Human machine music: twenty-first century models of music performance practice in an Australian contemporary music community

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I acknowledge that I have read and understood the University’s rules, requirements, procedures and policies relating to my higher degree research award and to my thesis. I certify that I have complied with the rules, requirements, procedures and policies of the University (as they may be from time to time).

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Conference Proceedings

Audio Recording

Audio recording

Audio Recording

...........................................

Barry Hill
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Abstract

This project presents a multimedia performance and a written exegesis. It will focus on the way creative practice is embedded within a specific social context. This project will illustrate innovative creative processes used within an Australian contemporary music community. This community creates music known as ‘Live Electronica’. This community is sited within an emerging culture of electronic popular music performance that combines conventional musicianship and computerised musical instruments. This community of musicians are responding to social, economic and technological changes that have altered creative practices in relation to popular music performance.

‘Live Electronica’, is described in this project, as distinct from other forms of electronic music; that are first sequenced/composed on a computer and then reproduced or triggered on stage by a DJ or music performer. ‘Live Electronica’ is produced in real time by a group of musicians interacting on stage in front of an audience.

This project views computers as having performative limitations. Conventional computing devices, such as laptops, are designed for data entry rather than for musical communication. These machines require visual interaction; a sense that potentially impedes the flow of aural and tactile information that musicians use to make music within an interactive ensemble setting. In this context, the technology of computer music making acts to limit interactive possibilities between musicians.

This project utilises a model of practice-based research. This methodology aims to reflect on the connections between creative performances and the wider cultural context from the perspective of participant observer. Developed and presented within this project, is a portfolio of original creative works and a live multimedia music performance/webcast. This music performance/webcast is currently published on the web at www.cyberbassmusic.com. It intentionally features excerpts from video interviews and conversations that were conducted while attending music festivals in Australia and overseas. These interviews form the focus of the visual element of the multimedia music performance.
Audio and video recordings (submitted on CD format) provide a chronological documentation of creative outcomes. Video recordings (submitted on dual layer DVD format) document the development and realisation of the final multimedia work.

The creative folio is supported by a written exegesis. This component is an adjunct and supporting document to the creative work. The written exegesis will discuss specific musical styles and compositions that influence the creative work. It will also discuss contemporary music performance, in relation to ensemble interaction and improvisation using computer musical instruments. Included in this exegesis, is a discussion of various social influences that can affect the formation of specific creative practices. Using this discussion, a model of creative practice within a specific social context will be developed.
Preface

‘Live Electronica’, is a music genre that is relatively new. It reflects the fast-evolving technology of digital audio production and the rapidly changing social dynamics of twenty first century contemporary music culture. Over the last ten years, the contemporary music industry has become dominated by electronic music programmed on computers. The electric guitar and drum-kit now share the stage with the sampler, laptop computer and the DJ’s instrument—the venerable turntable. Globally, a generation of people has now grown up listening to electronic dance music and are used to dancing to the computer precision of electronic dance beats, unrelenting and somewhat inhuman.

Electronic dance music is the inspiration for a growing number of musicians worldwide who have begun to incorporate the ideas and technology of electronic music into their music performances. Electronic music technology enables the musician to be a constructor of the sounds used in the composition of specific creative works. The musician of the twenty first century is able to simultaneously take on the roles of instrument maker, sound engineer, music producer and performer. Live electronic music performance has definitely come of age.

As a bass player, I have performed in ‘live’ electronic performances that are actually not ‘live’. These performances have involved myself playing bass lines along to a pre-recorded drum track or audio recording being controlled by a DJ/audio producer. I have also performed in many ‘conventional’ musical ensembles, as a bassist in a variety of popular music bands. The gulf between these two performing experiences is large. Playing in time with a computer generated dance music sequence can feel like practising with a metronome. There is no sense that you are interacting with another musician, rather just trying to keep up with and stay in tune with a computer.
In a conventional band, there are many more variables that need to be taken into account to make sure that the music produced sounds coherent. A conventional band is an interactive and sometimes improvised experience. Without the precision of a computer controlling the beat, it is the responsibility of all musicians within a conventional band to maintain communication, interactions and a common reference point within the music. How successfully the band is able to do this, determines the overall coherency of the music produced.

I have performed as a bass player in the ‘live electronica’ band The Bird since 2000. This band performs improvised electronic dance music using conventional acoustic and electronic instruments to reproduce electronic dance music live. Playing in this group has demonstrated to me the profound effect that high-intensity, fast-tempo electronic music can have on an audience, when performed live by an ensemble of musicians. Many audience members have commented to me that they had never previously heard this sort of music performed successfully by a band.

In Australia there are many bands building a name for themselves, reproducing electronic music live. These include Loonaloop, Morph, The Bird, Amphibian, KO, DKO, the Resin Dogs, the Levitators and Triosk, just to name a few. These bands can be seen to be part of an emerging culture of electronic music that combines conventional musicianship and computer musical instruments. Overseas, bands like The Bays (UK), Nerve and Pnuma Trio (USA) are emerging from the fringe, attracting big crowds and playing live music with conventional instruments and computers sharing the stage, but without a drum machine dictating the rhythm.

Performing as an independent band in a small electronic music subculture in Australia has its drawbacks. There is not much money to be made as an independent artist working in the Australian contemporary music industry. Musicians
must be innovative and market themselves in a variety of ways to survive economically. The last ten years has seen the music industry transformed by changes to the way we listen to music and participate in musical cultures. Music CD sales are falling as Ipods and file sharing become our preferred mode of listening to music. Curiously, live music concerts and festivals are still attracting big crowds. Twenty first century audiences are still demanding live music. Where does this leave the professional music performer? What are the prospects for the future of live music performance? These questions interest me both as a social researcher and a musician.

My undergraduate arts degree included a major study in Politics and Economics. My love of music performance saw me discard my ideas for economic policy development and take up a career in live music performance. After completing a Honours degree in ethnomusicology and music composition at Monash University in 2003, I became very interested in the concept of presenting research as creative work. Using live music in creative work can effectively demonstrate the aesthetic aspects of a particular musical genre in the same way that ‘a picture says a thousand words.’

This project reflects on the developments and changes that have influenced my own creative work, and focuses on specific musical inspirations for my creative work. I will discuss live music performance and group improvisation (using digital electronic music production devices) and analyse examples of music and music performances that have directly influenced my work. The creative component of this project is driven by my desire to realise the potential of combining the dynamics of an ensemble of musicians, with the technology and musical styles associated with contemporary electronic music.
The music community described in this project is made up of Australian artists who perform music using instrumentation and creative processes similar to the ones used to devise the creative folio of this project. By examining this community and its music, I aim to illustrate the connections between the processes used within the creative components of this thesis and those used by other Australian artists that perform live electronica. I further aim to outline some aspects of the social network associated with the live electronica community. This community forms the narrative subject within the major live performance component of the creative folio.

My own position as a member of the musical community in focus imbeds my perspective and frames this project as a view from within a musical culture - an attempt to define the elements that inform the creation of the music and the linkages that connect the music to a surrounding musical community. As a musician, I feel a part of the culture that I am describing in this project. As a writer, I wish to document the relationships that exist between individual and collective creative practice.

As I was completing my honours in 2003, a musician friend gave me a copy of Jacques Attali’s book *Noise: the Political Economy of Music*. I found it intriguing that Attali, an economist, had chosen to write what has become a much-quoted text on the relationship between musicians, musical communities and their specific social context.

In *Noise*, Attali relates the development of distinct creative practices used by musicians to compose perform and distribute music to the development of social and economic relations within a wider community. I became interested in the idea that by studying emerging musical cultures within society, one might determine the social direction that a society may develop.
This project develops a creative work that contextualises the practice of a specific musical community, that of Australian live electronica musicians. It draws on my experience performing live electronic music in Australia and overseas. Specifically, it refers to my own musical experiences during the period 2005-2007. Over this period, I toured Australia and Europe as a bass player and computer musician with the Australian “Live Electronica” band ‘The Bird’ (www.thebirdweb.com).

In the community of musicians framed within this project, I am both a participant and observer. This position affords ready access to members of the community who recognise me as a peer musician as well as a researcher. I already have a musical rapport and cultural identity that can be used to facilitate this ethnographic inquiry.

I hope this project illustrates the virtues of practice-based research. By demonstrating the creative processes used within a particular music community and highlighting the ideas of that community, I seek to provide insight into a cutting edge form of contemporary music practice.
Chapter 1.

Introduction

1.1 Introduction

This research project examines my creative and practical experiences working as a musician within a specific Australian contemporary music community. This community performs music that is identified in this project as ‘live electronica’ (henceforth LE), and includes individual Australian musicians and ensembles involved in the creation of live music inspired by electronic dance music (henceforth EDM)¹.

The music created in this project is described as ‘live’ because, unlike other forms of EDM (that are first sequenced/composed on a computer and then reproduced or triggered on stage by a DJ or laptop performer), it is entirely produced in real time by a group of musicians interacting on stage in front of an audience. LE musicians incorporate the textural and compositional elements of EDM - music created and produced by music producers interacting with computer-based music composition devices - rather than by ‘traditional’ pop bands or instrumental ensembles².

This project has two research components. The first is a presentation and documentation of my own creative practice in the area of LE. The second is the development of an ethnographic ‘snapshot’ of the musical community within which my practice is situated, a community made up of LE musicians based within Australia. This community can be described as a type of musical ‘subculture’ (Hebdige 1979) ‘micromusic’ (Slobin 1993) or ‘scene’ (Becker 2004). It is a trans-

¹ Electronic Dance Music is a term that has been used to describe the computer-controlled and electronically-created dance music heard at events attended by the youth subculture of ravers and clubbers – a subculture that emerged during the last two decades of the twentieth century.

² It is important to note at this point that performances of electronic music that involve musicians triggering laptops are sometimes described as LE performances, and Australian bands (such as Sneaky Sound System and the Presets) that feature musicians playing along to a sequencer may be sometimes described as LE artists. For the purposes of this project, LE performances are defined as those in which music is performed without the aid of sequencers and drum machines.
regional music community that has been informed by developments within global contemporary music cultures. Being on the fringe of mainstream popular music culture, this community functions in a similar way to the local, more geographically centred musical communities described by authors such as Finnegan (1989) and Hannan (2002).

This project acknowledges the work of Barthes (1977), Blacking (1977) and Becker (1984) in relation to the contextualisation of musical practice, and endorses the notion that the creation of musical works involves not only the intentions of an author, but also the dynamics of a surrounding community and wider culture. This project is also informed by Straw's (1991) conception of a 'music scene':

\[
\text{a cultural space in which a range of musical practices coexist, interacting with each other within a variety of processes of differentiation and according to widely varying trajectories of change and cross fertilization. (ibid:373)}
\]

By acknowledging these authors as influential theoreticians, this project highlights the various levels of community that are involved in the music-making process, from the artistic interactions of a community of musicians on stage, to the relationships that musicians have with the wider community in which they are imbedded.

Conceptually, this project has two parts. The first part of this project involves the development and production of a portfolio of original creative works. This creative practice component consists of a folio of creative work submitted as various digital files on CD and DVD format, and an improvised live multimedia music performance webcast. This webcast is currently published on the web at
www.cyberbassmusic.com. Audio recordings submitted on audio CD format provide a chronological documentation of creative outcomes, while video/audio recordings submitted on DVD (and viewable on the internet) document the development and realisation of the final multimedia work. The creative folio is supported by a description and analysis of the specific processes used by the author to create and perform the folio material.

The second part of the project is an ethnographic description and analysis of the community of Australian LE musicians that surround and impact on my own creative practice as a musician, and examines the practices, views, ambitions, and ideals of this community. This is a community of artists creating innovative original music who are responding to social, economic and technological changes that have altered the context of their own contemporary music practice. The project concludes with a multimedia performance that highlights various creative, social, and financial interactions that link the individual creative practice of these artists to a community of like-minded and similarly inspired musicians.

This project is an example of practice-based research. Hannan (2004) states that:

>a position has been reached in most universities whereby creative work and submission or performance must be accompanied by a written component (ibid:191).

I acknowledge the importance of reflective analysis and fieldwork in my overall research design. By experiencing a multimedia creative work, a reader of my research text can observe the workings and creative processes of my own musical

3 www.cyberbassmusic.com was designed in conjunction with web designer Henry Egloff and was launched in September 2007. This website hosts a video of the live webcast performance entitled Human Machine Music.com that took place on 17th OCT 2007 at SCU. This performance can be downloaded as a 164mb quicktime movie. To obtain the download go to www.cyberbassmusic.com and click launch live stream. And save as quicktime(.mov).
community. While reflecting on the stated views of a particular music community, audiences observing a multimedia work/text can come to a more experiential understanding of the relationship of this community of musicians to the wider society.

The written exegesis component is designed to be an adjunct to the creative work, providing insight into the creative practices used by musicians working within Australian LE. The exegesis will document the specific processes and techniques used in the creative component of this project. Included in this exegesis, is a discussion of the types of creative processes and musical forms used within LE ensembles to build positive relationships among musicians and thereby facilitate composition and improvisation in a musical sub-genre (EDM) that has been largely dominated by composer-producers, rather than ensembles of musicians working together to create music on stage in front of an audience.

1.2 Notes on Terminology

It should be noted that the term ‘electronica’ first emerged in the USA in the 1990’s to describe:

*post-rave global-influenced electronic dance music. Genres such as techno, drum and bass, downtempo, and ambient are among those encompassed by the umbrella term*.

This term ‘electronica’ is problematic. Like ‘world music’ or ‘jazz’ or ‘pop’ the meaning of the term is obscured by its varying usage in marketing, journalism and academic contexts. In the early 1990s, successful EDM bands such as Underworld, Chemical Brothers, Massive Attack, The Orb and The Crystal Method, developed live performances that included guitarists, saxophonists and percussionists performing in conjunction with sequenced bass lines and drumbeats. To distinguish them from DJs

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and producers, music magazines identified these bands as ‘electronica’ bands. While these bands featured live performers, the majority of the music was still being created prior to performance and then replayed using computer sequencers. This form of music performance limits the possibilities for interaction and improvisation within an ensemble, as the tempo and basic harmonic structure of the music is pre-determined by a machine programmed by a producer. Throughout this project I form a distinction between these types of ‘electronica’ ensembles and LE performance projects that involve a creative process whereby all sounds are triggered by musicians on stage and are not synced to a single computer-controlled beat or click track.

The terms ‘electronica’ and ‘IDM’ (Intelligent Dance Music) have been used to describe the music of artists such as DJ Shadow, Aphex Twin and Autechre. These musical projects used the same technological processes involved in EDM to create electronic music but were produced as “electronic listening music” (Toop in Clarke 2003:168) – music composed specifically to listen to, rather than to dance to.

Toynbee has used the term *electronica* in relation to “code shaping and the creative process.( 2003:110)” Using this term to encapsulate all electronically-generated musical styles, Toynbee identifies electronica, music concrete, minimalism and avant-gardism as musical styles that have subverted the musical codes of western classical music and acted as ‘code shapers’, identifying creative processes that produce a new classification of important artists. In the development of electronic music styles, Toynbee sees a process of new musical code formation that is still in a state of change. I have adopted this idea to frame LE as a type of musical code that has yet to be fully formed or articulated, utilising creative practices that are yet to be understood.
There has been considerable analysis of cultural aspects of the emergence of late twentieth-century electronic music\(^5\), but not much analysis on the music itself. An important focus of this project, is to combine an analysis of the musical forms that are used in the creation of this musical style with a commentary on the cultural context of this music. There are aspects of the creative process that are strongly connected to wider cultural change occurring in the surrounding community.

While the first electronic music performances can be traced back to the early twentieth-century European art music, it is only in relatively recent times that electronic music has appeared in a popular music context. The explosion of a global EDM culture in the last quarter of the twentieth century has created a commercial marketplace for electronic music and taken electronic music from the ‘peripheral’ areas of music concrete and Eno-esque ambient music\(^6\), to the centre of popular youth culture. The superstar DJs of EDM now earn as much as famous actors and sports stars.

1.3 Emergence of Live Electronica in Australia.

At the beginning of their essay on Australian electronic music history and the career of the Australian electronic artist Tom Ellard and his group Severed Heads, Harley and Murphie (2008:93) state that “Electronic music has played an important role in Australian popular music since the early 1980s.” Harley and Murphie go on to list many of the important Australian bands that played a part in the development of electronic music culture in the 1980s. Bands such as ‘The Reels’, ‘Not Drowning Waving’, ‘Dead Can Dance’, ‘Mi Sex, and Severed Heads’, had popular chart  

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\(^6\) Music concrete was developed by composers such as Pierre Schaeffer in the late 1940s. Brian Eno is a sound engineer/artist/musician who began producing recordings using electronic music in the 1970s - utilising synthesisers, echo machines, tape loops and tape recordings played backwards. His collaborations with Bryan Ferry, Adrian Belew, Robert Fripp, U2 and David Byrne created pop music productions with a lot of electronic effects. He is also credited with the creation of ‘ambient’ music.
success with music mainly composed and performed using sequencers and drum machines.

At the same time, Australian jazz musicians were also beginning to incorporate electronic music into their improvised performances. Bands such as The Necks, Steve Berry’s Rave, and The Hungarian Rap Sadists are examples of Australian musical groups that emerged in the late 1980’s and developed a style of musical performance that utilised ensemble interaction techniques of group improvisation, reminiscent of jazz groups and were influenced by the sounds and rhythms of EDM.

Over the past ten years, other Australian groups such as DKO, KO, Morph, Entropic, Amphibian, Common Knowledge, Decoy, Coda, Wild Marmalade, Mountains in the Sky, Luna Loop and The Bird have emerged playing electronic music that is partly composed and partly improvised. The emergence of these groups is a development that corresponds to specific developments in music technology and to the ascendancy of EDM as a major popular music style.

1.4 Live Electronica: A Brief Musicological Overview

Until recently, EDM has been the preserve of producers who create musical products (vinyl or some form of digital midi file) that are replayed/performed by the DJ through the use of turntables or digital devices such as ‘CDJ’S’ or laptop computers. The development of sophisticated and portable digital music devices such as samplers and Midi-controllers has enabled this music to be created and recreated on stage in a live context. The composer and performer can now be one and the same.

