obtained based on a snow-balling strategy where interviewees made recommendations for further interviews with their own contacts in other recording studios. Interviews were recorded and then transcribed, a procedure that is important for the detailed analysis required in qualitative research (Bryman, 2008). In total, nineteen engineers and/or producers were interviewed. A limitation to the sample of interviewees obtained was that there was a disproportionate response from engineers and producers working in small self-run project studios; only five of the nineteen interviewees were employed by 'major' recording facilities. Because of this, care needs to be taken in making wider inferences from the findings of this research, as not all parts of the recording studio sector are equally represented.

Interviews were carried out between June 2010 and March 2011. All interviews were recorded, resulting in over 18 hours of recorded data. The majority of the interviews were undertaken at the recording studios in which the interviewees worked. In just two cases, interviews were undertaken away from recording studios, in a coffee shop and public house respectively.

Data analysis

While there is no clear set of conventions for the analysis of qualitative interview data (Robson, 2002), there are a number of different approaches that can be adopted. Grounded theory was selected as the method of analysis for this study. Grounded theory is based on the idea that no *a-priori* theory can anticipate the many realities inevitably encountered by the researcher, or encompass the many contextual factors involved at the local level (Lincoln and Guba, 1985). With regards to the research presented in this thesis, it is

recognised that a potential contradiction exists in this respect, given that the research draws on the relational economic geography framework as *a-priori* theoretical framework. However, it is considered appropriate to use grounded theory as a method for analysis so that unexpected themes are allowed to emerge from the data; that is to say that data analysis is not limited to expected codes based on the *a-priori* theory. One example of this in this research is the way in which emotional labour emerged as a strong theme from the data (see Chapter 7). This was an unexpected theme with regards to a relational economic geography framework, and would subsequently become one of the principal findings of the research.

The term 'grounded theory' is generally credited to Glaser and Strauss, who describe a grounded theory as one that will "…fit the situation being researched, and work when put into use" (1967: 3). The term 'fit' means that categories used must be readily applicable, while 'work' means that they must be meaningfully relevant. The central features of a grounded theory approach are the development of theory out of data and an iterative approach in which data collection and analysis proceed in tandem (see Lincoln and Guba, 1985; Alvesson and Skoldberg, 2000; Bryman, 2008; also Bailey *et al.*, 1999). As Miller and Fredericks (1999) suggest, the grounded notion of the theory is the key concept of its uniqueness as a type of theory construction. In this particular study, the interview data is grounded in previous literature, primary information obtained through the social network analysis and questionnaire survey, and secondary information.

In grounded theory, data analysis is undertaken through the coding of data. Bryman (2008) argues that this is the key process in grounded theory, whereby data are broken down into their component parts, or 'emergent codes' (Charmaz, 2000). Strauss and Corbin (1990) suggest three types of coding that form the overall process. Firstly, concepts are uncovered during an initial stage of open coding. This is followed by axial coding, which attempts to assign ideas to conceptual categories. Finally, selective coding is used to develop a core

category and further develop the categories that remain. Memos are often written that explicate the properties of the category, specify its conditions, describe its consequences, and make comparisons (Charmaz, 2003). Henwood and Pigeon (2003) argue that this creative process requires a stance of maximum flexibility.

However, as Bryman (2008) describes, not all grounded theory practitioners operate with this three-fold distinction in coding. Charmaz (2006), for example, distinguishes between two phases of coding. First is a stage of very detailed initial coding, whereby a code is assigned to each of the lines of text in the interview transcript. The second stage, focused coding, involves picking out the most common codes as those codes that are thought to be most revealing of the data. Necessarily many of the initial codes may then be dropped at this stage. Charmaz suggests that coherence can then be brought to the data using axial coding, which entails searching for the connections between the categories that have emerged out of the coding. Although there are a number of differences in the approaches suggested by these different practitioners, there is a basic understanding that the process involves a movement from generating codes that stay close to the data to more "selective and abstract ways of conceptualising the phenomenon of interest" (Bryman, 2008: 543).

In this study, coding of data is based on the framework suggested by Charmaz (2006), of moving from initial open coding to focused and then axial coding. Firstly, an initial stage of detailed open coding was undertaken by hand, in order to examine and conceptualise the data. Following this, focused coding was then undertaken, also by hand, to select those categories that appeared most frequently. This focused coding was then entered into the QSR NVivo 9 qualitative data analysis software. This was done for two reasons. Firstly, NVivo enables the user to group coded segments of text (termed 'nodes' in NVivo) across interview transcripts together into single transcripts, assisting writing-up of the data and removing the need to manually cut and paste data together.