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7 CDJS, such as those produced by Denon or Numark are devices that enables DJs to replay audio from compact discs and control the pitch and speed of the audio program.
From a musicological point of view, LE musicians have taken on the specific compositional forms of EDM and incorporated them into their own musical performances. EDM is linear in compositional style, largely instrumental and repetitive. The music that LE musicians make can contain extended improvised passages where there is a primary focus on timbral rather than melodic manipulation. Musical form within LE is broadly characterised by melodic fragmentation and extreme timbral and sonic textural shifts. Traditional concepts of melody and harmony are relegated to a secondary role (Hill 2005). As Taylor (2001:186) states:
“concentration on the right sound for a given musical context can shift the attention away from more familiar levels of musical form such as melody rhythm and harmony.”

Taylor’s comments are reflected in the musical focus of this project. Timbral and textural manipulation are identified as major components of LE composition, and sonic shifts are used to create structure and interest for the listener. To achieve this, LE musicians combine innovative electronic instruments, such as ‘soft-synths’8 and samplers (such as the Akai MPC), with more conventional instruments such as drum kits, basses and keyboards. The latter are not only are used as sound sources, but also as triggers for computer-based digital sound sources - such as analog-modelling synthesisers and sampler modules.

Exploring the interaction between musical interfaces such as samplers, drum kits, laptops and electric guitars is an important aspect of creative work within this field, and represents a distinctive aspect of this sub-genre that appeals to LE musicians. Creating musical performances that match the ‘flawless’ pre-recorded tempos, sonic production and dynamic shifts of a DJ demands a high level of ensemble

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8 Software such as Rebirth by Propellerheads appeared in the late 1990s – enabling computers to emulate the sounds of classic synthesisers such as the Roland 303, Yamaha DX series and the Juno 106.
communication and musicianship, as well as a new set of musical knowledge. Manipulating musical devices (or musical interfaces) within a live performance context demands a high level of technical proficiency on conventional musical instruments, together with a high level of computing knowledge. The LE musician requires an advanced knowledge of digital music synthesis, sampling, gain structure, sound dynamics, equalisation and spatialisation. Until recently, this knowledge has been the preserve of the sound engineer or producer. Within LE it can be seen that the skills of the sound engineer and performing musician are converging.

1.5 Contextualising Live Electronica Performance Practice: Some Initial Observations

As well as presenting an analysis of creative practice within a specific LE community, this project seeks examine the way practice is embedded within a wider creative space and a specific historical and social context. For example, the production of a musical work requires preparation, rehearsals, technology, a physical performance space and a group of musicians. All these elements are affected by a variety of variables that are distinctly non-musical and culturally determined. Juan Atkins observes: “it’s hard for creative thought to escape capitalism.” (cited in Sicko 1999:15).

At the start of the twenty-first century, many questions arise for musicians who seek to pursue a professional career in Australia. What is it to be a contemporary musician in Australia working within the popular music industry? How does one make a living from pursuing a career as a musician? What are the creative processes used by musicians to produce innovative music? Does a full-time professional career in music actually exist? This project addresses these types of questions in aiming to contextualise the creative practice of LE musicians. Documenting the nature of creative practice and how it is affected by the need to live, eat, pay the rent and
afford equipment, phone bills and transport, can help to provide a sense of what it means to be a contemporary LE musician in Australia.

In Australia, creative art practice is considered by many in the wider community to be a hobby or a part time job. The notion of a difficult financial life and bleak employment prospects for musicians is reinforced at a federal government level with the Australia Council for the Arts – with a major report urging musicians not to “give up their day job.” Recent studies such as Johnson and Homan (2003) and Knowles (2006) point to a disappearance of live music performance venues. Noise restrictions due to residential property developments, together with competition from other leisure activities such as surfing the internet, video games and poker machines, have reduced the opportunities for live music performance in the community and have made it difficult for a musician to survive exclusively from playing gigs, studio sessions and concerts.

As a musician in Australia in the early twenty-first century, it is very difficult to make sufficient income through live performance and marketing of recorded musical works to avoid economic hardship. Australian musicians working within the LE sub-genre need to use a variety of innovative methods to market their musical work simultaneously on a local, national and international scale. These innovative practices are viewed within this project as an active response to changes that have occurred within the Australian contemporary music sector over the past twenty years.

Musicians working in the Australian contemporary music industry do not experience a clear career path. Australian contemporary musicians typically act as self-employed artists, running their own artistic practice as competing small business-people,

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9 The Australia Council report into artists incomes in Australia (2003) was sub-titled “Don’t Give Up Your Day Job” and emphasised the part time nature of artistic practice in Australia.
10 The NSW ministry for the Arts published Vanishing Acts a report into the state of live music in NSW 2003.
competing for audience attention in the same way that brands compete for marketing space. Unless musicians have other employment providing superannuation, workers compensation, sick leave and holiday pay, they tend to lack these basic supports. These pressures place limits on the possibilities for innovative music making in Australia.

It can be argued that these limits do not exist to the same extent in Europe and America, where a larger population density make creative practice a more profitable and sustainable venture.

The creative component of this project intentionally features excerpts from video interviews and conversations I have conducted while touring as a musician at various festivals in Australia and overseas. These interviews form the focus of the visual element of the major multimedia work and illustrate some of the attitudes musicians to life and work as a contemporary LE artist.

1.6 Wider Cultural Changes - Ritual Machines Influencing Musicians

As already noted, this project links the creative practice of a community of musicians to a wider cultural context. This project touches on various aspects of broader cultural changes that have affected musicians’ creative practice both within the LE sub-genre and other popular musics. Rouget has stated that pre-capitalist cultures had the intention of establishing a mode of “communication with the divine” (1985:322). Throughout history, ritualistic dance music has been often accompanied by the intake of hallucinogenic drugs and narcotics by both the audience and performer to attain a deeper immersion in the experience. Under the effect of these chemicals, humans can find interest in somewhat fragmented melodic structures and radical manipulations of textural dynamics and rhythmic structures. EDM musical styles such as techno, house and drum and bass – associated as they often are with drug intake and dancing – are not characterised by long and beautiful melodies and
sonorous harmonies, but rather by changing sonic textures and prominent rhythmic elements.

LE audiences are also predominantly made up of members of Generation X and Y\(^\text{11}\). The twenty-first century world of Generations X and Y is dominated by machines, computers, noise, and global internet based social networks. These networks link communities together, in simultaneous virtual and real worlds relating to employment, leisure and creative activity. Music can now be downloaded from the internet, viewed via webcasts, and produced through online collaborations.

Generation X and Y are the first generations that have grown up listening to audio reproduced digitally on CDs and various other computer file formats. A by-product of this change is that these generations have been exposed to a different form of live music performance in which the computer sequencer is an integral part. Popular music of the 1980s became strongly influenced by groups such as Depeche Mode, Devo, and New Order who used computer sequenced drumbeats, bass lines and melodies extensively in their compositions. MIDI-synced computerised musical groups also had the ability to sound the same ‘live’ in front of an audience as they did on the digital CD player at home. Performing live, these groups functioned differently to non-sequenced performers, pressing play on MIDI sequencers and dancing around their music machines.

Within contemporary EDM, live music performance is now no longer a musical product represented by recorded product, rather live performance now tends to function as a representation of the recorded work (Paradinas 2005)\(^\text{12}\). This change

\(^{11}\) Generation x is defined as the people born between 1965 and 1980. People born between 1980 and 1995 have been described as Generation Y. Both these population cohorts have been the first to grow up in a social context dominated by computers, the internet and digital music reproduction.

represents a shift in the way live music is viewed by the contemporary audience. The knowledge that machines can precisely emulate the work of humans creates a different set of expectations of live performance.

Generation X and Y have witnessed and participated in the growth of EDM, a form that has been made possible by the emergence of MIDI-based computer-music devices. As Taylor (2001:139) notes: “It is now possible to create entire worlds of sound all by yourself with your computer.” Taylor goes onto to state that “music as a social activity may becoming a thing of the past for electronic musicians.” The type of music that can be produced using these devices is now infinitely variable, limited only by the sound reproduction equipment used during performance or playback. The intricate, interlocking, quantised sound sequences of EDM are almost impossible to recreate with a human musical ensemble.

To emulate this type of musical performance, LE musicians have to perform in certain respects as though they are machines, looping identical riffs and executing perfectly synced rhythms, and making seamless sound transitions while maintaining the vital musical communication needed for successful ensemble performance. To achieve this level of precision within LE, musical complexity of individual parts is often simplified, and the focus shifts from making melodic complexity to strong rhythmical motifs that can be looped and layered in a variety of ways.

1.6 Brief Overview of Thesis Chapters

This exegesis is organised into eight chapters. Chapter 2 summarises the methodologies used in the project, outlining a multiple mode of inquiry that combines the production of creative work with a reflective approach to practice - informed by participant-observer ethnography. The chapter also describes the ways in which the folio is created and presented. Chapters 3-6 examine a number of areas that impact
on the creative practice of LE musicians in general, and on my own specific practice. These chapters incorporate analysis and discussion of relevant written and recorded ‘literature’ and are designed to contextualise my work.

Chapter 3 summarises the emergence of electronic music and discusses aspects of cultures surrounding electronic music. This chapter introduces a number of theoretical discussions concerning changes that can occur in a specific community’s creative practice. It discusses social influences on the development of musicians’ creative practices, and the particular relevance of Attali’s (1984) discussion of the formation of new music cultures as a mediation and re-contextualising of noise into music. Attali’s discussion is seen to provide a framework for understanding the implications of the creative practice of a musical community within a broader social network. Recent work on defining and analysing musical forms within EDM such as Wooler and Brown (2008) and Butler (2007), is discussed in order to develop a framework for comparing the musical features of different EDM musical examples. This is particularly important to this project – given its intention to link musical analysis with social contexts. The chapter also examines my role as participant-observer in the ethnographic research component of the project.

Chapters 4 and 5 analyse various sociological and musical influences on LE and the interactions of these influences. Chapter 4 focuses on broader influences and the global emergence of EDM. Social, technological and economic changes have influenced the way music is created, performed and marketed, and LE can be seen to have emerged in response to these changes. Some changes, such as technological innovations, have had a direct impact on the way music is performed. Others have had more of a secondary effect, by making musicians go about their practice in different ways. Some developments have been local and some global. Together, they have driven the emergence of new musical forms and cultures.
Chapter 5 presents a more detailed musical analysis of the stylistic elements in selected musical works that illustrate elements of LE and EDM, and that have influenced my own creative work. This chapter begins with a discussion of ensemble improvisation - a fundamental component of LE practice. This chapter goes on to identify specific musical styles and techniques that have influenced my creative practice and the realisation of the musical works that have been produced within this project.

Chapter 6 identifies specific musicians that I relate to as members of my own musical community. Certain members of this community are identified as collaborators and peers, while others are identified as influences on my own musical practice. Members of this community also form the subjects of the video interviews conducted during the ethnographic research phase of this project. Segments of these interview responses appear within the final multimedia performance and provide the thematic subject of each section of the creative work.

Chapter 7 details the creation of the creative folio, the design of the final performance, and the construction of the accompanying website. This chapter presents a detailed discussion on the development of the creative processes used to combine musical improvisation techniques with specific composing techniques that are inherent to LE music production. For example, a focus on seamless timbral manipulation in real time is identified as the most important element in the successful performance of improvised LE, and it is acknowledged that the focus of timbral manipulation as a compositional tool within an ensemble is an evolving and difficult concept for many musicians. Musicians participating in this project found that the additional task of electronic audio manipulation makes ensemble communication more difficult.
Chapter 7 documents the development and design of the final multi-media performance work (including the incorporation of a video artist into the improvised ensemble, and the streaming of the final performance as a web-cast that could be viewed by anyone with a broadband internet connection). These final two elements reflect the rapid convergence of screen-based media and sound as a single artform or media-scape. Chapter 8 provides some concluding reflections on the outcomes of the project, and LE in the contemporary Australian setting.

1.7 Concluding Remarks

Presenting a set of creative works can effectively demonstrate the aesthetic aspects of a particular musical sub-genre in the same way that a picture ‘says a thousand words’. As this project is a documentation of my own musical practice, it is essential to display this practice as well as analyse it. The documentation of my creative work reflects the way that cultural forces have affected my own creative output and practice as a professional musician. As a musician, I feel a part of the music culture that I am describing in this paper. As a writer, I wish to explore the relationships that exist between individual and collective creative practice. Using the format of a creative work accompanied by written text is a logical way to document aspects of Australian LE.

Musicians such as Miller (1997) and Sawhney (2001) have been successful in presenting creative works that internationally document the experience of a particular culture or community while at the same time presenting original music. Miller focuses on the cultural experience of African-American jazz and blues musicians in the 1950s and 1960s in his musical anthology Tales. This anthology depicts the pressures on African American musicians working within the wider context of socio-political cultures of the USA. Sawhney describes a very different community - that of
India, and its identity as a nuclear-powered and armed nation. His work utilises field recordings and interviews with various Indian and non-Indian participants of this culture as a cultural context for India’s status as a major military power.

On the ethnographic side, I have described the cultural context of my own musical community and used a form of ‘fieldwork’, in the form of interviews with members of my own music community, to understand the views and ideas that have helped shaped the musical practice of LE musicians. I have incorporated this primary ethnographic data in the form of visual imagery and video interviews into a multimedia work. I have identified examples of EDM works and displayed graphic representations and musical notated of the features that I see as important in relation to the development of the creative practices of my musical community. I have drawn attention to the issues relating to the way my community fits in to the popular music industry; as niche producers that pursue an independent approach to music making and marketing of their musical products to a global audience. As can be seen from the responses displayed within the multimedia work, members of my community are somewhat concerned at the way that creative practice is curtailed by the continued undervaluation of music by the Australian audiences.

In summary, this creative project presents a multimedia text, an ethnographic and musicological analysis and a recreation of creative practices within my own community. I hope that this project demonstrates the value of a hybridised practice led approach to research and contributes to a broader understanding of popular music and cultural development.
Chapter 2.

Literature Review and Theoretical Background

2.1 Introduction: The Big Picture - Connections between Cultural Theory and Musicians’ Practice

This project seeks to investigate the nexus between creative practice and social context. It will focus on the following research questions: What are the emergent creative processes being developed by musicians to incorporate elements of EDM and electronic music into ensemble performance practices? How does technological innovation and cultural change affect musicians and music cultures? What are the pressures and forces that have helped shape the emergence and direction of Australian LE? How do Australian LE musicians feel about their creative practice?

In this chapter, I will discuss some of the concepts that provide a theoretical background to my reflections on creative practice and my activities as a practitioner within the Australian LE music community. This chapter will make reference to some of the authors who have documented the way computer-controlled or digitally created music has, since the latter part of the twentieth century, come to dominate popular music culture. It will also identify authors who have published works on the formation of musical scenes, communities and subcultures. This project links the creative processes involved in the performance of LE music to changes in the way that music as a cultural text is created and consumed. Significant developments in media technologies and patterns of consumption over the last fifteen years have altered the place of music and musical performance in contemporary capitalist societies.

Analysis of the creative process of music making, and analysis of the ever-changing dynamics of a surrounding cultural community, tend to be seen as separate research activities – requiring either a music-focussed analytical model or an ethnographic
model. This project intentionally seeks to highlight the connections between musicians’ creative choices and broader socio-economic considerations.

2.2 Organisation of Literature Review

This literature review is in two sections. Firstly, I will discuss the emergence of electronic music within the popular music domain, and the development of LE music performance in Australia. I will then introduce three levels of discussion that focus on each of the areas of interest to this project. These are:

Level 1: Description of the creative process - analysis of ensemble interaction within LE.

Level 2: Depiction of a cultural community - the musician’s ‘worlds’.

Level 3: Reflections on the sociological context - relations between a musical community and the wider cultural context.

Level 1 involves a discussion of the creative process involved in LE performances. This discussion focuses on specific elements of musicians’ interactions on stage that combine to produce electronic music. Until very recently, electronic music composition within popular music has been the preserve of pre-constructed studio settings and ‘in the bedroom’ style creative processes, with EDM music producers working alone with their computers rather than on stage in a music ensemble.

LE presents a challenge for musicians collaborating as an interactive ensemble/band performing improvised music in front of an audience. Within such a context, a different form of creative process amongst band members is fore-grounded. The focus of music performance becomes the creation of a coherent musical sound texture and an appropriate groove and rhythm, rather than the harmonisation and embellishment of a ‘lead’ melody. Conventional popular music composition sections,
such as verses, choruses, ‘middle-eights’ and instrumental solo sections, are eschewed in favour of an approach that sees members of an ensemble working to create an interlocking sonic texture over a constant, near-quantised beat. This approach subverts the traditional or “conserved processes” (Hill 2007:5) of music making within a popular music ensemble context.

Academic literature is lacking in discussion of how ensemble interaction has been affected by the emerging popularity of EDM. Today, musicians in the LE sub-genre must simultaneously work on perfecting their instrumental technique while also perfecting the sounds that they create electronically (with due consideration for the way these sounds are heard by an audience). Within LE, the skills of previously separate, specialised fields of audio engineering, music composition and performance have melded into one complex musical skills set.

Level 2 involves a depiction of a community of creative practitioners within the musical community of Australian LE. This community exists in different parts of Australia and comes together to produce LE performances at music venues nationally and overseas. This community is both cooperative and competitive. Juggling many different creative and financial commitments is a reality for musicians in this community where the economic return from live performances and the sale of musical works is greatly diminished. How well one can negotiate a sustainable creative practice within this environment becomes an important issue for Australian musicians. Ultimately, this consideration limits the extent to which creative practice can develop.

Level 3 reflects on the way specific creative practices have emerged at a particular time and place within a wider socio-cultural landscape. Framing creative musical decisions within the broader choices that musicians make in relation to their careers
and life goals facilitates an analysis of the linkages between a socio cultural context and the creative processes involved in a specific type of music-making. While emerging technologies and processes have a profound influence on new musical forms, it is the way in which musicians interact with technology and each other that produces specific creative outcomes. Non-musical, socio-cultural factors have an impact on how musicians establish a framework of interactions that results in a LE performance.

Within these three levels of discussion, this literature review will present a tiered framework in which to place the relevance of different writers to different aspects of this project. I wish to present a way of encapsulating the linkages between the development of a specific musical performance practice performed by a community of musicians and a specific social context. Before going into this discussion further, I will give a brief historical overview of the emergence of electronic music within the popular music domain.

2.3 Brief Historical Overview

2.3.1 From Music Concrete to LE

Taylor (2001) provides a clear summary of the origins of music concrete - the first music style created exclusively from electronically pre-recorded sounds. Composers such as Pierre Schaeffer and Pierre Henry used rudimentary tape loops of recorded sounds to construct music that Taylor identifies as “reflecting post-war capitalist cultures’ infatuation with technology” (42). Taylor describes the emergence of two schools of Music Concrete in this period - ‘Musique Concrète’ in France and ‘Elektronische Musik’ in Germany (42). Until the 1960s, experimental electronic instruments that showcased the possibilities of computer music remained the domain of avant-garde composers such as Schaffer, Henry, Stockhausen and Boulez.
The movement of ‘experimental’ electronic music out of the realm of the avant-garde and into popular music culture can be heard in recordings such as Harry Revel’s “Music Out of the Moon”, Esquivel’s “Other World and other Sounds” and Perry Kingsley’s “The In sound From way Out!” (described in Taylor 2001:106). Other examples include Miles Davis’ electronic music ensemble\(^{13}\), and the recording *Switched on Bach* by Walter (Wendy) Carlos\(^{14}\). Artists such as The Beatles, Jimi Hendrix and The Rolling Stones also used electronic sounds, such as sound distortion, filtering and reverse tape effects in their pop music releases.

Acoustic musical instruments, such as guitars and upright basses, had developed electrified forms that became the instruments of choice for rock musicians during the post-war period. The development of specific sound amplification technology for these instruments provided a practical solution to the problems associated with amplifying acoustic instruments to louder volumes required by bigger and louder venues (Waksman:2006).

Waksman (2006:65) argues that electronically amplified sound “significantly expanded the musical vocabulary of Rock.” Waksman regards Jimi Hendrix as a performer who wished to control the means of his guitar’s sound reproduction to the point where he was no longer just a performer, but rather an early version of the electronic music producer. His untimely death brought an end to the creative possibilities of his Electric LadyLand studios, one of the first 32-track multi-channel music studios in America.

The advent of the multi-track recorder and multi-channel mixing desk allowed Jamaican sound engineer Osbourne Ruddock (aka King Tubby) to mix echo and

\(^{13}\) In works such as *Bitches Brew* (1967).
\(^{14}\) *Switched on Bach* (1968)
reverb effects with basic reggae rhythm-section recordings, creating “mountainous three dimensional sonic landscapes out of a flat piece of music” (Brewster 2006:128). King Tubby’s original ‘dub plates’ were produced for the toasters\textsuperscript{15} and DJs of Jamaica’s ‘Outdoor Sound Systems’ – associated with street corner parties that featured a drinks tent, loud PA system, record player and a toaster MC.

Transported to the USA, this style of music performance evolved from street corner hip hop parties to disco nights at mainstream nightclubs - complete with dance floor, coloured lights and large PA systems. At these events, innovative DJs such as Kool Herc, Grand Wizard Theodore, Francis Grasso, Michael Capello and Steve D Acquisto began to mix songs together, fragmenting and re-contextualising individual pop songs into all-night sound collages that maintained a driving dance rhythm. The beat and sonic texture of the music moved increasingly into the foreground, with the power of the sound system and the groove of the music determining what would become a hit with the people on the dance floor.

During the 1970s and 1980s, disco helped foreground a pop music compositional process based on sonic textural layering. Toop (2006:166) describes this process as follows:

\begin{quote}
Disco began…decomposing songs into modular and interchangeable fragments sliced and repatched into an order. …designed to suit the nocturnal rhythms of an ecstatic audience rather than any model of consensual classic proportions demanded by pop listeners.
\end{quote}

Disco, dub, and reggae (and the EDM derivatives of these styles) promoted a form of popular music that was specifically designed for dancing at nightclubs and dance...
parties. With rhythm and texture fore-grounded, melody and harmony became of secondary (even minor) importance.

The emergence of EDM from the fusion of disco and other dance music styles can be framed as part of a "process of double refraction" (Sicko 1999:50), where music is developed by one community, amended by another and then reinterpreted by the original. As an example of this process, German electronic artists such as Kraftwerk had a profound influence on the pioneers of Detroit techno, who in turn influenced later European trance producers such as Paul Van Dyke, Oliver Lieb and Sven Vath (Brewster and Broughton 2006:343).

During the 1980s, new technological developments in audio recording profoundly influenced the way electronic music could be produced. Developments in digital technology had a major influence on the expansion and use of electronic music within popular music (Théberge 1997). The creation of the MIDI\(^\text{16}\) computer music code coincided with the development of the portable personal computer (PC). MIDI allowed a relatively cheap PC such as the Atari 1040ST, running the computer-sequencing program Cubase, to control and synchronise a number of electronic instruments simultaneously. Electronic instruments therefore had the power to be connected through MIDI and were able to send and receive a lot of performance-controlling data without the need for human control. Drum machines could be perfectly synced to samplers, synthesisers, effects, sound-modules, keyboard controllers and computers.

Techno music pioneer Derrick May (cited in Taylor 2001:41) has stated that the computer has "given the Artist an opportunity to tap into history in a way that could

\(^{16}\) The Musical Instrument Digital Interface (MIDI) protocol was introduced in 1983. This allowed 127 different types of controller information to be sent and received simultaneously between musical devices.
never happen before.” Using MIDI-synced computer musical equipment, a musician could control a vast array of sound sources simultaneously, and create musical sequences that contained multiple sound layers of nearly infinite complexity. With the emergence of this revolutionary creative process, the relevance of the human musician and of conventional music ensembles to the production and performance of EDM became somewhat redundant.

These technological developments also had a profound effect on the popular music industry of the 1980s. It made economic sense for studios to use drum machines and sequencers rather than employ individual musicians. The decreasing cost of these electronic music devices also allowed many musicians to purchase stand-alone, MIDI based recording systems and set up professional-quality audio production facilities in their own homes. Initially, organisations that represented the economic rights of musicians such as musicians’ unions rallied against the new technology with limited success. In the areas of the USA where major recording studios were located, attempts were made to close down home studios in order to protect the income of musicians and studio owners.

Taylor (2001:139) observes that “the decreasing cost of technology resulted in entirely new kinds of music that rely heavily on personal computers, synthesisers and drum machines.” What Taylor terms as the “multitrack metaphor” (228) has become the dominant paradigm in popular music production and has shifted the creative process of music making from a community to a private practice.

Throughout the 1980s and into the 1990s, ‘traditional’ live performers became increasingly marginalised in the world of electronic music. Producers such as DJ

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17 For example, in 1987 the Hollywood Association of Recording Professionals used property zoning laws to appeal for the closing of home studios in the Los Angeles area (Taylor 2001:23).
Shadow, Dr Dre and Carl Cox began to take the creative credit for musical works and achieve star status. Théberge (1997:139) notes that EDM was not reliant on live realisation for its marketing or promotion: “These musics can be performed live in public, but they are just as frequently never heard live at all.”

The global explosion in EDM youth culture in the 1990s introduced a new lexicon of EDM sub-genres or sub-styles. The website “Ishkur’s Guide to Electronic Music”\(^{18}\) is a humorous yet informative guide to the plethora of EDM styles that have emerged as specific sub-styles of EDM music. Wikipedia lists over 100 sub-styles of EDM that exist today\(^{19}\). Each sub-style has a specific rhythmic emphasis, use of certain sound production techniques, and an accompanying culture of fans and participants. While most of these sub-styles can be associated with specific geographical locations, (for example, gabber [Northern Europe], house [USA], jungle [UK]), Savage’s process of ‘double refraction’ (referred to earlier) can be seen to have produced many global variants.

### 2.3.2 Emergence of Electronic Music within the Popular Music Domain

EDM is the musical and cultural precedent to LE. LE can be viewed as an attempt to recreate this music amongst a community of musicians on stage in front of an audience. LE bands have adapted the major musical elements of EDM - a focus on rhythmic cycles and collage-like textural transitions - as central to LE musical performances. Hence, it is important to frame the development of LE in relation to the historical emergence of EDM.

\(^{18}\) [http://techno.org/electronic-music-guide](http://techno.org/electronic-music-guide) offers a disclaimer that it “intends to entertain instead of inform”, but the information contained within the site is one of the most comprehensive on the web on EDM sub-genres that have appeared over the last twenty years.

It is not the focus of this project to provide a detailed account of the emergence of EDM culture, nor to provide a detailed description of the various musical styles that have emerged under the broad heading of EDM. Authors such as Thornton (1996), Rietveld (1998), Reynolds (1998), Brewster & Broughton (2006), Shapiro (1999), and Sicko (1999) have documented the emergence of EDM as a popular musical sub-genre and youth culture. In describing political and social aspects of the late twentieth century capitalist cultural environments - including a renewed economic recession, dissatisfaction with ‘mainstream’ or ‘inauthentic’ MTV-based music, the emergence of ‘generation ecstasy’ youth culture, and the existence of affordable new music technology - these authors have highlighted the importance of the contextualisation of music practice within specific social contexts. This project acknowledges the importance of describing the context of EDM – including the club scenes, rave parties, and youth-cultures that have helped propel the music in a specific direction. The emergence of a large number of academic publications that have focused on EDM underlies the notion that EDM, like punk, grunge and other previous forms of popular culture, has become a ‘canonised’ form of popular music.

LE can be considered as one of the emergent styles that has appeared out of this process. Artists such as The Bays, Pnuma Trio, and US drummer Jo Jo Meyer perform electronic music without the aid of MIDI sequencers. Many EDM producers, such as Nitin Sawhney, Ronnie Size, Massive Attack and Moby have developed live performance versions of their sequenced works. The UK music ensemble Red Snapper is a pioneering LE project. Formed in 1993, Red Snapper was among the first music ensembles to recreate the sound of EDM without computers sequencers controlling the drumbeat. Promotional material on their website identifies them as a truly live act:
Red Snapper distinguished themselves from the outset by performing live, not relying on studio wizardry to reach their audience. During a period when most “live” music consisted of artists sweating over a sequencer in a flight case, here was a group of gifted musicians who took their studio material and bettered it on stage. By processing the raw nature of their instruments, the band invalidates the dichotomy of “man versus machine”.

Red Snapper are a major musical influence on this project, and are an example of emerging trends of LE performance. LE recontextualises EDM within a ensemble performance framework. This introduces a different type of creative process to the one usually ascribed to EDM. Before reviewing the literature surrounding EDM creative processes, I will summarise the development of EDM in Australia.

2.4 EDM and LE in Australia

Australian electronic music has come a long way from the pioneering performances of the CSIRAC music computer constructed by Trevor Pearcy and Martin Beard. This device (The CSIR mk1) ran its first music program in 1950 and is now considered to be one of the first stored-program electronic digital computers ever constructed (Doornbusch 2005:23).

By the 1990s, Australian popular music culture had fully embraced EDM as an important musical style. Cole and Hannan (1997) and Harley and Murphie (2008) have provided concise historical accounts of the development of Australian EDM. Harley and Murphie see EDM as playing a singular role in transforming Australian culture (93). Their discussion links the development of Australian electronic music culture to the “necessity to innovation” (96). Harley and Murphie go on to list many of the important Australian bands that played a part in the development of electronic music.
music culture in the 1980s. Bands such as The Reels, Not Drowning Waving, Dead Can Dance, Mi Sex, and Severed Heads had popular chart success with music that had been composed and performed using sequencers and drum machines.

Throughout the 1990s and into the 2000’s, Australian mainstream popular music has incorporated elements of EDM. For example, Indigenous band Yothu Yindi achieved international chart success in 1991 with an electronic remix of their song ‘Treaty’ – the remix done by Filthy Lucre, a Sydney music production team (Hayward 1998). In the more underground EDM scene, organisations such as Sydney’s Clan Analog were promoting electronic music performances that made use of electronic music devices such as the Roland 303, 808 and 909 rhythm composers and Emu, Akai and Ensoniq brand sampling devices.

At the same time, some Australian jazz musicians were also beginning to incorporate electronic music into their improvised performances (Rechniewski 2008 and Whiteoak 2008). Bands such as The Necks, Steve Berry’s Rave, Tony Buck’s Peril and The Hungarian Rap Sadists are examples of Australian musical groups that developed a style of musical performance that utilised ensemble interaction techniques of group improvisation and were influenced by the sounds of electronic music. Festivals such as the ‘What is Music’ festival helped create a community of musicians interested in hybridised performances using a variety of emergent technologies.

Over the period between 1995-2005, Australian musical groups such as DKO, KO, Morph, Entropic, Amphibian, Common Knowledge, Decoy, Wild Marmalade, Mountains in the Sky, Luna Loop and The Bird have emerged playing live electronic music that is partly composed and partly improvised. This group of musical projects make up a large part of the musical community described in this project.
2.5 Theoretical Framework Level 1: Description of the Creative Process - 

Analysis of Ensemble Interaction within LE

Authors such as Reitveld (1997) have examined the development of EDM as a cultural movement and a new form of musical text. These writers have prioritised the cultural over the purely musical in their analysis. As I am first and foremost a musician, I have developed this research project to explore interactions between creative processes and cultural contexts. Specific compositional structures and sonic techniques that have emerged in EDM, such as the recurring drum breakdown in trance music and the atonal and unexpected sound combinations found in mid-1990s drum n bass are part of a new repertoire of creative musical processes that have emerged through increased use of music technology.

It is important to acknowledge that live performances of experimental electronic music have occurred throughout the historical development of EDM. Ensembles such as Kraftwerk, Yellow Magic Orchestra, New Order and the Art of Noise and performers such as Laurie Anderson pioneered the use of electronics in a live performance setting and have been a major influence on the work of EDM artists. These ensembles are not identified in this project as examples of LE or even electronica, since the work of these artists predate the usage of this terminology.

EDM creative processes have overwhelmingly been the preserve of the music producer or production team working with musical technology. Butler (2006) sees the EDM cultural forms as being an interaction between “Recording artist, performing artist and performing audience.” In this interaction, the recording artist is a music producer who works primarily with electronic music technology to create the musical work that is replayed by the music performer/DJ. The dancing audience provides important creative feedback to the DJ by expressing their approval of the music.
In this scenario, the EDM producer is the creator of the music. This process is not one that is characterised by a relationship between musicians, but between musicians and music-making technologies, or more simply, between human and machine. Taylor (2001:39) has argued that within EDM cultures, music as a social activity is becoming a thing of the past – underlined by the fact that electronic music has tended to be created by the solo producer working alone in the bedroom or studio.

Pioneering electronic musician Brian Eno despairs of the sterile atmosphere associated with working in computerised studios, as compared to working with old style tape recorders and real musicians:

*I get fed up with working on editing systems the only part of my body that’s engaged is my mouse finger and eyes, my body just wants to hit something or bounce around the floor.* (cited in Toop 1995:128)

According to Eno, computers encourage “a cautious, perfectionist and unmusical approach to musical creation”(128). Working alone in a studio, the EDM producer utilises a creative process similar to a writer or painter. The musical experience becomes a less shared and more private one.

EDM performances can be described as ‘disembodied’ - able to conceal the original source of the sound, since it is not clear to the audience how the sound is being reproduced. For musicians, EDM has opened a vast new world of sound to explore. The timbral limitations placed on the individual performer who previously had to use electromechanical means to make sound (such as plucking strings, hitting drums, blowing horns, and pressing keys) have disappeared with the emergence of banks of preset, pre-produced sounds accessed in the form of synthesiser soundbanks in
computer sound libraries. At the same time, visual aspects of live music making have become lost in the computerised interface of the sequencer and the deft but usually minimal movements of the DJ/turntablist. No longer can the audience necessarily visually perceive the action that causes the music. Pareles (1990) argues that computer music performance does not contain the “spontaneity, uncertainty, and ensemble coordination of live music performance.”

Authenticity of performance is also in question at EDM events. Increasingly, the DJ turntable is being replaced by computer software that replicates the sounds created by manipulating a vinyl record on a turntable. As an illustration of this point, I cite a performance by German DJ producers Kruder and Dorfmeister that I attended in Melbourne in 2002. These EDM producers seemed to be simply pressing random buttons and dancing around the stage. It was impossible to tell whether they were actually making the music or simply pressing play on the CDJ player\(^{21}\) and having a party onstage.

“Liveness” has been identified by Auslander (2006) as an important aspect of the appreciation of music performance. Prior to the advent of recording technologies, the concept of ‘live’ performance did not exist (86). All music performances could be described as live, since they involved musicians playing instruments or singing. With the advent of the juke box and subsequent playback devices, consumers have had the option of either listening to music replayed via playback machine or performed by live musicians. Within contemporary capitalist societies, a live music performance has become a product that ‘naturalises’ reproduced representations of popular music culture.

\(^{21}\) CDJs such as the Denon DNS 1000 or AKAI CDJ1000 allow a DJ to manipulate CD playback in much the same way as he/she manipulates record playback with turntables.
Clearly, authenticity within EDM performances is a vexing question. Thorton (1995) suggests the existence of two types of authenticity, one involving originality and one involving an authentic relationship to a community. EDM is imbedded within a community of participants that have identified and accepted the DJ as a legitimate performer. British electronic artist Mike Paradinas notes the different relationship between the live and studio product within the areas of rock and electronic music:

*Rock n roll is basically live music, which they try to recreate, on one level or another, in the studio. It's the opposite way with electronic music: you're trying to create what you do in the studio when you go play live.* (cited in Textwarez 2000:1)

While arguments continue over the legitimacy of electronic music, it is clear, that by the early 1990s, EDM exerted a creative influence on popular musicians. For example, British band Underworld was initially a guitar based pop ensemble, but altered the style of their music after becoming interested in the approach of the EDM DJ performer:

*the way a DJ will lay down a record, fly in another when it feels right, and then maybe come back to the original theme when that feels right. That might not be after sixteen bars; maybe after 47-and-a-half bars. That had a huge influence on us. A track becomes more like a classical piece, or even free jazz, where the music goes in the direction it needs to go, rather than fitting into a particular kind of format.* (cited in Textwarez 2000)

The LE arena can be seen to be reviving the interactive element within EDM. However, creating an electronic music performance within a community of interacting musicians using digital audio controllers and computers involves some potential
limitations in comparison to a traditional ensemble performance. Jorda (2001) highlights the separation between gestural controllers and MIDI interfaces within electronic music performance, and how this can distance both the audience and the musician from the actual sound production/reproduction process. Jorda conceptualises traditional acoustic musical instruments as being “conscious” (25), in that the performance characteristics of the instrument change according to sound output. This element in the performance process gives musicians an added tactile awareness or feedback of the nature of the sound produced.

In comparison, MIDI controllers do not offer either the audience or the musician any strong visual or tactile relationship to the music performed. At the most extreme, “Mouse Music” (25) can be as exciting as checking emails on stage. Jorda points to Tarabella’s observation that “we are still in the stone age of computer music performance” (28). In electronic music, the links between the musician’s body and the sounds produced are complex and often devoid of interactivity. Jorda states that contemporary electronic music controllers have not improved much since the theremin, a design that is nearly a century old. While sounds have improved, interfaces still inhibit, rather than facilitate, interactive and improvised ensemble electronic music performance. New instruments like Yamaha’s ‘Tenori-on’ digital musical Instrument\(^\text{22}\) represent an attempt to improve this situation, and no doubt other designs will follow that will further facilitate interactive computer music performance.