Second, it has a number of facilities which aid the move from initial and then focused coding to axial coding, including the ability to run queries on the data, group nodes together into 'collections', and build models of the relationships between individual nodes and collections of nodes. Axial coding was subsequently undertaken to link the various concepts emerging from initial coding to contexts, to consequences, to patterns of interactions, and to causes (Bryman, 2008), allowing a more complex conceptualisation of the data to be developed.

Appendix B: Questionnaire

SECTION A: ABOUT YOU

A1. Please give brief details of the main technical role(s) that you perform in the studio (for example producer, engineer):

A2. Which of the following best describes your employment? *(Please mark one answer).*

- ○ I have a permanent contract with a particular studio.
- ○ I manage/own an independently-run recording studio.
- ○ I am a freelancer who works in a number of studios in the UK and/or oversees.

Other (please give details below):

A3. Please give names and addresses (including postcode/city) of the main studios at which you work in the UK below:

A4. Please indicate whether you agree or disagree with the following statements on working in London: *(Please mark one box per row).*

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
A large number of recording studios means there are more interesting/challenging work opportunities.	○	○	○	○	○
There is the opportunity to make more money in London as a producer/engineer than elsewhere.	○	○	○	○	○
Working in a studio in London enhances my reputation and therefore my future career prospects.	○	○	○	○	○
The city has a strong creative atmosphere which supports and inspires my own creativity.	○	○	○	○	○
London offers a better standard of living and/or more lifestyle opportunities than other cities.	○	○	○	○	○
London's transport network makes it easy to get to studios across the city at short notice.	○	○	○	○	○

SECTION B: ABOUT CREATIVITY IN THE STUDIO

B1. How important do you rate each of the following to performing your technical role? *(Please mark one box per row).*

	Not at all Important	Very Unimportant	Neither Important nor Unimportant	Very Important	Extremely Important
An in-depth knowledge of the complex technical recording equipment used in the studio.	○	○	○	○	○
The ability to be highly innovative and creative when using the equipment.	○	○	○	○	○
The ability to use the equipment to create a unique/distinct sound for your recordings.	○	○	○	○	○
Being able to work with other technically skilled people in the studio.	○	○	○	○	○
Keeping up to date with technical developments with recording studio equipment	○	○	○	○	○

B2. How important do you rate each of the following to your ability to be creative in the studio? *(Please mark one box per row).*

	Not at all Important	Very Unimportant	Neither Important nor Unimportant	Very Important	Extremely Important
The studio having the best audio recording and editing equipment available for a particular recording project.	○	○	○	○	○
The studio having the best acoustic qualities for a particular recording project.	○	○	○	○	○
Not having to worry about tight time constraints when working on a recording project.	○	○	○	○	○
The studio having a relaxed atmosphere that is conducive to the creative process.	○	○	○	○	○
The studio having facilities to send and receive working music files digitally to/from other studios.	○	○	○	○	○
Technology that allows you to work simultaneously with producers/engineers in other studios.	○	○	○	○	○
The studio being located with an area of the city where there is lot of creative energy.	○	○	○	○	○

B3. How important do you rate each of the following to being successful in your role? *(Please mark one box per row).*

	Not at all Important	Very Unimportant	Neither Important nor Unimportant	Very Important	Extremely Important
Well developed technical skills.	○	○	○	○	○
The ability to collaborate artistically with musicians and add value to the creative process.	○	○	○	○	○
The ability to balance the creative process and the technical process to give the	○	○	○	○	○

best outcome.

The ability to give musicians / record companies the exact musical product that they require/expect.