Ostertag (2002:14) agrees with Jorda in stating that “The integration of the human body into the performance of music in which the sound is generated by machines thus remains quite problematic.” Ostertag identifies “a lack of the body” (11) in terms

\(^{22}\) The designed in consultation with Japanese performance Artist Toshio Iwai Yamaha Launched the Tenori-on Digital musical instrument in 2008. This controller combines a screen and control surface utilising an array of touch sensitive light emitting buttons in an attempt to make digital instruments more intuitive.
of EDM performance. EDM relegates performance by musicians to that of a secondary consideration, and the bodies involved are the dancers and the DJ, who experience the event in their own ways. Participants’ experiences are strongly influenced by factors such as the visual display, drugs and social scene, rather than the on-stage music performance. LE seeks to reclaim a central place for the on-stage live performance ‘spectacle’.

Analysis of the musical aspects of ensemble interaction also raises a number of issues for consideration. Monson (1996:74) notes the difficulty of explaining music using written or spoken language: “Translating musical experience and insight into written or spoken words is one of the fundamental frustrations of musical scholarship.” Indeed, the creation of music can involve very different processes.

While Paul Weller wrote 1980s pop hit single “That’s Entertainment” in ten minutes, Paul Simon tends to construct his songs backwards with chords first and lyrics last. Miles Davis spontaneously captured most of his late 1950s ensemble’s interaction on audiotape in one afternoon’s recording session, resulting in the best-selling jazz album Kind of Blue. In contrast, jazz composer Charles Mingus orchestrated parts meticulously (Santoro 2000:99). Within EDM music, similar disparate processes can be found. For example, Tom Jenkinson (aka Squarepusher) writes using random creative processes while Sean Booth and Rob Brown (Autechre) construct electronic digital sound generation algorithms and let the software itself produce the final sound.

As already noted, EDM does not typically involve a group of musicians on stage. The theatre of musical interaction amongst an ensemble is replaced by a creative

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24 Paul Simon says some people describe his songwriting process as being “backward.” He often comes up with the musical accompaniment, he says, and only then finds a melody and writes lyrics. http://www.npr.org/templates/story/story.php?storyid=5388038 (accessed February 26, 2007)
interaction between audience and DJ. My LE community utilises a creative process that combines the role of the DJ and producers, re-distributing it to an ensemble of musicians who use the same technology. The creative process involved in creating LE music is similar in many ways to that used by the EDM producer, but now takes place in real time amongst a community of musicians on stage. Hence, the first level of analysis of the creative process relevant to LE involves an examination of how musicians work together on stage to produce live electronic music.

To describe this creative process inevitably requires some form of musical analysis, since LE has specific musical attributes that must be understood and shared by a performing ensemble for a performance to be an authentic live representation of EDM.

More than twenty-five years ago Shepherd argued that “musical analysis, like social and cultural analysis, must be grounded in categories immanent to the object of enquiry” (1982:146). Over the years numerous authors have highlighted the lack of relevance of western musicological analysis to popular music texts, and the need for popular music analysis to be aligned to the nature of particular texts.

In recent years, academic publications focussing on a musical analysis of EDM have become more commonplace as EDM has become accepted as a significant area within popular music. Keller (2003) compares EDM examples to European Art music compositional structures such as sonata form and theme and variations. Keller uses musicological analysis and western music notation to explain compositional form structures used within EDM. Wooler and Brown (2008) have devised a detailed analytical model of sound fields within EDM, incorporating an analytical matrix that

attempts to identify the propensity to noise and harmonic material within specific musical works.

Other academic studies of EDM have focused on specific compositional processes used to construct the music. For example, Hill (2007) has highlighted the conserved and hybridised compositional processes within electronic music and elaborated on the interactions that EDM composers have with music technology. It is perhaps Butler (2006) who provides the most comprehensive attempt to transcribe EDM as a musical text. Focussing on the use of rhythm as a major determining factor in identifying difference between specific EDM compositions, Butler uses a combination of western music notation and graphic representation of repeating motifs or loops to visually depict specific compositional structures. While the idea of translating EDM compositions using the symbols of western classical music notation is problematic, the rhythmic notation does provide useful insight into the rhythmic qualities of EDM. Butler transcribes the notes and rhythms of EDM in a way that exposes the rhythmic complexity of EDM. He describes the fundamental connection between loops, composition, sound complexity and rhythm in EDM. Although Butler concerns himself with recorded music rather than LE, his framework provides a basis for analysis of selected examples of EDM that is directly relevant to my own analytical and creative work. Butler’s musical analysis is also relevant to my approach in that it considers the music amongst a discourse of wider creative and cultural inputs that affect music performance and production.

LE can be seen as a fusion of aspects of improvised jazz performance and EDM technology. Musical interactions are affected by musical limitations and the aim of producing ‘coherent’ improvisation. Musical limitations are easy to identify – for example, the ability of each musician play in time and listen to others are obvious examples. But establishing a coherent process of interaction usually requires a
formalised approach to music performance. The creative goal of this project is for individual musicians to work together to create experimental collages of sonic textures from specific acoustic and non-acoustic electronic devices. How successfully the music is realised, is a function of the level of positive ensemble interaction between the group, and the extent to which musicians have a compatible approach to music making.

Improvised musical Interactions involving computers can have quite disappointing results when the creative interaction is not clear between all players. At the 2005 Australian Computer Music Conference, I took part in an electronica performance involving six players using computers exclusively as sound generators - without the aid of MIDI synchronisation. It was billed as a ‘Laptop Jam’ and I was amused and somewhat alarmed to find the music descend into a wall of noise as each player sought to assert his or her sound over another. With the vast sample libraries, digital audio plugins and audio processing available to each participant, cacophonic multi-tonalities abounded. Everyone’s eyes were fixed to the screens, ears struggling to convey sonic data to brains that were locked to flashing cursers and CPU usage meters. In the end, the PA being used by the performers blew a fuse! At this performance, there was no coherent process or musical interaction amongst the electronic musicians. Toop (1998) cites the opposite experience when performing with an improvised electronic ensemble in Japan. In this instance, a group of musicians, who knew each other’s work and had previously performed together, attempted to assert a score upon the musical improvisation. Ultimately, the musical score was discarded and replaced with free improvisation, which provided Toop with a richer musical experience.

Zorn (2004) describes his development of “Game Pieces” in relation the improvised musical performances. Part of the intent behind these game structures was to
heighten the creative connections possible between musicians on stage and a listening audience. Zorn sees the establishment of a good rapport between the musicians involved in the performance as important as the game piece itself, and for this reason has never published a definitive version of his structured musical improvisation processes. The metaphor of a game rather than a musical improvisation encourages connections between musicians and highlights the importance of interacting onstage as a primary determinant of what constitutes “good” music (197). Vickery (2004) describes Zorn’s processes as a way of ad hoc ‘conducting’ rather than pure improvisation. Vickery describes improvisation in electronic music as problematic. The complexity and ambiguity of the “gesture sound relationship” (4) makes electronic music a difficult form in which to incorporate an improvised creative process. Vickery Identifies a process devised for computer music interaction, known as ‘The Hub’, as a “fluid command structure” (4) for electronic music performance. However, it again relies on MIDI to provide the sequencing interface for the rhythm of the music.

The improvisation process found within jazz ensembles is the one that seems most relevant to my own creative practice. As a double bass player, I have spent many hours playing in jazz ensembles. Monson, in Saying Something: Jazz improvisation and Interaction (1992) provides a comprehensive summary of the musical relationships between improvising musicians involved in the New York jazz community.

In constructing a comprehensive music and ethnographic research project, Monson talked to the musicians who improvised the arrangement of specific musical works. In Monson’s musical analysis, the ensemble sound and the on-stage creative

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27 The Hub is a computer network band. Individual composer/performers connect separate computer-controlled music synthesizers into a network. Each player writes a computer program which make musical decisions in keeping with the character of the piece, in response to messages from the other computers.
interaction processes are presented along with primary accounts from the musicians involved. Parts are notated in western music notation and discussed in terms of their relationship to western European notions of classical harmony.

Monson (26) notes how improvising jazz musicians aim to produce a coherent musical whole:

A small jazz band provides a framework for (the) musical interaction amongst players who take as their goal, the achievement of a groove or feeling – something that unites the improvisational roles of the piano, bass, drums and solo instrument into a satisfying musical whole.

Monson's ideas have received support from Ramsey (1999), Waterman (1999), and Peretti (1998). Peretti describes Monson's research as a “good example of analysis and ethnography,” with broader relevance to other musical styles in addition to jazz. The importance of the ‘emic’ or insider viewpoint, as discussed by Burnim (1985), Feld (1981) and Stone (1982), is reaffirmed in Monson’s analysis, and her research is of direct relevance to my own. As well as offering first person accounts of the social nature of the interactions between musicians on stage, Monson deconstructs the music using musicological analysis and transcription to document the musical outcomes of musicians’ interactions.

2.6 Level 2: Depiction of a Cultural Community - The Musician’s Worlds

Monson’s discussion of jazz ensembles is relevant to my own community, even though its musical focus is far removed. The subject for her analysis (the world of African-American jazz musicians) is, on the surface, very different to the community of predominately white male Australian electronic musicians of which I am a part. The key relevance of Monson’s work to my own is that it provides both a social and a musical context to the creative practices of a group of performing musicians.
Monson’s conclusion that “the daily lives of musicians and the sounds they produce are connected to issues that that extend well beyond the musical community” (23) is a central tenet of the present thesis.

The development of EDM has coincided with an emerging academic discourse surrounding musical subcultures, scenes and communities. So far, his dialogue has attempted to address the complex task of unravelling the processes and forces that produce musical forms at specific points in history and in distinct geographic areas. The so called ‘Birmingham School’ has focussed on the way that youth subcultures have identified with certain forms of music (such as punk and grunge) that can be seen to be anti-establishment, or a celebration of the ‘now’ and a rejection of the past. The notion of a clear relationship between class/youth and culture/counterculture - one that had been articulated by social theorists associated with the Birmingham Centre for Contemporary Cultural Studies - has been increasingly questioned by commentators such as Cohen (1991), Straw (1992), and Shank (1994), who have drawn attention to the importance of specific local contexts in the formation of musical cultures.

Huq notes an increase in ethnographic studies (such as Finnegan (1989) and Cohen (1991) that concentrate on the inner workings of small localised music communities. In Australia, Hannan (2002), Bendlups (2001), Kelly (2008), and Neuenfeldt (2008) have examined similar small local music cultures. More recently Homan and Mitchell (2008) have edited a comprehensive collection of essays detailing the development of different musical communities in Australia. These studies can be seen, at least in part, to be reaction to the inadequacies associated with theorising about popular music culture on a national or class/subcultural level.

28 Birmingham Centre for Cultural Studies writers such as Hebdige (1979) and Cohen (1972) cited a “culture of resistance” as a major factor in youth culture formation. Their analysis made primary reference to economic class of the participants.
29 See, for example, Hebdige (1979), Hall and Jefferson (1976), Willis (1978).
Huq (2006) provides discussion of the development of subcultural theory and the subsequent incorporation of post-modern ideas into the discourse surrounding the development of youth cultures. The twenty first century has seen massive changes to the way in which global generations now interact technologically, politically and sociologically. The internet, growing economic disparities amongst global workforces, and the blurring of the idea of the nation state, are all linked to emergence of online-based communities, or, to use Baumann’s (1987) and Maffesoli’s (1987) terminology, “neo-tribes”.

This project acknowledges Barthes’ (1967) and Blacking’s (1977) work in relation to ‘contextualisation’, and endorses the idea that the creation of musical works reflects not only the intentions of the author, but also the dynamics of a surrounding community and wider culture.

In acknowledging these authors as important theoreticians, this project seeks to highlight the various levels of community that are involved in the music-making process, from the artistic interactions of a community of musicians on stage, to the relationships that musicians have with the wider community in which they are imbedded.

In reference to Becker’s (2004) work on jazz music scenes in the 1950s and 1960s the Australian LE community described in this project can be framed as a ‘music scene.’ This community can be seen as a trans-local music scene that has links beyond the local, connecting it to similar LE music scenes in America, Europe and Japan. The Australian LE community is simultaneously a subculture or “micromusic” in terms of Slobin’s (1993) framework of cultural interaction. Slobin’s system of

*Cited in Huq (2006: 27)*
“super culture,” “interculture” and local “micromusic” culture is applicable to this community, as it is influenced by developments in music cultures in many parts of the world.

Becker’s *Art Worlds* (1982) is also an important foundation text for a study that considers the connection between artists and a surrounding cultural community. Becker’s ideas correspond with Barthes’s notion of “the death of the Author” and highlight the important role that community plays in the shaping of and creation of art works: “The Artist works in the centre of a network of cooperating people all of whom’s work is essential to the final outcome” (Becker 1982:25).

For Becker, this network is more than a network of cooperative artists. This network helps define possibilities, conventions and limits on what is considered to be artistic output in a particular subculture or ‘art world’. Becker sees artistic outputs not as products of individual makers, but as joint products of all the people who cooperate to bring works into existence (35). Since LE is a new sub-genre, it is still building a code, or set of Beckerian conventions, that act as a language of performance. Without conventions, musicians must invent a code that reflects the influences that have shaped their own performance. Becker (311) argues, “new art worlds grow up in response to something changing in relation to artistic practice.”

One can therefore describe the environment surrounding a musical community as being a strong determining factor in what the musical output of the community will be. A musical community is not simply a subcultural class reacting to the social, political and economic environment within which creative practice is situated. Musical communities function as systems of artists interacting within a unique context to

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31 In “Death of the Author” (1967), Barthes highlights the multiple layers of meaning in all texts. A text author is better described as a ‘scripter’ of a socially-authored text that has different meanings according to the context of each performance and the position – political, social, economic and cultural of the reader.
produce a network of creative processes. These may eventually become canonised as a specific music practice that corresponds not only to a broad class affiliation but also to a specific cultural site. This distinction sets Becker’s approach apart from Birmingham subcultural theorists, and allows for the variation of musical styles that emerge within communities that share similar socio-economic backgrounds.

2.7 Level 3: Reflections on the Sociological Context - Relations between a Musical Community and the Wider Cultural Context

Music-making of the kind that is under scrutiny in this project is not just a creative pursuit or an exercise in musical composition, but a career option that requires strategic decision making on the part of the musician: How much money there is to be earned? How will this performance enhance my reputation? What are the risks involved with a particular music gig on offer? Can I sell merchandise? What opportunities may follow from this performance opportunity? These are the background questions that influence the creative choices of musicians. Most musicians share a concern that their creative practice is unable to support them financially. The music industry in Australia is usually unable to offer adequate financial return to support a full-time creative practice. An Australia Council (2003) report Don’t Give Up Your Day Job found that most musicians supplement their music incomes by other paid work. This report concluded that the average income of artists has not changed since the 1980s in dollar terms, and that “significant numbers of artists earn below the poverty line” (3).

On the other hand, Australian musicians, unlike those in countries with bigger populations and more lucrative music markets, are less inhibited by the need to cater to a specific market. Australians have a freedom to create their own style of music that relates to their own personal interests rather than having to conform to an audience demand for a certain style. When there is limited money to be made
from music, it makes sense to only perform the music that you love. Kelly (2008) echoes this idea, portraying Australian experimental music practice as essentially a ‘do it yourself’ culture that relies heavily on support from the Australia Council for the Arts New Media Arts board for financial support.

Social theorists such as Adorno (1991) Barthes (1977) Hebdige (1979), Becker (1982), Attali (1985), and more recently Frith (1996), Toynbee (2003), Middleton (2003) and Huq (2006) have focussed on the way that music, culture and society are inextricably linked through reflective mechanisms that guide the way music and broader society develops culture, text and social codes. In the work of Jacques Attali, one can find a broad cultural link between the development of a musician’s professional practice and music subcultures. Attali sees music as a precursor to wider cultural changes in society, and a “mirror of society” (ibid:4) - a historically verifiable microcosm of the development of economic relations within capitalist society:

*Music is more than an object of study it is a way of perceiving the world, a tool for understanding… music, the organization of noise…. it reflects the manufacture of society; it constitutes the audible wave band of the vibrations and signs that make up society (4)*

In *Noise: The Political Economy of Music*, Attali constructs a view of history that puts musicians at the forefront of cultural change. Attali bases his ideas on the ways in which musicians have altered their work practices over the course of modern European history. He compares the historical development of musical traditions in Europe to the emergence of capitalist economies:
Music was used to cadence birth, labour life and death - it is used to organise social order... Today communication has disappeared. We have gone from the rich priests clothing of the musician in ritual to the sombre uniform of the orchestral musician and the tawdry costume of the star. (36).

Attali conceptualises the classical symphony orchestra as a mode of specialised 'Fordist'-style musical performance organisation that predated the modern factory labour model, and heralded the segmentation of work within capitalism into specialist tasks. Before the symphony orchestra were the smaller, less technologically advanced chamber ensemble that performed primarily for the royalty or the church, using non-standardised instruments and performing locally composed musical works. With the development of a music industry, public music performance became primarily a moneymaking activity.

Attali perceives the development of music copyright, music publishing and music recording technology as reflecting and influencing the development of the capitalist ethic that foregrounds money-making and exchange value at the expense of a more innate pre-capitalist notion of art as a celebration of culture: "Music, transformed into a commodity, gives us insight into the obstacles that were to be encountered by the ongoing commodification of other social relations" (90). For Attali, how musicians organise work practices and interact to create music performances represents a microcosm of the way in which our wider culture is evolving. His conclusion that music production will become "valueless and outside of meaning usage or exchange" (137) can be seen in the early 21st century as prophetic, with digital file-sharing having a dramatic effect on revenues for musicians and music publishing companies.
Attali’s description of history, while controversial, is a powerful and provocative one, and recasts shifts in micro-cultural music practices into what McLuhan (1964) has described as “premonitory radar environments for social change.” Taylor (2001) supports these ideas, emphasising the link between music and technology, seeing the musical history of western European societies as corresponding neatly to developments in music technology.

The implications of Attali’s work for this project relate to the way that emerging musical subcultures can point to fractures and shifts in popular culture and social formations. Technological change, political and economic shifts, and the constant creation and reinterpretation of popular cultural icons and artefacts, all play a role in the establishment of new artistic forms and the emergence of popular music subcultures. The way that musicians take up new ideas and new technologies is one of the most immediate indicators of shifts in popular culture. In this sense, the workings of a small musical micro-culture have implications for all society.

There has been little attempt to assess Attali’s ideas in relation to the formation of contemporary popular music communities. Attali’s predictions can also be seen to be outdated. For example, he includes an opening quote from Marx that “Art is the mirror of reality” (4). This Marxist ‘economic base/cultural superstructure’ model of cultural formation does not take into account gender, environmental and precapitalist factors. In a review written shortly after the publication of Noise Collins (1985: 15) critiques Attali’s ideas as “unauthorised verbatim borrowing of Adorno’s work.” Collins’ critique aims to marginalize Attali’s work as plagiarism, and also as a simplistic post-Marxist materialist viewpoint that assumes culture is created from an economic and technological superstructure. The Marxist model of cultural transformation has been critiqued by writers such as Hebdige (1979) and McRobbie (1976). At this time, subcultural theorists considered that Marxist economically
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deterministic theories do not take into account the power of consumers to create their own subculture.

However, changes in popular musical culture can be seen to be adhering to Attali’s predictions. Technology enables one to create one’s own musical/digital media space. Using a laptop, mobile phone or PDA, and/or cheap audio sequencing software such as Cubase, Logic, Live, or Garage Band, anyone can become an electronic musician. Correspondingly, the value of trained musicians’ creative output has fallen to a fraction of that of the pre-MIDI era. MP3s are freely available on the Internet. Many teenagers do not buy CDs at all. Recent developments in ‘do it yourself’ film and video production technology and the launching of web sites such as ‘Youtube’ and ‘MySpace’, give people the opportunity to display their digital media works free of charge. Post-Fordist, and post-modern, the Internet is proving to be the primary means of facilitating an emerging age of ‘do-it-yourself’ cultural production.

This broad discussion may seem beyond the scope of this project, but to understand the cultural significance of the evolving practice of musicians, one must acknowledge that musicians are part of a broader society, and that changes to musicians’ professional practice are intimately connected to changes in society.

2.8 Research Considerations – The Participant Observer and Practice-Based Research.

Writing from the standpoint of a practising musician participating in the musical world under consideration provokes a series of questions and problems. How can my reflective observations be of any value to musicologists, cultural theorists or musicians? Are they tainted by a blurring of the objective/subjective relationships that musicologists have tended to construct to lend ‘objectivity’ to their ideas? Blacking (1977) points to the problematic nature of musical ‘facts’ and how musical
processes, unlike other cultural areas such as graphic art and writing, are beyond the realms of textual analysis.

Becker’s (1982) methodology has been criticised by Moore (2006) for not offering “data sufficiently robust to enable any useful conclusion to be drawn... I simply cannot see why questioning a participant in a scene can lead to any useful conclusion to be drawn” (486). This may be true if the position of the researcher is one of an outsider to a musical community or culture, but Briggs’ (1986) concept of the “meta communicative” aspects of ethnographic research is useful here. If one can understand the “metacommunicative norms” of a particular community, one is more likely to be able to obtain meaning from conversations, interviews and interactions with members of this community.

As a member of the music community I am describing in this project, I am simultaneously reflecting upon and analyzing my own creative practice. Presenting the primary ethnographic data that I have gathered in this project as a form of audio-visual text also allows the audience to find their own meanings in the responses and images presented. Longhurst (2006) identifies the complex nature of the relationship between media texts and audiences. The convergence of media texts allows the presentation of a creative process and primary research data in the form of a creative work to be interpreted in a wide variety of ways. This convergence allows the text information imbedded in the work to be more widely understood and interpreted than if it had been presented in the form of a written exegesis. Similarly, Burgess (2006) has pointed to the value of multimedia texts in presenting “digital stories” that have rich meanings for viewers who have grown up surrounded by multiple technologies of media communication.

Musicians such as Miller (1997) and Sawhney (2001) have been successful in presenting creative works that internationally document the experience of a particular
culture or community, while at the same time presenting original music. Miller focuses on the cultural experience of African-American jazz and blues musicians in the 1950s and 1960s in his musical anthology ‘Tales’. This anthology depicts the pressures on African-American musicians working within the wider context of socio-political cultures of the USA. Sawhney describes a very different community - that of India, and its identity as a nuclear-powered and armed nation. His work uses field recordings and interviews with various Indian and non-Indian participants as a cultural context for a social comment on India’s status as an emerging major military power.

Both these works are reflective, and place music and music production strongly within a specific cultural context. Miller and Sawhney’s musical work serve as primary inspiration for my own endeavours in presenting this project as a creative and reflective work and ethnographic document. Recognising the connections between creative practice and surrounding community is an important part of my work as an artist, and can help articulate how creative practices emerge within specific historical and social contexts.

Analysing creative practice within a community is a large part of this project. Reflection on the outcomes of this practice is a fundamental part of the research methodology. As well as being reflective this project demonstrates the creative processes used within my musical community by providing a live performance project as one of the major items in the creative folio. Going beyond ethnography and incorporating the development of a creative process implies a practice-based research methodology.

Practice as research has been a significant topic of academic discussion. Hannan (2004) sees practice-based research as a legitimate academic process as it is likely
to “produce new knowledge” and that practice can be considered within Dawson’s (1997) definition as “a dialogic engagement with theory, with language, with a range of social and cultural discursive formations” (73). Keane’s (2005) conception of creative practice as the “realization of the living” helps to establish it as a legitimate form of research. Keane asserts that arts practice makes available a “range of emergent enactive and enuncitative tactics and logic for everyday practice” (17). Barrett (2007) states that practice based research is best understood through applying Foucault’s idea of “author function” (139) to research. The methods by which a creative process can gather different influences together and construct new creative processes is sometimes best understood through the use of observation and participation within the research methodology.

2.9 Final Comments

The ideas discussed in this chapter focus on the backdrop, the ‘big picture’ that surrounds the creative practice of the Australian LE musical community described and reflected upon in this project. In this exegesis I separate three distinct levels of analysis. As a participant - observer of Australian LE, I wish to present an artist’s perspective on the way in which music is created and performed, as well as flag relationships that exist between music-making and sociological aspects of music practice in Australia. By reflecting upon the views and comments of members of my own musical community, I can compare my own creative processes with those of other members of my community and construct a clear picture of the creative processes used by LE musicians.

Wider cultural economic issues, such as how much musicians are paid for music performances, can directly affect the development of creative processes within musical communities. Within the LE community musical community, financial concerns and original creative expression are motivators for professional practice.
The literature published to date surrounding the development of electronic music scenes and cultures points to a link between the creative interactions of musicians and socio-economic forces. Technological change has produced the machines used to create EDM, but it is the interaction of technology with other cultural forces that has influenced the development of the music of my own creative community.
Chapter 3

Methodology

Linkages and Connections: Performance, Reflection and Ethnography

3.1 Introduction

Chapter 1 presented the primary aim of this thesis - to provide a participant’s perspective on creative practice within an Australian contemporary music genre defined as Live Electronica (LE). This chapter will outline the methodological framework of this project, which is designed to display how an individual musician’s practice is imbedded within a wider creative community and social context. This chapter begins by presenting a conceptual rationale for the structure of this project, and then goes on to detail the way in which the research has been carried out. This chapter will describe a methodology that combines performance, reflection and ethnography - one well-suited to my own background as an professional musician, musicologist and a anthropologist.

This project has been completed in a four-year period between 2004 and 2008. Initial reading and background research commenced in 2004 and fieldwork was completed in 2006. Audio and video recordings of LE music performances have been carried out over the entire four-year period. ‘In progress’ performances of the major live work were undertaken in 2006 and 2007. The final, large-scale, multi-media live performance was completed in October 2007. This performance was web-cast via the Southern Cross University web server.

3.2 Identification, Depiction, Examination and Presentation: Towards a Methodology of Reflection

The methodology designed for this project involves the demonstration and documentation of a series of LE music performance outcomes, as well as a
commentary on the LE musical community. This methodology aims to reflect on the connections between creative performances and the wider cultural context - from the perspective of participant observer.

Dawson (1997) sees a creative text as a "dialogic engagement with theory language and a range of social cultural formations" (72). A research model involving the construction of a creative text is one that attempts to uncover an artist’s intent and portray a model of artist behaviour that others may find useful. This model acknowledges the value of the researcher as a creative practitioner as well as an observer. In a popular music analogy, saxophonist Charlie Parker is alleged to have said, "If you don't live it, it won't come out your horn." To honestly reflect upon the creative practice of musicians is to include a discussion of both musical and extra-musical concepts, and identify a set of relations between the two. Hence this project seeks to create and analyse musical works as an expression of my own subjective viewpoint as a musician imbedded within a particular community.

Koning (1980:428) comments on the subjective positioning of the practitioner/ethnomusicologist, and endorses the benefits of active participation within a music culture:

I believe that the overall completeness and efficiency of any ethnomusicological research into a music culture will benefit greatly if the musician is actively involved within that culture.... active musical participation may yield data that cannot be collected with the use of any other technique.

Monson (1996) acknowledges the way in which her own personal history as a jazz trumpet player helped launch her research project into the culture and music of African-American jazz musicians. While it initially gave her “acquaintances, friendships, connections” (11) within the North American jazz scene, it also gave her a theoretical understanding of the music itself. In relation to this project, my own active participation in the community has enabled me to conduct research interviews in a very informal style, as the musician’s in my community already know me as a peer and understand that I perform as well as research.

As this project is a documentation of my own musical practice, it is important to display this practice as well as to analyse it. The presentation of my creative work in the form of musical and multimedia performances reflects and demonstrates the various features of the creative processes that are part of EDM and LE. For example, EDM uses layering of sonic textures to create musical works. When creating electronic music live using an ensemble of LE musicians, the types of compositional and improvisational processes used to create this music differ from the conventional style of ensemble interaction and improvisation found in jazz and other contemporary music forms. An integral part of the methodology of this project is a documentation and demonstration of these processes.

Four nodes or points of inquiry represent the methodology for this project:

- An identification of a particular musical community of artists surrounding my own creative activity.
- A depiction of the social and cultural environment within which this community exists.
- An examination of the nature of my own involvement in actualised creative practice in collaboration with members of this musical community.
• A presentation of these reflections in the form of creative performances and a written exegesis.

Linking these four node points documents the way that creative practice and community are realised through the interactions, both on and off the stage, of a group of musicians in a specific cultural and historical environment.

By recording and imbedding different musician's comments within the creative work, I identify the specific members of a community. The visual images accompanying the performances help to depict the world of LE music performance - viewed from the participant-observer perspective. I examine my own relationship with this community in terms of an exploration of the creative process used by musicians in this community to make music. Using specific types of musical analysis I describe aspects of LE that help to define and inform the music of this community. I also seek to uncover the influences, musical and non-musical, acknowledged by other musicians as having an effect on performance practice. For example, EDM, rock, jazz and non-western musical styles such as North Indian classical music are acknowledged by different members of my music community as influencing their creative process. Non-musical influences are also articulated as having a secondary effect on the development of a specific music-making processes.

I present the results of my creative and ethnographic research as a series of LE performances (also documented as audio and video recordings) that are directly informed by my own experience of working within the Australian LE community. The methodology of presentation also includes the use of the Internet as a networking and performance space. The final multi-media work is performed simultaneously to an audience that exists both in the actual performance venue, and online via webcast. As stated earlier, this webcast is published on the Internet and available for public download.
3.3 Node 1: Identification of a Particular Musical Community of Artists
Surrounding My Own Creative Activity - The Research Field.

Australian Electronic music is on the edge and a huge number of our acts are making it big on the international stage. The scene has elements of 70’s funk, 80’s euro synth, UK house and dance, Indian and Middle Eastern rhythms, fresh dub and hard techno. The multicultural meltin’pot of Melbourne and the chill vibes of Brisbane and Byron have made them the hubs of ethno electronica.\textsuperscript{33}

I identify the research field in this project as a small community of Australian musicians involved in the creation of musical works that seek to emulate and make use of the ideas that have emerged from EDM. This community includes bands such as Decoy, The Bird, Amphibian, Morph, Wild Marmalade, Ganga Giri, Ping, High Pass Filter, KO, and DKO. These acts are all independent artists who market and perform their own musical works. Most divide their time between touring locally and overseas and recording musical works to sell at performances and through record distribution agreements with specific labels\textsuperscript{34}. Most artists have websites and use sites such as ‘Myspace.com’ and ‘Last.fm’ to market their music.

These artists perform at a variety of venues, from ‘on-the-street’ busking to the Sydney Opera House and National and International festivals such as WOMAD, Burning Man Festival and Woodford Folk Festival. Since performance acts tend to play at the same festivals, they get to know each other and often ‘sit in’ on each other’s gigs. I identify with this community as a musician who has interacted with all of these bands on a professional level – as a co-performer sharing the bill at music


\textsuperscript{34} My own band Amphibian sells directly to the public via website and at live shows. We have an international non-exclusive agreement with www.groovescooterrecords.com who handles distribution and publishing agreements.
venues across the world, and as a creative collaborator, performing musical works on stage and in the studio.

These bands are based in different parts of Australia, including Melbourne, Sydney, Adelaide, Brisbane, and Byron Bay. They are linked by social networking internet sites such as www.facebook.com and www.myspace.com. While they may not be geographically close like communities described by Hannan (2004), Finnegan (1989) and Cohen (1991), communication through the Internet allows these communities to interact as a geographically local and online network.

3.4 Node 2: Depiction of the Social and Cultural Environment Within Which This Community Exists

This project demonstrates the links between a musician’s creative output and the ideas imbedded within a surrounding musical community. To demonstrate these links, this project has involved the creation of a series of multimedia works incorporating improvised LE performance. The final multi-media work was presented over the Internet as a live web-cast performance. By developing and documenting a series of live performance works involving various creative processes and comparing these works to those of other participants within this community, I hope to clearly site my creative work within early twenty first century Australian LE music practice.

In terms of cultural analysis, this project reflects Becker’s (1982) view that the participation of an artist “at the centre of a network of cooperating people” (24) is what drives and shapes creative practice. Numerous cultural and economic issues affect musicians’ artistic choices - therefore music is ultimately produced in interaction with a specific cultural context. Butler’s (2007) assertion that music “emerges out of the enabling framework of society” (15) reinforces this point. The way notes and sounds are produced on stage reflect the way the musicians have
interacted in rehearsal and performance. In electronic music, individual musicians’ skills in interacting with technology and with each other on stage influences musical outcomes, as does a range of economic and social factors impacting on their creative lives. In effect, the construction and performance of a contemporary electronic music performance acts as a link between the musician and the social relations existing within their creative community.

For example, if more money could be made from performing music in Australia, then musicians would spend more time performing and focussing on the music, rather than working a day job or worrying when they would be able to perform again. In comparison, LE bands from the US, like Pnuma Trio, can play 200 shows a year. This enables them to afford to contract a management agency, employ a publicist and quickly access the demographic most interested in their music. Australian LE bands do not have the same performance options and therefore face a different economic context. This may mean that Australian bands do not get the time to rehearse as much as US bands, since Australian LE musicians are often busy trying to earn money working at a day job rather than play music. These are important considerations when portraying the conceptions used by musicians to maintain their musical practice.

3.5 The Use of Interviews and Video Images from Performance Tours

Video or digital visual media and sound are becoming more and more intertwined in our culture. Convergence of media has become a feature of creative arts in the late twentieth century. Since the advent of MTV video and audio have become intertwined in popular music cultures. Small portable media players (such as the Apple Ipod Touch) are now able to display video and playback audio files simultaneously on increasingly high-quality video screens, and music and video are

being interpreted as one integrated text. The creative folio reflects this convergence of visual and audio information, which has also been a part of EDM. EDM performances at nightclubs and dance parties usually involve a visual design, with elaborate lighting design and video screen arrays. These visual designs also inspired the use of a video artist (or VJ) as a collaborator in the final performance, and the elaborate visual imagery also helps to site the work within the general realm of EDM.

This project involves the use of interviews to provide first-person accounts of experiences in working within the LE music sub-genre. Some of the interviews were conducted in tents, some in a hire car, and some backstage at venues throughout Australia. Some include audience members and musicians who are intoxicated on various substances. These interviews aim to portray the thoughts of other members of my music culture on aspects of performing electronic music live. The interviews represent a ‘snapshot’ of my own musical community and offer additional perspectives on music making. They provide ‘fieldwork’ data that provides a picture of a community and its operation within a wider context, and helps me to contextualise my own creative work.

Interviews “en-textualise” (Clifford 1988:24) information and are selective in their representation of truth and fact in their subsequent publication. The interviews conducted as part of this project are not designed to present a definitive picture of an entire musical community or genre, but rather to identify and highlight central, recurring ideas within the LE community. Interview footage is incorporated into a number of live, multi-media presentations, in the belief that having people speak their ideas on a video screen provides a powerful means of presenting the diversity of creative ideas within my own musical community. Including their comments and views within my creative performances is designed to display my own community in a vivid, ‘living’ manner.
Video images are used to help convey this living image of a community, and include touring by hire car, checking in musical instruments, arguing with airport staff, sleeping on the plane, negotiating with managers and sound engineers. Videos aim to capture the behind-the-scenes images as well as the view from the stage at various festivals and gigs, since there is a stark divide between the off-stage preparation and the on-stage interaction with an audience and with other musicians that produces an actual music performance. While performing on stage, one can feel and experience how music feels good to play and is appreciated by the audience listening and dancing. The sense of community at a successful well-attended live music performance is very strong.

The visual imagery used in this project has been selected, edited and sequenced to reflect my musical community and present the ethno-musicological research undertaken as part of the overall study. The musical performance is designed to include the video footage I captured as part of my research into my community of LE musicians. I have taken the comments of these musicians and constructed a multimedia performance from them.

Hence, the performance is simultaneously a live music performance, a video narrative and an immersive multimedia environment. Audience members can choose to focus on the music or the images or both. By surrounding a musical performance group with images that relate to the culture or musical community from which it is formed, a visual metaphor of musical community is established.
3.6 Node 3: Examination of the Nature of My Own Involvement in Actualised Creative Practice with Members of this Musical Community

The music of this project is influenced by a variety of electronic composers and jazz musicians, and the methodology for the project includes discussion and analysis of general and specific influences from other artists. These artists include electronic musicians who have produced work in the 1990s and early 2000s - such as Laurent Garnier, Peter Kruder, Nitin Sawhney, Square Pusher, Left field, Autechre, Yoshinori Sonahara, Aoki Takamasa, Massive Attack and DJ Shadow. Australian band ‘The Necks’ also provide inspiration for the construction of the performance process used in the realisation of the creative works. The Necks employ extensive ensemble improvisation as an integral part of the creative performance process.