○   ○   ○   ○   ○

SECTION C: ABOUT YOUR PERSONAL AND PROFESSIONAL NETWORKS

C1. How important do you rate each of the following to being successful in your chosen career? *(Please mark one box per row).*

	Not at all Important	Very Unimportant	Neither Important nor Unimportant	Very Important	Extremely Important
The establishment of professional or personal networks which allow sharing of technical knowledge.	○	○	○	○	○
The establishment of professional or personal networks which open up new project opportunities.	○	○	○	○	○
Gaining a good reputation with the industry based on your portfolio of work.	○	○	○	○	○
Attracting repeat work from studios/record companies based on successful previous projects.	○	○	○	○	○
Willingness to travel in order to take on the best recording projects in the best studios.	○	○	○	○	○
Being based in a city with a strong music scene and many recording studios and record companies.	○	○	○	○	○

C2. Do you regularly cooperate with producers and/or engineers in other studios when working on recording projects? *(Please mark).*

Yes   No
○   ○

If YES, how does this cooperation occur? *(Please mark all that apply).*

☐ Through digital file sharing, allowing different producers to work on a recording, each individually working on their part of the recording at different times.

☐ Through technology that allows a number of producers/engineers in different studios to work simultaneously (live) on a recording at one time.

☐ Through me travelling to other studios in the UK and/or oversees, to work with producers and engineers.

C3. During your career, have you worked at studios overseas? *(Please mark).*

Yes   No
○   ○

If YES, please provide brief details of the studio name(s), location(s), and how the opportunity to work in the studio(s) arose.

Thank you for taking the time to complete this questionnaire.

The results obtained will be used as the basis for interviews with producers and engineers in recording studios in London. Your further participation in this research would be greatly appreciated.

Would you be be willing to participate in an interview?

Yes	No
○	○

If YES, please provide a contact name and details (e-mail or phone number) below.

>>

Appendix C: Interview schedules

Interview schedule one: engineers and producers

Section A: The Studio

1. Can you tell me a little about the role(s) you perform in the studio and the specifics of what it entails?

For example producer, engineer, programmer, mastering engineer, musician, manager.

2. Given technologies that allow artists to record music in home studios, are recording studios still important to the music industry and why?

You might want to consider, for example, the 'value' that recording studios and professional producers and engineers can add to the recording process.

3. What are the main challenges facing recording studios today?

Challenges facing studios may include, for example, keeping pace with technical change, falling recording budgets, declining demand for studio space-time, and 'run-away' recording to cheaper locations.

4. Can you describe the creative process that occurs in the studio when music is being recorded and your role within it?

You might want to think about the extent to which the process of creating music is a collaborative effort between producers, engineers and recording artists.

5. What it is that makes your particular recording studio suited to particular recording projects?

For example you might want to discuss the acoustic qualities of the studio, the technical equipment available, the creative atmosphere of the studio, or staff skills/experience.

6. How important is the ability to be innovative and creative when using technical equipment in the studio?

Please give at least one example of how you have been, or might be, innovative and creative with technical equipment or software during the recording process.

7. How do you keep up to date with technical developments in recording studio equipment?

You may want to think, for example, about the personal and professional networks with other producers and engineers that allow you to gain and to share knowledge.

8. What are the challenges and opportunities that arise from working alongside other producer and engineers in the studio?

For example, you might want to think about the ways collaborative working may enhance the creative process, or limit your own ability to be creative. Where possible please give at least one example of a situation when this occurred.

9. What are the main challenges in being able to balance the creative process with the technical process to give the best outcome?

Examples might include problems with managing recording artists or record company expectations, or issues around technical equipment or own capability. Where possible please give at least one example of a situation when this occurred.

10. Is it important in which area of London a recording studio is located?

Consider whether your studio is ideally located, and if not, why not and where the ideal location in London might be.

Section B: Links

11. Which studios do you have your most important links to and why?

Please provide two to three studio names and locations. Think about how often you cooperate with producers and/or engineers in these studios and why the link with this studio is important.

12. Why would cooperation between different studios be necessary on some recording projects?

Reasons might include the inability to carry out all elements of a project at your studio; to include the skills of certain producers/engineers; studio reputation in/equipment for a particular specialism (e.g. mixing, mastering); movement of artists during recording process; or that certain studios/producers/engineers are chosen by record company. Where possible please give at least one example of cooperation with another studio.

13. How does this cooperation usually take place and why? *You may want to consider, for example, how important is it that a studio has facilities to send and receive digital files to/from other studios, and whether travelling to other studios to work is an important and valuable part of your job.*

Section C: Career

14. What are the reasons behind your decision to work in London?

For example, this might be due to a contract, freelance opportunities, career prospects, locational choice for opening your own studio, concentration of music industry companies, or the creative atmosphere of the city

15. During you career, which studios have you worked in?

These may be studios in London, or in other cities in the UK or overseas. Where possible please give studio names, location, dates, and details of how the opportunities to work at these studios came about.

16. Are there particular recording projects of note that you have worked on in these studios and why are they memorable?

Please give at least two examples. You might want to think about what makes a memorable project, for example it might be that the project pushed you technically and creatively, or involved working with a high profile artist or producer/engineer.

17. With reputation considered to be important to having a successful career, how is a good reputation developed?

You may consider what constitutes a 'successful' recording project, for example this might be giving the recording artist/record company exactly what they want, or one in which you were able to play a key role in guiding the technical and creative process. Where possible please give at least one example of a project that you consider a success and why.

18. How important are your personal and professional networks in generating and making you aware of new opportunities to work on recording projects?

Consider the key channels and people through which you hear about and are invited to work on new recording projects, the importance of certain contacts in giving you repeat, and the importance of your reputation.

19. How are these personal and professional networks developed?

Consider both business relationships that you have developed through formal through business networks, and more personal relationships that you may have developed with other music industry professionals in informal settings like music venues, bars etc. Where possible please give examples.

20. Are there cities other than London that you would consider a permanent move to develop your career?

For example, you may think London the best place to work in the music industry, or perhaps there are better opportunities in cities like New York or Los Angeles.

Do you think that any important things have not been covered in the questions above?

Please feel free to discuss any other issues you consider important.

Interview schedule two: mastering engineers

Section A: The Studio

1. Can you tell me a little about the role(s) you perform in the studio and the specifics of what it entails?

For example producer, engineer, programmer, mastering engineer, musician, manager.

2. Given technologies that allow artists to record music in home studios, are recording and mastering studios still important to the music industry and why?

You might want to consider, for example, the 'value' that studios and professional producers and engineers can add to the recording and mastering processes.

3. What are the main challenges facing recording and mastering studios today?

Challenges facing studios may include, for example, keeping pace with technical change, falling recording budgets, declining demand for studio space-time, and 'run-away' recording to cheaper locations.

4. My research shows that the mastering process is concentrated in a relatively small number of high-profile mastering studios. What do you think are the reasons behind this and the reasons why your studio is successful?

For example you might want to discuss the technical equipment available or staff skills/experience/reputation that have made your mastering studio successful.

5. To what extent is mastering a creative process as well as a technical process?

You might want to think about the extent to which the process of creating music is a collaborative effort between producers, engineers and recording artists.

6. How important is the ability to be innovative and creative when using technical equipment in the studio?

Please give at least one example of how you have been, or might be, innovative and creative with technical equipment or software during the recording process.

7. How do you keep up to date with technical developments in studio equipment?

You may want to think, for example, about the personal and professional networks with other producers and engineers that allow you to gain and to share knowledge.

8. What are the challenges and opportunities that arise from working with other producer and engineers?

For example, you might want to think about the ways collaborative working may enhance the creative process, or limit your own ability to be creative. Where possible please give at least one example of a situation when this occurred.

9. What are the main challenges in being able to balance the creative process with the technical process to give the best outcome?

Examples might include problems with managing recording artists or record company expectations, or issues around technical equipment or own capability. Where possible please give at least one example of a situation when this occurred.

10. Is it important in which area of London a recording studio is located?

Consider whether your studio is ideally located, and if not, why not and where the ideal location in London might be.

Section B: Links

11. Which studios do you have your most important links to and why?

Please provide two to three studio names and locations. Think about how often you cooperate with producers and/or engineers in these studios and why the link with this studio is important.

12. Why would cooperation between different studios be necessary on some recording projects?

Reasons might include the inability to carry out all elements of a project at your studio; to include the skills of certain producers/engineers; studio reputation in/equipment for a particular specialism (e.g. mixing, mastering); movement of artists during recording process; or that certain studios/producers/engineers are chosen by record company. Where possible please give at least one example of cooperation with another studio.

13. How does this cooperation usually take place and why? *You may want to consider, for example, how important is it that a studio has facilities to send and receive digital files to/from other studios, and whether travelling to other studios to work is an important and valuable part of your job.*

Section C: Career

14. What are the reasons behind your decision to work in London?

For example, this might be due to a contract, freelance opportunities, career prospects, locational choice for opening your own studio, concentration of music industry companies, or the creative atmosphere of the city

15. During you career, which studios have you worked in?

These may be studios in London, or in other cities in the UK or overseas. Where possible please give studio names, location, dates, and details of how the opportunities to work at these studios came about.