3.6.1 Musical Analysis

Speaking about music is a perilous mission if one does not include discussion of the music itself. It should be noted that, while this project embraces cultural analysis, there is a danger that broad ‘cultural studies’ analysis (for example Huq 2006, Slobin 1993a, Appururadai 1991) that focuses on the relationship between art and community or music and society, can tend to offer little to the reader as to how the music actually sounds, and how technological innovation has specifically shaped its production.

However, it is also difficult to present a clear description of specific audio recordings and performances using written text. This is one of the main conceptual problems in the field of musicology/ethnomusicology, as noted by authors such as Middleton (2003), Kerman (1985), Beaudry Jairazbhoy (1977), and Seeger (1977). The discipline of Popular music studies has also discussed the general inadequacy of classical western musicology in relation to genres such as EDM. For example, analysis of ‘traditional’ scores cannot convey the sonic characteristics of EDM – music that relies heavily on textural and timbral variation. As Moore (1993) notes,
Schenkerian-style analysis of music scores is not well-suited for much popular music analysis, and it is hard for western music notation to depict actual sound textures or elements such as ‘groove’, feel’ or ‘vibe.’

EDM analysis can be assisted by a graphic representation of textural and sonic variations within a specified musical work. For example, in Hill (2005) trance music and drum n bass arrangements are compared using graphic representations based on a Cubase software-editing window. These visual representations help to illustrate the ways in which each of these electronic music sub-genres uses coherent rhythmic and textural arrangement devices to create a particular sonic outcome, and to provide a visual sense of how the music sounds.

Butler (2007) has gone on to present a hybridised graphic music analysis of EDM using western musical scores to identify specific important rhythmic motifs within EDM and a “Textural Graph” and “Sound Palate” (259) to describe the distinct “multimeasure patterning” (179) of textures. Butler acknowledges that it is the computer sequencer that provides a recorded account of musical form in EDM. This form is identified in Butler’s analysis as a layering of textures over a specific rhythm. These are the two main compositional elements that Butler sees as the most important stylistic features of EDM. Graphic representation of the different texture within different EDM compositions can reveal the specific qualities that are innate to different EDM styles. These representations can be used to assist in the construction of a creative process that generates similar musical forms within an ensemble of musicians.

36 Heinrich Schenker developed musical and semiotic theories relating to the way that pitch relationships form the basic building blocks of music, and he believed that analysing the structure of these relationships could reveal the essence of the music. This type of analysis foregrounds pitch as the main determining factor in music. Dance music has little in the way of highly-developed, traditionally-contoured melodic content, and therefore is not suited to this form of analysis.
Hence this project presents musical analysis of specific EDM works that have informed this project using graphic representations of sound textures that mimic the way it might look on a computer sequencer. Some ‘western’ notation is also included (for example to illustrate melodic motifs) and traditional analysis and terminology is used at times when it has relevance to the element under discussion – for example chord construction, bass lines.

3.7 Node 4: Presentation in the Form of Creative Performance and Written Exegesis.

3.7.1 Cyberbass Ensemble

A central part of the methodology for this project was to form and develop a new LE ensemble, and to document the activities of this ensemble through audio and video recordings and written reflections. To this end, The Cyberbass Improvised Electronic Music Ensemble was formed in 2004. It originally began as an undergraduate ensemble workshop within the Southern Cross University Bachelor of Contemporary Music program. In 2005 it became a professional performance orientated LE music ensemble, The ideas for on-stage ensemble interaction were developed within this project in response to my experiences as a professional bass player in a succession of successful independent LE bands (Amphibian, The Bird, Obsimath, The Resin Dogs,). Ensemble performance processes were also influenced by other EDM and LE artists.

The Cyberbass Ensemble uses a variety of computer musical interfaces. These include an electronic MIDI wind instrument controller (EWI), keyboard midi controllers, an electric upright bass triggering a analog modelling synthesiser and a virtual drum kit (Roland V Drum System) to create electronic music in the style of contemporary EDM sub-genres (such as trance, trip hop and drum n bass). This type of instrumentation allows the performances of this group to be easily recorded, as
minimal microphones are required. Performances can be recorded and mixed in a multi-track format without the problems of phasing, sound spill, and microphone capsule distortion that can result while recording acoustic instruments.

This instrumentation also enables the musician to set up a palate of electronic sounds from the vast choices that digital computer sound generation offers. Controlling these sounds through a variety of MIDI controllers gives each performer a slightly different musical function, in that the technological limitations of the audio controller determines the musical role of the performer.

EDM and LE features rapid sound timbre shifts as an integral part of the music composition design. In a live performance context, musicians must be able to alternate between sound presets and effects (such as audio filtering and delay reverberation effects) while performing. It is only recently that musicians have been able to perform these changes in a live performance context. This has been a result of the increase in processing speed of computers used for audio applications and improved digital music performance devices such as the Akai Deep Impact bass Synthesiser pedal and the Roland V drum system.

In 2005 the Cyberbass project commenced a weekly performance residency at the Buddha Bar Arts Factory performance space in Byron Bay. This residency continued through 2006 and ceased when the venue was sold in February 2007. This residency became a creative laboratory for exploring the different ways in which a group of electronic musicians could successfully improvise music together spontaneously in front of an audience. This residency culminated in the formation of the final line up of musicians involved in the Cyberbass project and also enabled the ensemble to perform at regional music festivals such as Splendour in the Grass 2006, Bonalbo Electronic Arts Festival 2007 and Exodus Festival 2008.
Some of these performances have been recorded using digital multi-channel audio recorders, resulting in very high quality sound recordings from live concert performances. This process reflects advances in audio recording technology that does away with the need to record in expensive, purpose-built studios in order to achieve good quality audio recordings.

3.7.2 Visual Images Presented Within this Project

The images for the multi-media works are formed exclusively from video material that was recorded while I was on tour as bass player with The Bird in 2006\(^{37}\). This video material was captured using a video camera and mobile phone. This material has been rendered with a variety of contemporary film editing software (Final Cut Pro 5.0, V Track 2.0, Imovie 4.0, Quicktime 7, DVD Studio Pro 4) and presented using ‘vee-jay’ software (VDMX 5.0). The images are coordinated with the music in a way that allows for the video image sequence to be constructed in an improvised manner by a live video DJ performer. Some of the images show excerpts of short interviews conducted at various locations while I was touring with The Bird.

3.7.3 Final Multimedia Presentation

As a researcher, I am keen for my project to have value for people involved in the contemporary music industry. Rather than let my thesis gather dust on a university library shelf, I am interested in presenting outcomes of this project to as wide an audience as possible. To this end, the methodology involves displaying the research project as a large-scale musical work accompanied by images and text in a multi-media format.

\(^{37}\) The Bird recorded a CD and DVD in September 2005 and released The Birdville Sessions through Valve Records (CD/DVD). The Birdville Sessions Live Tour saw the band play shows in nearly every major city in Australia presented by Topshelf Productions in Sydney.
Rose (2001) notes the benefits that advancements in the field of digital data encoding and storage have had in making for wider dissemination of ethnomusicological research to peer and public audiences. More and more students are exclusively using the Internet when researching. For my research project to more accurately reflect the contemporary context of academic work, I decided that it should be available online.

The format of the final creative presentation for this project takes the form of music ensemble performance with multi-screen images acting as a surrounding visual background to the ensemble on stage. This performance design encourages viewers to question whether they are actually watching a movie, going to an electronic dance club or viewing a band performance. This aim is to encourage an inquisitive listening and viewing environment.

The video images were presented on a set of three video screens, each displaying the same video program simultaneously with images controlled by one computer operated from the stage by a specialist video artist. This design helps blur the distinction between an EDM event and a live band performance where a stage acts as the clear dividing line between performer and audience.

EDM events usually feature an elaborate visual design complete with lights, smoke machines, lasers, video projectors and visual installations of various kinds. At these events, the creation of a surreal fantasy world matches the non-organic, otherworldly, alien sounds of electronic music and reinforces the notion that the line between performer and audience is blurred. This distinction between raves and band performances is one that is clearly challenged by the emergence of twenty first
century LE. As seen in Attali’s fourth historical phase\(^{38}\), everyone is now the composer, performer and auteur of their own sensory experience.

As a musician I have had the opportunity to perform with sophisticated multi-media technology at the Sydney Opera House, the Judith Wright Centre, Brisbane, and the Australian Centre for the Moving Image, Melbourne. My experiences at these venues as well as my international experiences working as a musician for multi-media projects (Wild Animals 2003 South Korea, Canduco Dance Company 2002 UK) has demonstrated to me the power of digital visual art to attract viewer attention.

### 3.7.4 Web-Cast

Music is increasingly accessed (often exclusively) in a digitally-encoded format. Live music is used to promote the sale of digital audio files, but the reverse is also true, with digital music seen as a cheap (or free) way to build an audience for live performances. The emergence of the Internet as a powerful and seductive networking device also has wide implications for the way human beings interact, with the computer taking centre stage as a facilitator of social networks. To reflect this development, the event was presented as a streamed digital media, with the audio and video available over the Internet virtually instantly as a QuickTime media file. As a first attempt to stream a complex multi-media event, this was a significant innovation for Southern Cross University, providing a timely reflection of the way technological innovation is radically altering community perceptions of the place of music within our society.

By accessing the Internet, this project deliberately engages with a variety of sites and technologies to expose the creative work to the largest possible audience. By

\(^{38}\) Jacques Attali’s musico-historical analysis of the development of musical cultures and forms in western countries includes a fourth phase called “composition” that sees everyone as simultaneously a consumer and producer of their own music.
capturing video footage of the final performance and combining this footage with a high-quality audio stream recorded from the instruments on stage, this performance is available in real time to both virtual and actual audiences. The performance is now available to be downloaded as a QuickTime movie that can be accessed at any time.39

This type of performance design demonstrates the mediation and involvement of technology both in the actual performance and in the transmission of the performance to a virtual audience via the Internet. Complex multimedia works are ideal for presentation as new media over the Internet, and reflect the way that musical product and visual material are becoming integrated as digital media data now known as ‘content’. Musicians and filmmakers of the twenty first century are producing the same content for different digital file codes that compress information into a form that can be networked on the Internet. Since I commenced this research project in 2004, the Internet has changed from being primarily a source of information (web 1.0) to an interactive information network (web 2.0)40.

In summary, this project is represented as multiple texts; a live event, a streamed real-time event, downloadable movie, audio files and CD, video files, a DVD, and a website.

This process took advantage of the technological capabilities of Southern Cross University Information Technology department. The process of web casting involved researching the availability of the technology required and liaising with different members of the Information Technology staff at Southern Cross University. Two test web casts were carried out in the lead up to the final performance. This process took approximately twelve weeks, and pioneered the use of web casting as a tool for SCU

39 www.cyberbassmusic.com is the website that has been created by myself in collaboration with software programmer Henry Egloff to display this stream that is hosted on the SCU webserver.
40 Web 2.0 refers to the evolution of the Internet as a global interactive networking hub See O’Reilly (2005) for a comprehensive description of the differences between web 1.0 and web 2.0
students to display online. It also enabled colleagues located as far away as Colombia to view the final performance ‘live.’

3.8 Conclusion

In constructing this methodology I have tried to straddle the imaginary conceptual lines that exist between performer and observer, artist and community, I have incorporated technology of performance and presentation that reflects emerging trends within contemporary electronic music. Using a four-part process of identification, depiction, examination and presentation, I offer a creative response to contemporary developments in popular music and a reflection on my own musical culture in a format that can be readily accessed by a wide audience. By displaying my own musical ideas and creative processes and reflecting on the attitudes and thoughts of others within my own musical community, I hope to present a demonstration of creative practice and the social context of an Australian LE community.
Chapter 4

Acknowledging and Analysing Influences.

4.1 Introduction
LE performances involve distinct concepts of performance and creative practice. These have evolved at specific moments in history. Becker (1984:311) argues that “new art worlds grow up in response to something changing in relation to artistic practice.” Social, technological and economic changes have influenced the way music is created, performed and marketed. LE can be seen to have emerged as a response to these changes. This chapter will acknowledge and analyse a range of developments that have acted as broad influences on the contemporary creative practice of Australian LE musicians and on my own musical work. Some changes have had a direct impact on the way music is performed. Others have had more of a secondary effect, making musicians go about their practice in different ways. Some developments have been local and some global. Together, they act to shape new musical forms and cultures.

4.2 Categorisations of Influences
The work of other artists inspires and influences an individual’s creative practice. While interviewing members of my community, it became clear that specific artists from a range of musical genres have had a profound effect on the way in which their music is composed and/or performed. Beyond the influences of specific artists, are broader influences that can be grouped under the subheadings of musical, technological, economic and social factors. The summation of the interaction between these influences can be seen in the creative practice of musicians within a particular music community. Figure 4.1 provides a model for conceptualising the broad range influences impacting on contemporary LE practice.
Figure 4.1 Conceptual Model of Influences on Contemporary LE Practice.

Wider Community

Musical Influences
- EDM
- Musique concrète
- Minimalism-Linear Form
- Dub
- Jazz
- Non-Western Musics

Economic Influences
- Casualisation of workplace
- Falling rates of pay
- Fewer gigs
- Competition from DJs
- Changing revenue streams
- Limited institutional support for popular music

Social Influences
- Changes in popular music cultures
- Preferences of iPod generation

Technological Influences
- Samplers
- Development of MIDI controllers
- Internet communications

Musical Community

Individual Music practice.
Figure 4.1 provides a graphic depiction of the set of forces that shape the practice of LE musicians within my community. The diagram identifies an interaction of musical, technological, social and economic influences and highlights the interconnectivity of these influences on a specific musician’s creative practice. Each of these elements outlined in the diagram will be discussed in turn.

4.3 Musical Influences

*It was Squarepusher that got me into it and at first was afraid of it and then I getting into it and people were listening to drums so I thought what an opportunity…onto the fact that this music could give rise to all sorts of composers who couldn’t play instruments.* (Ben Walsh interview 2006)

*…a heavy influence from electronic stuff coming back in and in our case playing it without machines.* (Matt Goodwin interview 2006)

*More than influenced, electronic music challenged me to be better than it.* (Matt Ledgar interview 2006)

EDM is a strong influence on all of the musicians that I spoke to during the course of this project. EDM has emerged in response to the development of other musical styles, such as musique concrète, minimalism and dub. These styles have played an important role in establishing creative processes using electronic music production technology (such as tape recorders and effects processors) that was originally developed primarily for electronic sound reproduction purposes. More recently, jazz, funk, Indian and Middle-Eastern styles have been incorporated into various types of EDM. While some members of my musical community may never have listened to specific artists from these genres, their personal creative practice can be seen to have strong parallels to creative practice within some/all of these styles.
4.3.1 Musique Concrète

EDM producers use the concept of a sound collage as the basic compositional principal. Rather than creating songs based around melody and harmony, electronic musicians create sonic textures that can be played as sections within a DJ set. Melodic development is not considered important, since the music is presented at dance performances in conjunction with other works and put together in a spontaneous manner by the DJ. There is no point developing a lengthy musical theme when sometimes only a small portion of the composition will be played. Constant aural reinterpretation of musical works by DJs has led to a focus on the creation of short, catchy, melodic fragments and distinctive sounds to give the composition a recognisable identity.

Music concrète pioneers such as Pierre Schaeffer and Pierre Henry were among the first to take “pre-existing elements, be they noise or music…and abstract the musical values they potentially contain” Taylor (2001:45). Taylor describes Henry as the “father” of modern techno producers - the first person to combine only sounds and noises of everyday life into music. It has taken nearly a quarter of a century for Henry’s sound experiments to become part of mainstream popular music. His use of tape loops and field recordings to create works such as “Chemins de Fer” (1948) and “Microphone Bien Tempéré” (1956) is replicated within works such as Brian Eno’s and David Byrne’s 1981 collaboration My Life in the Bush of Ghosts41 More recently, it can be seen in Peter Kruder’s ‘Peace Orchestra’ project and in the work of Japanese techno producers Susumu Yokota and Aoki Takamasa.

41 This series of recorded works (1980 Sire Records) has been described by John Bush as a “tremendously prescient record for the future development of music during the 1980s and ’90s” Erelwine et al (1997).
4.3.2 Minimalism

The minimalist music movement has influenced the compositional techniques of contemporary electronic music (Prendergast 2003). EDM often features extended repetition of short musical phrases, with timbres and textures that gradually evolve over time. Compositions using these techniques are simple to reproduce with a computer sequencer ensuring the quantised repetition of musical phrases, but require intense musical concentration to be performed with precision by a musician. The simple repetitive parts of minimalist works often require musicians to be able to play a simple part strongly and accurately for a long time.

4.3.3 Linear form

One of these elements clearly identifiable within EDM is the use of a linear evolving style of music composition. Rather than conforming to typical contemporary pop song forms (such as verse and chorus sections separated by a instrumental solo or ‘middle eight’), EDM focuses on textural layering. For example, the EDM style of ‘trance’ uses gradual layering of sonic textures and dramatic rhythmic shifts to generate anticipation and excitement within the music.

In Hill (2005) I transcribed a work by UK EDM artist ‘Transa’ illustrating the way this arrangement structure would appear as a screenshot of a music software-editing window (see Fig 4.2). This is a structure that occurs in most trance tracks (see also the discussion of trance music by Taylor [2001] and Brewster [2006]). Most trance tracks have two drum breakdowns (on a vinyl release these are visible as a different colouration on the record). These breakdowns facilitate smooth transitions between

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42 The work ‘Yulquen’ by Autechre is a good example of a study in timbral manipulation and linear compositional structure. This composition is examined in Chapter 5.

43 For example ‘Piano Phase’ by Steve Reich was first performed in 1967. It requires two pianists (or one and a tape machine) to perform the same rapid eight-note motif progressively ‘out of sync’ with each other.
each track. After the drum breakdown of one track, another can be mixed in smoothly over the top. In the words of a contributor to an online trance forum:

\[\text{The breakdown is the best part of every song on the dance floor when the breakdown come u just go crazy and you have a certain feeling of anxiety for that kick and melody to come (Sanya Philadelphia)}\]\

This compositional structure is recognised by those who listen to trance. It can be used to and facilitate the building of the all-important ‘vibe,’ or what Reitveld (1997:24) has described as the “perfect community feeling” amongst dancers. Other styles such as jungle from the early 1990s are more chaotic and unpredictable in structure. A transcription of a work by DJ Krust is displayed in Figure 4.3.

Figures 4.2 and 4.3 are graphic transcriptions of different styles of EDM that use textural transitioning as a primary musical form. Audio recordings of these two examples are supplied on the accompanying Audio CD 3 (See Appendix 1 for track listing). Each block on the diagram represents a specific sound loop that is arranged along a timeline that represents the duration of the composition. These graphic transcriptions illustrate the way EDM uses manipulation of sound textures as a major part of the compositional process. The melodic content of each block of sound does not necessarily have a diatonic relationship to the sounds represented by other blocks on the diagram. Like a collage, the composition is layered in a way that satisfies the individual music producer’s aesthetic.

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45 This quote is one of a series of responses to a question I posted on www.tranceaddict.com; a website dedicated to trance. The full thread of responses and the original question can be viewed at http://www.tranceaddict.com/forums/showthread.php?threadid=117021&goto=newpos
Figure 4.2 Transcription of “Carla’s Theme” by Transa (Hill 2005:80)

(Track 1 Reference CD 3)
Figure 4.3 Transcription of “Kloakin Device Theme” by DJ Krust (Hill 2005:82)
(Track 2 Reference CD 3)
4.3.4 Dub

Dub music pioneered electronic production processes and a focus on the establishment of a distinct set of sounds over a repeating rhythmic pattern, focusing on electrical signal processing that altered the reverberation and frequency characteristics of recorded musical works. As technology has improved, it has become possible to employ this technique in the context of live music performance. There is now a nearly infinite variety of signal processing techniques and technology that can be used to engineer or create a particular sound texture. Controlling the production of the sound texture has become an integral part of the creative process, and LE musicians use techniques pioneered by dub producers to generate sound textures.

4.3.5 ‘Non-Western’ Musics

The sounds of North Indian classical music and different types of African music are increasingly prominent in electronic music styles and have been incorporated into LE. For example, Sydney band Gongtronic uses gamelan samples and Indonesian drumming techniques to produce music that is described as ‘live techno’. Wild Marmalade and Loonaloop use the Indigenous Australian instrument the dijeridu. The Bird has a North Indian Tabla player, while Amphibian uses Japanese field recordings as part of the group’s sonic palate. The focus on timbre and texture has meant that musical sounds from all different types of cultures have become part of the electronic musician’s palate, and electronic music tends to treat all types of music as a possible sound source. Like many types so-called ‘world music,’ EDM and LE have done away “the ethnic purity of folk music and mixes styles and cultures” (Chapman 1988). All sorts of sounds are now stored in the sample banks of

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46 This influence can extend to ‘mainstream’ pop music. For example, Beyonce’s cover of Moroder and Summer’s “Love to Love you Baby” uses keyboard melodies made up of Arabic scales, and sounds produced by Scott Storch that are similar to Arabic pop music or Bollywood music.

electronic instruments. Issues of appropriation of non-western sounds by EDM artists are acknowledged but are beyond the scope of this discussion.

4.3.6 LE and Ensemble Performance

Live musicians have typically had little to do with the performances of EDM. This music is pre-composed by the EDM producer, who manipulates the diverse timbral choices that digital music production technology offers. Musicians, if they are involved, are usually recorded by the EDM producer and do not play the material live. Some EDM performances have included musicians playing traditional instruments\(^{48}\), but they are usually relegated to playing along to a pre-programmed sequence. As a musician, I have had this experience many times with different so-called LE acts. I question the extent to which that this sort of performance can be described as ‘live’, since I cannot interact with a machine as I can with another musician. Taylor (2001:39) states that “music as a social activity for electronic music cultures is becoming a thing of the past.” The music style of LE can be seen in part as a revival of an interactive element within EDM.

There are many challenges facing an ensemble of musicians working with electronic instruments. Some of the specific musicianship skills required, such as negotiating sonic space and dividing up the frequency range between players, are not typically required of musicians playing in a more traditional pop band. Instruments in a typical pop band of electric guitar, bass and drums have largely pre-determined roles (for example the bass guitar does the bass part). In LE, the role of each instrument is not determined by its frequency range. Sound sources such as samplers, laptop computers and synthesisers have nearly unlimited frequency ranges.

\(^{48}\) Rietveld (1998), for example, describes her experiences playing with LE group Quando Quango at the outset of the house music revolution in Chicago in the early 1980s.
LE involves a group interactive process that can be compared to that of small jazz bands. The musicianship skills required of the members of a jazz ensemble (such as a strong technical facility and the ability to listen closely and react quickly) are also required of members of an LE ensemble as they try to emulate the intricately programmed nature of EDM. Monson (1996:27) notes that:

*Small group jazz bands try to achieve a groove or a feeling, something that unites the various instruments into a satisfying musical whole. At any given moment the improvising artist is making musical choices in relationship to what everyone else is doing.*

Monson describes the way that jazz musicians consider that a strong common sense of rhythm amongst musicians is the basis of a good jazz performance. Although LE does not sound like jazz, it requires the same strong sense of rhythm amongst players for the music to sound coherent. In the absence of composed parts or charts, the listening ability of the musicians becomes a major determinant as to whether a coherent musical performance is created. This is distinct from music replayed and triggered by DJs and EDM producers, who can rely on the steady machine-produced rhythm of sequencers and turntables to produce a steady danceable groove.

My personal practice can offer some examples of the ensemble requirements of LE. When performing with The Bird, keyboardist Simon Durrington and I have to renegotiate musical roles for each part of a performance. Simon’s set-up incorporates a variety of sound creation devices that can produce enough bass frequencies to completely mask the sound of the acoustic bass. When Simon switches to a bass sound, I also have to change to a sound that complements the frequency range of his part. While this process sounds quite straightforward, the (often) poor onstage foldback and the loudness of the PA make it hard to
complement each other’s timbre choices. In addition to listening closely to timbres and textures, Simon and I also have to be highly attuned to grooves to keep all sections locked together in the absence of a click track. The important point to consider here is that when the beat is provided by a drum machine, a level of rhythmic interaction is no longer required within a performing ensemble.

### 4.3.7 Musical Influences: Summary

The musical influences on an electronic musician’s practice can be summarised as primarily stemming from EDM. Recreating EDM live has focused the musician on the sound of the music created by the whole band rather than simply the melodies and chords used. Performances that involve an essentially minimalist aesthetic require the electronic musician to play rhythmically as strong as a computer, and be able to seamlessly manipulate the sound of their instrument. Electronic musicians must become a sort of human music playback device. As technology has improved, the ability for electronic musicians to interact live onstage has seen electronic ensembles beginning to improvise like small jazz bands and use the extended timbral range offered by music technology to incorporate new sounds into live improvised music performances.

### 4.4 Technological Influences

#### 4.4.1 MIDI

Théberge (1999) outlines the history of MIDI and some of its effects on the sound of music and the creative practice of musicians. Théberge links the emergence of MIDI with the phenomenon of the “sound taking over” (198) from the melody as the focus of musical composition. Von Seggern (2005: 14) sees MIDI as an innovation that set the stage for incredible innovations in the 80s and 90s. It was in these decades that EDM established itself as a major force in popular music. Von Seggern links the
growth in the number and variety of affordable MIDI devices in the 1990s to the
emergence of LE acts such as Orbital Electric, Sky Church and the Crystal Method.
Von Seggern describes these artists as ‘live’ electronic performers who manipulated
MIDI sequences differently for each performance.

4.4.2 Samplers
Up until the development of digital sound reproduction, tape recorders were the only
means of using the sounds of the real world within a music performance. High quality
tape recorders are bulky instruments, and the mechanics of tape-based audio
reproduction do not allow for the employment of a variety of recordings within a live
music performance; it simply takes too long to change reels and cue tape. With the
advent of digital sound recording, samplers have rendered obsolete the need for
multiple instrumentalists on stage, allowing sounds from all over the world to be
combined ad infinitum. An recording of the Islamic call to prayer can be mixed with a
Balinese gamelan over a James Brown beat and the words of an African-American
rapper. Digital technology has enabled the rapid transculturation of international
musical cultures into a “Feldian Schismogenesis, a situation where any sound is as

4.4.3 Ensemble Roles and Interactions
Technological developments have also been very influential on interactions within an
LE ensemble. As already noted, within a contemporary LE ensemble anyone can
play almost anything. A software synthesiser does not have a pitch compass or a
specific traditional role. This technology challenges the traditional roles of
instrumentalists. The bass part, for example, need not be performed by a ‘bass
player.’ Indeed, different players may play bass lines at different points in the
arrangement, in a manner determined by negotiation, not designation. Whilst opening
up a new world of sound, LE has also created new types of creative interactions among musicians.

4.4.4 Internet Communications

The internet has allowed musicians from all over the world to be in close communication with each other. At the press of a computer key, I can contact my musical ‘heroes/heroines’ and peers. Musicians from different geographical locations can collaborate and perform live over the internet. Duckworth (2005) documents the first electronic music internet jam in 1990. This collaboration, initiated by students at Berkeley College in California, created a “virtual space for musicians from anywhere in the world to come together and make music” (8). The first jams were not in real time, but rather file-sharing projects, where users would decide on a common computer file format and exchange MIDI and digital sound data. Since the technology of computer data transfer has developed, more and more data can be sent and received over higher speeds by faster and more powerful computers. Music collaborations over the internet can now involve real-time performances.

As well as music collaborations online, musicians can post their audio works and video clips online at sites developed to link musicians from different countries around the world. This technology has allowed independent artists to reach new audiences. In my professional practice, this technology has allowed me to organise performances in other countries without the need to talk to the festival organisers in person. All communication can be done through emails and websites.

4.5 Economic Influences

You just got to weigh it up. I could earn a shit load of money doing some shit job working for have a shit job and work hard to earn a lot of money
for someone else but that takes time away from making music. (Kris Swales interview 2006)

There is no money. I am an unemployed scientist. (Ben Retschlag interview 2006)

It’s hard if you’re an artist cause you really believe in what you do and you want to make music and make something good and believe in what you are doing. (Evelyn Golding DKO interview 2006)

I have fuck all to show for the twenty years of music that I have played. (Matt Goodwin interview 2006)

During the day I write music and at night I’m a Dominos delivery driver. (Dion Swales interview 2006)

Economic influences affect the income and activity of LE musicians. While these influences have no immediately ‘visible’ effect on the music performed, they affect the ability of a musician to continue to perform, or to put energy into the creation of musical works. It is self-evident that musicians are part of the real world and must satisfy basic needs before attending to creative pursuits.

Almost all the members of the LE community that I spoke to in the course of this project stated that it was impossible to earn a living playing LE music in Australia. This is supported by the Australia Council (2003) report entitled Don’t Give Up Your Day Job, that shows most musicians supplement their music incomes by working at other jobs. This report concluded that the average income of artists has not changed since the 1980s in dollar terms and that “significant numbers of artists earn below the poverty line” (17).
4.5.1 Falling Rates of Pay, Fewer Gigs

*Write a hit single…. record it… and get out of town* (Robert Moore from the Go-Betweens, interviewed on the SBS documentary *Great Australian Albums*)

The paradigm of getting out of Australia and seeking success overseas is still a powerful one in the Australian popular music industry. Despite the rapid development of the internet as a promotional aid, live music performance is still the main way bands can promote their musical product. The reduction in the number of live music venues in Australia has been well documented by Knowles (2006), and Homan (2003). The NSW Ministry of the Arts report *Vanishing Acts* (2003), concluded “there has been a significant reduction in live music venues in NSW over the last several years” (1).

Without the population of other industrialised countries like Germany, the UK or the USA, the Australian market for popular music does not have the same density or diversity. Australia’s geographical isolation from the major music market places of Europe, Japan and America means that the popular music industry is usually not lucrative for artists. In the USA, an independent LE band such as Pnuma Trio can tour for six months of the year and make a profit. In the UK, The Bays can survive by performances alone and pledge to never record a studio album⁴⁹. Despite the fact that one of the bands I perform with (The Bird) manages to command a four-figure sum at most Australian gigs, it is not possible to perform with the same regularity as in the USA or Europe. As a result, Australian musicians have to consider their financial future very carefully from the outset. If one wants to stay on the fringe, one

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⁴⁹ “The Bays only perform live, they never rehearse, they don’t have a set-list and they couldn’t ever do the same performance twice.” (www.thebays.com/thebays.html, accessed May 12, 2006.)
must not expect to make money from live music performance alone. This simple economic fact as a profound influence on the way musicians work in Australia.

4.5.2 A Casual Workplace

The contemporary music industry can be typically characterised as a casual wage environment. Most contemporary musicians work as contract workers or small businessmen/women - not wage earners. There is no job security in the industry and income is often spent before it has been received. The amount of money earned depends on demand for services, determined in turn by the popularity of the artist, effectiveness of marketing, and management strategies. How much musicians are paid ultimately depends on the compromise that can be reached between how much they request and how much the venue organization is willing to pay. For example, in my experience with The Bird, performance fees fluctuate significantly depending on the nature of the performance. Band members will decide to accept a low fee in order to support charity events where as gigs at commercial venues such as hotels and festivals will attract a larger fee. I have had the experience of not being paid an agreed fee by commercial venues. I have either had to chase the money through a debt collection agency or consider the debt unrecoverable.

How does this affect musicians’ creative practice? Most obviously, musicians are limited in the time that they can put in to their music practice. Consigning music to a part-time practice reduces the amount of time for developing a performance project to a high quality level. Making time to organise rehearsals and meetings with agents and managers becomes difficult. In an already financially stressful industry, anything that makes music practice more difficult is a further hindrance to a musician’s creative achievements.
4.5.3 Competition from DJs

Throughout Australia, the jukebox and DJ have colonised music entertainment venues previously occupied by live music groups. In addition to changing music production technology and changing youth music tastes, there is a simple economic logic for this pattern. As a single person, a DJ much cheaper than a band, and is able to provide music with minimum-cost technical requirements. DJs do not need large mixing desks, additional fold-back speakers or a big stage area. A DJ booth takes up far less room than a concert stage, leaving room for more patrons. Thanks to the growth of EDM culture, audiences are now used to having a DJ providing music for dancing.

Ben Walsh and Matt Ledgar note that the encroachment of the DJ onto the domain of the live band has been a big influence on their own music:

*I thought these DJs have no idea about rhythm but this music was amazing and I started getting into it and people were listening to drums so I thought what an opportunity…I thought that electronic music would also give live music a fresh kick up the arse.* (Ben Walsh interview 2006)

*More than influenced DJs challenged me to be better…I was a percussionist and when I was coming up drum machines were just coming in and I could see loads of work just going.* (Matt Ledgar interview 2006)

DJs and electronic music culture have challenged contemporary musicians to adapt their type of music performance style if they want to maintain relevance to a section
of youth culture that has grown up listening almost exclusively to music produced by computers and replayed by DJs on CDJs, media players and turntables.

LE can be seen in part as a response to the challenge laid down by computerised music devices. Matt Ledgar’s desire to be better than the machines evokes images from the sci-fi movie *The Animatrix* - where computer-based cultures start to compete on equal terms with humans.

### 4.5.4 Changing revenue streams

Over the last decade, as musicians’ income from performance fees has fallen in real terms, musicians have earned money from music-making in different ways. Other avenues of income are available to contemporary musicians, such as merchandise sales at performances and digital downloads on the internet. Statistics from the USA, using data collected on concert revenues of ‘superstar’ artists, show that even successful musicians only receive approximately 25% of ticket sales (Krueger 2005). There have been no studies to estimate what the figure may be in Australia\(^\text{50}\), but anecdotal research indicates that it would be similar. Australian pop band Blue King Brown estimate that 80% of their tour revenue in 2006 came from merchandise sales\(^\text{51}\). Wild Marmalade estimate that they grossed 30,000 euros selling CDs at busking-style performances in Europe during 2006-2007. The Bird was able to net $4,000 from CD sales at performances during a two-month national CD launch tour\(^\text{52}\). These figures represent a significant percentage of band earnings. These three examples relate to ‘independent’ bands. These acts do not have the financial security of a record contract with a major label that includes providing financial advances on ticket, CD and merchandise sales. Without an advance providing additional income for the band while on tour, musicians have to augment band

\(^{50}\) Guldberg and Letts (2005: 128) argue there is an urgent need to improve the statistical model of the music sector in Australia.

\(^{51}\) Santone Interview 2007.

\(^{52}\) Birdville Sessions tour (February-April 2006).
performance fees with other sources of income. Merchandise sales have the potential to provide a substantial income boost to help finance the high cost of touring and promoting music.

Bypassing record companies altogether and offering direct digital downloads is another avenue of income that has only recently been available to independent artists. Websites such as Last.fm and MySpace.com, offer artists good opportunities to promote their work online within worldwide electronic online communities. ITunes and smaller sites such as Artistdirect.com, Beatport.com and Homegrownrecords.com offer digital distribution that can result in substantial income if a band becomes popular.

To summarise, since the emergence of digital media technology and EDM culture, shifts in the economics of music performance have had both negative and positive effects musicians working in the contemporary music industry. While performance fees have remained static or fallen in real terms, other income streams have emerged for artists attempting to break new musical ground and exist on the fringe of the contemporary music industry.

4.5.5 Limited Institutional Support for Popular Music.

This country is the way it is. Arts is the way it is. Arts don’t get much support in this country... there is no artists with big houses... I sometimes wish it was like that but it isn't so I don't worry about it (Ben Walsh interview 2006)

For contemporary musicians, government assistance is vital for the creation of new work and to assist in financing international and national tours. Walsh's comments reflect the limited level of Australian government support for musicians who perform
popular music. Countries such as France, Ireland and New Zealand offer a range of tax incentives and other financial benefits for musicians that make a contemporary music career a more financial proposition than in Australia. These countries have vibrant music scenes that have benefited directly from these types of initiatives\(^5\).

Through the Australia Council for the Arts Music Fund, the Australian Federal Government provides some financial assistance to the contemporary music industry in the form of grants for touring and production of new work. While these grants offer valuable specific project based assistance, the work involved in compiling the grant application is considerable, and requires written skills that not all musicians possess. The process can take many months and is not responsive to changes in a particular musician’s situation. Craik (2007) suggests that the Australian Government has alienated the Australia Council from its clients (artists) and the broader arts and cultural community of interest (8). He argues, “the Australia Council’s fortress mentality and isolation within the cultural sector suggest that it is a victim of the lack of direction in the policy arena” (9).