16. Are there particular recording projects of note that you have worked on and why are they memorable?

Please give at least two examples. You might want to think about what makes a memorable project, for example it might be that the project pushed you technically and creatively, or involved working with a high profile artist or producer/engineer.

17. With reputation considered to be important to having a successful career, how is a good reputation developed?

You may consider what constitutes a 'successful' recording project, for example this might be giving the recording artist/record company exactly what they want, or one in which you were able to play a key role in guiding the technical and creative process. Where possible please give at least one example of a project that you consider a success and why.

18. How important are your personal and professional networks in generating and making you aware of new opportunities to work on recording projects?

Consider the key channels and people through which you hear about and are invited to work on new recording projects, the importance of certain contacts in giving you repeat, and the importance of your reputation.

19. How are these personal and professional networks developed?

Consider both business relationships that you have developed through formal through business networks, and more personal relationships that you may have developed with other music industry professionals in informal settings like music venues, bars etc. Where possible please give examples.

20. Are there cities other than London that you would consider a permanent move to develop your career?

For example, you may think London the best place to work in the music industry, or perhaps there are better opportunities in cities like New York or Los Angeles.

Do you think that any important things have not been covered in the questions above?

Please feel free to discuss any other issues you consider important.

Appendix D: Ethics protocol

D1   Ethics statement

The research presented in this thesis has been undertaken in accordance with University guidelines concerning research ethics. Prior to undertaking the research, an ethical clearance checklist was completed and submitted to the University. The research did not involve any vulnerable groups. In accordance with University ethics guidelines, all participants gave informed consent freely; prior to the interview commencing, all participants were presented with an interview permission form to sign, which included the following text:

You are invited to take part in a research interview. However, your participation in this research is voluntary. All the information you provide will remain anonymous, with any identifying details removed from the transcripts of the interview and the final write-up of the study. The interview will be recorded with your permission, and all data will be securely stored in accordance with the data protection act. You will have the opportunity to ask any questions, and will be free to withdraw from the interview at any point. You are free to withdraw your data at any time following the interview, without any negative consequences, although if data is withdrawn late it may already have formed part of the submitted study. Myself (the researcher) and academic colleagues involved with the research will have initial access to the data. However, it is possible that the research will be disseminated more widely through teaching, conferences, publication in academic journals, and on the internet. All information will remain anonymous. If you DO NOT consent to your data being used in this way, please tick here: ❏

In accordance with the above, a full anonymity protocol has been adopted in this thesis. All interviewees are identified by interview number only, along with details of sex, age and role for contextual purposes. Further background details on each of the interviewees are provided in section D2 of this appendix below.

D2   Pen-portraits of interviewees

***Interview 1*:** Interviewee 1 was male and in his thirties, and the owner of a small project studio in a residential garden in south London. The studio had a single room and a budget digital recording console. He worked part-time as an engineer and producer alongside part-time work outside the recording studio, due to the need for a stable income. The interview took place in the recording studio.

Interview 2: Interviewee 2 was a male recording engineer in his thirties whose work was focused specifically on film soundtracks and orchestral recording. Although technically a freelance engineer, his work came predominantly from one major studio, who also acted as his management company. This studio, located in north-west London, is one of London's major recording studios with a large orchestral recording space, international standard recording facilities and in-house mastering facilities. The interview took place in the studio's café.

Interview 3: Interviewee 3 was a male and in his fifties. An experienced and commercially successful mastering engineer, he had previously worked in the studio facility of a major record label, before setting up his own mastering company located in a customised mastering suite in the City of London. The interview took place at the mastering facility.

Interview 4: Interviewee was a male producer in his forties. Previously a successful session keyboardist who had played on a number of hit records; he had become a commercially successful record producer of popular music. The

financial success of a number of records he produced had enabled him to build a single-room project studio in the garden of his residential property in west London. The interview took place in the recording studio.

Interview 5: Interviewee 5 was an experienced male sound recording engineer in his sixties, whose work over the course of his career had focused predominantly on the recording of vocals for film and television. He had experienced commercial success working with a famous group of comedians throughout the 1970s and 1980s. He operated a small recording studio in central London with a large vocal booth and separate control room. The interview took place in the recording studio.

Interview 6: Interviewee 6 was male and in his fifties. He worked as a contracted mastering engineer at a major recording studio in North West London, a facility which had international standard facilities and large orchestral recording spaces. His work focused in particular on mastering orchestral recordings. The interview took place within the mastering facility.

Interview 7: Interviewee 7 was a male mastering engineer in his thirties that worked for a medium-sized mastering facility located in west central London. The suite had a single large mastering suite. Previously he had worked at the mastering facility of a major record label. The interview took place in the mastering suite.

Interview 8: Interviewee 8 was a male engineer in his twenties. At a relatively early stage of his career, at the time of the interview he was beginning to take on more work as the main engineer on recording projects and less as an assistant engineer. Although technically freelance, he got most of his work through a major recording group that owns a number of different studios, and who also acted as his management company. The interview took place in a coffee shop close to his home.

Interview 9: Interviewee 9 was a male engineer-producer in his thirties who had come to London from South Africa some years previously. Specialising in vocal recording, he operated a small project studio in London's West End that consisted of a vocal booth and small control room. All recording was done

directly to computer software without the use of a recording console. The interview took place in the recording studio.

Interview 10: Interview 10 was male, in his thirties, and one of two house engineers at a medium-size recording facility in north-west London. As a house engineer, all of his work was carried out at this studio, which did a range of audio recording and had recently begun offering 'gift' recording sessions in an effort to increase income. The interview was undertaken in the garden of a public house close to his home.

Interview 11: Interviewee11 was a male engineer in his twenties, who whilst freelance worked predominantly for a medium-size recording facility in north-central London. The studio had two large live recording spaces and a vintage recording console in a separate control room. The interview took place in a small social space in the recording studio.

Interview 12: Interview 12 was male and a successful and experienced orchestral recording engineer-producer in his forties. He was contracted by a major recording studio in North West London, a facility which has large orchestral recording spaces and international standard facilities and equipment. His work focused in particular on mastering orchestral recordings. The interview took place in the garden of the café at the recording studio.

Interview 13: Interviewee13 was a male engineer-producer in his forties, who owned and operated a small recording studio in west London. The studio was located within in a large industrial/commercial facility and contained a range of vintage equipment and instruments. The interview took place in the recording studio.

Interview 14: Interviewee 14 was engineer and in his thirties. A recording engineer, he worked part-time (mostly evenings) for a small recording studio in east-central London, alongside a day job unrelated to studio work. At the time of the interview, he was considering ending his career as an engineer in order to have a more stable career to support a family. The interview took place in the control room of the recording studio.

Interview 15: Interviewee 15 was male and in his thirties. He worked as the house engineer for a medium-sized recording facility in north-west London with a number of live recording spaces and a large social area. Despite having worked with many leading recording artists and producers, at the time of the interview, the interviewee was considering whether to cease working as an engineer and find employment in a sector which offered better future career and wage prospects. The interview took place in the social area of the recording studio.

Interview 16: Interviewee 16 was male and an experienced engineer in his fifties. He owned and operated his own small recording studio in north London which had a small live space and separate control room. He had worked as an engineer at a number of the major studios in London and on a number of commercially successful recording projects. The interview took place in the control room of the recording studio.

Interview 17: Interviewee 17 was a male recording engineer and record producer in his forties who had come to London from Sydney some years previously. He owned and operated a small recording studio in north London, with a small live recording space and separate control room, and specialising in recording with vintage audio equipment and instruments. The interview took place in a yard outside the recording studio.

Interview 18: Interviewee 18 was male and an experienced mastering engineer in his fifties. Having worked at a number of major mastering facilities during his career, at the time of the interviewee he was a contracted mastering engineer at a major recording studio in north-west London, with international standard recording and mastering facilities and a large orchestral recording space. The interview took place in the mastering suite of the studio.

Interview 19: Interviewee 19 was a male record producer in his forties. Beginning his career as a recording engineer working in a number of major studios, he would go on to become a successful producer, producing a number of commercially successful artists. This commercial success provided the funds to build his own recording studio in an old industrial facility in north-west London, with a large live space and a vintage recording console in a separate

control room. The interview took place in the control room of the recording studio.