Limited Australian government support for music makes choosing a music career much more difficult. On the fringes of the popular music industry, there is a significant tension between artistic practice and financial return. Many musicians take the advice of the Australia council and do not give up their day job, consigning music to a hobby. Musicians interviewed within this study worked in a variety of jobs, such as pizza delivery drivers, shop assistants and production assistants. It is self-evident that without being able to devote all of their time to their creative pursuits, musicians are

\(^5\) For example, France has one of the biggest summer music festival circuits in Europe. French Musicians are granted a special status known as “intermittents du spectacle”. This status entitles them to full social security, holiday and unemployment benefits, based on the number of official gigs performed or hours worked. In Ireland, the Artists Tax Exemption was introduced in 1969 with the aim to create an environment in which the arts could flourish. Under this piece of legislation, income earned by Irish musicians from the sale of their musical compositions is exempt from income tax. In New Zealand the PACE program (implemented in 1999) that enables musicians to access social security support has helped bands acts like Fat Freddy’s Drop, Trinity Roots and Kora become internationally successful.
often unable to develop their art to a high professional standard. Organising time to rehearse music projects and organise touring schedules becomes a complex juggling act. Inevitably the development of local original musical forms and cultures must suffer as musicians spend more time working at non-musical pursuits.

4.6 Social Influences

Commenting on the decline in the number of music venues in NSW, Johnson and Homan (2003:41) argue that:

A simplistic demonisation of pokies and pub venue management fails to identify and address the full range of factors responsible for the decline of live music. Some of these are so deeply embedded in fundamental cultural change that it is probably necessary to revise our understanding of how popular music functions in the community.

This is an accurate reflection of the contemporary cultural environment in relation to popular music practice. Beyond economics and music, there is a range of social factors that have had a profound effect on the formation of distinct contemporary musical cultures. Live music performance in particular has been limited in its development by a decline in popular music venues. Bands now have fewer opportunities to perform on a regular basis than they did ten years ago. With less live music venues and demand for performances, musicians must respond by changing their own creative practice and musical style if they are to get a gig. While musicians perform music that conforms to their own musical tastes, it is necessary to find the appropriate markets for one’s music. Without venues to perform music, one must seek alternative ways of exposing creative work.
4.6.1 Changes to Popular Music Consumption.

Live music is no longer the primary cultural pastime that it was in the latter part of the twentieth century. Clubs and dance parties now cater to generation Y youth, and the emergence of EDM has split the audience for live music. Many of those who wish to dance may prefer the superior sound quality and elaborate lighting effects of contemporary dance parties and clubs.

Competition is also provided by personal leisure options available on the internet, such as Massive Multiplayer Games (MMG). Computer games now produce bigger revenues than movies. Internet ‘addiction’ has been recognised by the Australian medical journal as a cause for concern amongst older teenagers. Johnson and Homan identify the “distraction factor” of competing leisure pursuits, resulting in the tendency for young people to stay home and find their entertainment online rather than go out to see live music.

4.6.2 Noise Laws

Homan’s (2003) study states that restrictive noise laws designed to facilitate the residential development of the inner city areas of Sydney contributed to the gradual destruction of Sydney’s live music scene. As a contemporary musician in Sydney in the 1990s, I watched as, one by one, the Harold Park Hotel, the Evening Star, the Lewisham Hotel, the Petersham Inn, the Lansdowne Hotel, the Sandringham Hotel, the Strawberry Hills Hotel, and the Harbourside Brasserie closed their doors as live music venues and re-opened as DJ clubs or gambling rooms. In 1996 the Sydney

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Rocks Authority imposed an 80-db\textsuperscript{55} limit on sound pressure levels in the streets, effectively curtailing all outdoor music performances in the CBD.

Wardle (2006) has noted the way that government regulations can limit or enhance the potential for the “development of a vibrant and sustainable live music cultural Industry” (1). These sorts of regulations are part of the reason why live music is flourishing in Melbourne and languishing in Sydney\textsuperscript{56}. Without being able to perform at local venues on a regular basis, musicians must either relocate their practice or not practice at all.

4.7 Conclusion
This chapter has discussed a range of influences that affect a musician’s creative output. Technology, economic realities and social factors lead musicians to work in different ways. My own musical practice is driven by an interest in the way that technology can make new sound combinations that I find interesting and exciting. I enjoy the music played by DJs at dance parties but also love watching a jazz band interact to create great music onstage. At the same time I need to pay the rent and find an outlet for my creative work if I am to continue my practice as a professional musician. Devising ways to incorporate musical influences, form a band and create and promote my own musical work leads me to examine the ways in which my own musical endeavours reflect my identity as a musician and my relationship to the art world of LE. Examining these influences exposes a cultural background and context

\textsuperscript{55} 80db is equivalent to the sound of a blow dryer.

\textsuperscript{56} It is interesting to note that the Melbourne and Sydney Council web sites address the issue of noise laws in different ways. The Sydney site introduces the subject of noise as “Music and crowd noise from restaurants, nightclubs, hotels and other licensed premises in the city can sometimes reach levels that could be considered offensive or a nuisance and unduly affect the lifestyle of residents.” (http://www.cityofsydney.nsw.gov.au/Residents/Noise/HotelsAndLicensedPremises.asp accessed October 10, 2008). The Melbourne site states that “Melbourne has one of Australia’s best night scenes and Council wants to continue to promote the vibrancy of Melbourne as a 24-hour city. However, noise associated with pubs and clubs can sometimes affect residents. A balance is needed between the expectations of residents to have a good night’s sleep and the ability of the venue to run a successful business. All premises that are licensed to serve alcohol are obliged to respond quickly and positively to resolve complaints with neighbours.” (http://www.melbourne.vic.gov.au/info.cfm?top=46&pa=669&pg=670 accessed October 9, 2008).
that is sometimes overlooked in analysis of creative practice. I will now begin to
focus on the nature of my specific practice itself, beginning with a discussion of
different musical groups that have directly influenced my creative work.
Chapter 5
Musical Influences

5.1 Introduction

So far, I have discussed various broad social, musical and technological influences that inform LE practice, and my own personal practice. This chapter reflects and focuses on specific musical inspirations for my own portfolio of creative work. The first part discusses the historical relationship of live music performance and group improvisation to EDM. The second part analyses specific EDM examples that have directly influenced my work, including two works that have special resonance with my project in that they foreground social and political issues relating to each artist's own community.

As already noted, the creative component of this project is driven by my desire to realise the potential of combining improvised musical performance processes with the technology and musical styles associated with EDM/IDM. As the creative work deals with contemporary computer technology and live improvisation, I identify EDM and small group improvised jazz performance as primary influences on the creative work within this project. From EDM comes a focus on groove, digital and electronically manipulated sounds, timbral and textural elements, and continuous, seamless transitions between sections. From jazz comes a focus on improvisation and musical communication within a performing musical ensemble.

5.2 The Mixing of Jazz and Electronic Music; Emergence of ‘Live’ Electronica.

Jazz and electronic music have been combined in various ways since the 1960s, when Miles Davis changed his musical focus from acoustic to electronic instrumentation (Carr (270:1998). Greatly influenced by the work of Jimi Hendrix, Miles was one of the first musicians to work with electronic instruments in a largely improvised format. Hendrix had already delved into extended live musical
improvisations that exploited the possibilities of sound processors such as the ‘fuzz box’ and ‘wah wah’ pedal. In the 1970s, two members of Miles Davis’ electronic ensembles, Joe Zawinul and John McLaughlin, achieved chart success by combining jazz and electronic music. The music they produced became known as ‘fusion’, a style that, although reasonably popular, was still peripheral to dominant styles such as funk and disco.

When MIDI and the affordable personal computer emerged in the 1980s, musicians became focussed on the compositional potential of these innovations. MIDI (and the rapid developments in associated computer music technology) provided the resources for the expansion of EDM that occurred in the 1980s, with computer-programmed EDM becoming an integral part of global youth culture. The MIDI sequencer became an essential composing and production tool within EDM. The ability to produce beat-quantised melodic patterns that stayed locked in sync with the beat clock of the computer gave rise to complicated polyrhythmic EDM works.

Sequenced electronic music facilitated the performance of these types of works at dance clubs and other venues where DJs were employed. Since each sequenced track featured stable computer-controlled tempos, DJs could organise their performances (and record collections) around the tempo of each track. Computer-sequenced musical textures facilitated the emergence of the DJ skill of ‘beat mixing’ - the art of combining records without interrupting the rhythm. Throughout the 1980s DJ-driven dance parties became an important part of underground teenage culture before eventually becoming ‘mainstream’. Without the MIDI sequencer, electronic music would not have come to dominate popular youth culture in the way that it did in the 1990s.
As well as enabling beat-mixing performances, MIDI facilitated the emergence of live performances of sequenced material, with performer/producers ‘cuing’ sequences on MIDI-synchronised instruments such as the AKAI MPC. Rather than playing musical instruments, performers presented a new image to audiences – that of an operator hunched over a computer, peering intently at a computer screen rather than interacting with another musician.

This focus on use of computers to generate and control rhythm poses some new questions. The traditional way for record companies to promote artists and their creative work has been to tour them as a live act (Thornton 1994). For early electronica bands such as The Prodigy, Crystal Method and The Orb, this meant that musicians would be employed to play along to pre-recorded sequences, giving the audience the sense that, amongst the computers onstage, the music was still being made by humans. With the rhythm provided by a sequencer, musicians performing in these situations have little control over rhythm and groove. Manipulation of computerised sound interfaces to cue and load new sequences, loops and samples is a time consuming process, and musical output can be interrupted during this process. The creative flow of the musicians can be interrupted while technology is manipulated. These developments, while facilitating the creation of new types of music, have impeded the ability of musicians to develop interactive processes within an ensemble context. These developments have also created obstacles to musical improvisation within electronic music styles.

5.3 Live Performance versus Programmed Performance

As a performer I have performed ‘live’ with electronic musicians, playing bass lines to a pre-recorded drum track, or vinyl played by a DJ. I have also played in many musical ensembles as a bassist in small group jazz bands, ‘world music’ bands and in larger ensembles bands playing soul and funk standards. The gulf between these
two types of experiences (playing along to a sequence/recording and playing with a
band) is large. Playing along to dance music sequences that control the rhythm is
akin to practising with a metronome. There is no sense that one is interacting with
another musician – one is instead trying to keep up with and stay in tune with a
machine. In a live band there are many more variables that need to be taken into
account to make sure that music sounds coherent, and it is therefore much more of
an interactive and improvised experience. Without the precision of a computer
controlling the beat, it is the responsibility of all musicians within the ensemble to
maintain communication and a common rhythmic reference point within the music.
How successfully the band is able to do this will determine the overall coherency of
the music.

From an audience perspective, part of the appeal of a jazz performance lies in the
observation of the interplay between performers improvising in real time. This
musical interplay is absent from LE music performances controlled by one person
who triggers sounds from pre-produced banks of loops and sequences. Live jazz was
also once the dance music of the day, especially during the heyday of the 1930s and
1940s big bands. Today, EDM is the dominant form of dance music, and
contemporary club dancers have become used to the largely machine-controlled
rhythms of various EDM styles.

5.4 ‘Triggering’ Sounds Live

LE can be seen as a combination of ensemble interaction utilising electronic and
acoustic sound textures to produce musical works that are improvised and contain
the important elements of EDM. When choosing a performance methodology,
musicians wanting to perform EDM ‘live’ have two choices. The first is to use
sequences that are linked via MIDI clock, the second is to trigger parts manually
using a device such as the Akai MPC or a MIDI Controller, relying on familiarity with
one’s instrument and aural awareness to ensure that the parts are appropriate to the musical situation. This second approach requires a different set of musical skills to the composing and programming skills of a studio producer of electronic music. In particular it requires more rhythmic awareness. This type of performance is more flexible and spontaneous as it allows a greater variety of parameters to be manipulated in real time.

Electronic instruments enable a musician to control a vast amount of sonic space. This also implies a paradigm shift in the type of musicianship skills required by LE musicians. Ensemble members need not only to be skilled musicians – they must also be able to sculpt their sound with a variety of signal processing devices. Within the ensemble, the musical role of each player needs to be clarified, and will often be different to the role expected within an ensemble using conventional instrumentation. For example, a saxophone player, trained to provide melody and melodic accompaniment in a conventional ensemble, may fulfil the role of a bass player or provide an atonal textural sound accompaniment in an LE ensemble using a MIDI wind controller. In the context of nearly unlimited sound choices LE musicians must be able to negotiate the sonic space of ensemble musical performance in a more considered fashion.

### 5.5 Jazz and LE Ensembles

This project uses small group ensemble improvisation within an EDM context. One of the main challenges of this process is to facilitate musical communication amongst a small group of musicians without the need for direction by a conductor. For example, in jazz, musicians improvise distinct parts within a specific harmonic framework, such as a set of chords or a given key centre. Because musical instruments and other sound-making devices share largely the same compass and pitch relationships (such as the tempered scale), the pitch-based field of improvisation is limited to note
choice, pitch dynamics and note length. Articulation techniques, use of vibrato, marcato and staccato help to differentiate each player’s particular performance style.

Each instrument in a small group jazz ensemble has a distinct compass or pitch range that helps to determine its primary role. This acts as a further limitation on the improvisational field. Typically, drummers mark the time and provide rhythmic accents and dynamic shifts, while the bass players sound the lower chord tones, and ‘lead’ instruments such as the trumpet and the saxophone play melodic lines. While there are exceptions (such as electric bassist Jaco Pastorius’ focus on playing lead melodic lines on the bass), these do not negate the general pattern. In contrast, electronic music is disembodied from natural or mechanical acoustic sound reproduction. The instrument of electronic music has no recognisable physical form like the bass or saxophone. At the beginning of the twenty-first century, no particular electronic sound is related to a specific instrument. While instruments such as the Roland 303 and Yamaha DX 7 are recognisable by the type of tones generated through the circuitry involved, these instruments have now been sampled and incorporated into the sound libraries of software synthesisers accessed through a computer. Performers and listeners in electronic music understand that computers can produce an infinite array of sounds.

Within a jazz ensemble, the quality of the music relies on the quality of communication between the musicians in the ensemble – how well they can recognise each other’s musical choices and complement accordingly. In attempting to make live, improvised electronic music, musicians must also engage intensely with technology. Performers need to set levels, check technical equipment connections and organise sound presets for fast recall when required. The extended technological set-up time for electronic music performances reflects the clumsiness of digital music technology, when compared to acoustic musical instruments that have evolved over
a long period of time such as the double bass and saxophone. These older instruments use aural and tactile stimuli more than visual information to control the sounds they produce. This is a fundamental difference between electronic and conventional music production. Computers, in particular the computer keyboard, were originally designed for data entry, and to be controlled by one person. They were originally designed to be exclusively for visual interaction, not musical performance. This can distract the performer from the sound of the overall performance. Lights and VU meters can become the focus for the computer operator, rather than the quality of the sound they are producing. Visual information can become a distraction that can override the aural sensibility that determines if a sound is coherent with that of other artists.

5.6 Influences on Musical Style

*The rhythmic and metrical characteristics are closely connected to the instrumental sounds through which they are realised and the overall texture in which they are imbricated. In fact the fundamental unit of musical structure in EDM is a repeating pattern associated with a particular instrument which fans and musicians describe as a loop.* (Butler 2006:90)

By combining aspects of Monson's (1993) discussion on interaction and Butler’s (2006) rhythmic analysis of EDM (see “Methodology” chapter), I analyse a number of works of direct relevance to my own creative process. Butler and Monson acknowledge the limits of musicology and place their musicological findings within a theoretical and social context. They do not present specific theories of elements such as harmony but rather aim to explain the musical choices made by creative practitioners – thereby providing snapshots of musicians and music in action.
Drawing on Butler's (2006) terminology, the musical examples described below are analysed in terms of:

1. Rhythmic Characteristics
2. Sonic Texture
3. Loop Structures
4. Social Context
5. Relationship to My Work

Analysis of rhythmic characteristics considers identifiable beat oscillations and the types of sounds that are used to create rhythmic elements. The type of beat used is the most obviously discernible characteristic of EDM, and different rhythmic structures are the basis of styles in EDM. Analysis of sonic texture looks at the number and tonal quality of sounds used, as well as specific harmonic relationships between sounds. It also considers the presence/absence of sound spatialisation processing such as reverberation and digital delays, and the overall sonic ‘ambience’ of the work. Analysis of loop structure examines how loops are incorporated into musical forms, and may includes graphic illustrations of the ‘arrangement window’ that might be displayed on a composer’s computer. Social context considers the composition in terms of the artist’s overall career and the social/technological environment associated with the creation of the composition. Finally I identify specific relationships between the composition and my own creative work.

5.7 Musical Example 1: Autechre ‘Yulquen’ - from *Amber* (Warp Records 1994)

**Important Note:** The recordings of the following musical works are presented on the accompanying Audio CD 3. See Appendix 1 for track listing.
5.7.1 Rhythmic Characteristics

This piece is triggered at a slow tempo (75bpm). A single, repeating melodic line creates the rhythm that is a programmed 16th-note pattern over a 20-beat cycle. This sequence is notated and displayed in fig 5.1 The timbral characteristics of the sequence emulate the sound of a Roland 101 keyboard synthesiser sequencer. The ADSR\textsuperscript{57} structure of the sound used to create this sequence involves a short attack time and a longer release time. The clicks of the unused beats are audible as ticks. This is a sound that clock-based non-MIDI\textsuperscript{58} sequencers tend to make even if no notes are selected. The monophonic melody is augmented by the gradual introduction of beat-synced frequency-filtered reverberation effect (digital delay) that reinforces an 8th-note division of the sequence.

5.7.2 Loop Structure

Figure 5.1 ‘Yulquen’ Melody

There is a single repeating 20-beat melodic cycle (see example) and no underlying drum beat pattern. This composition is made up of one looped sound texture combined with a series of echo and reverb effects that are applied to this sound texture.

\textsuperscript{57} ADSR refers to ‘Attack Decay Sustain Release’ and is a terminology that describes the time based characteristics of a sound produced by a musical instrument. Sounds with a fast attack and release are quite percussive such as drums, while those with a slower attack and longer sustain are akin to bowed violins. ADSR is used in synthesiser and electronic instrument design to control time based characteristics of the sound produced.

\textsuperscript{58} Control Voltage synthesisers used voltage oscillations to control sonic parameters such as envelope filters and keyboard pitch. The control voltage system was discontinued in 1983 with the advent of the MIDI protocol that could control up to 120 note characteristics at once. MIDI could also facilitate computer software commands that allowed the automation and machine control of computer software. MIDI had the corporate support of many electronic musical instrument manufacturers hence was quickly adopted as the industry standard.
5.7.3 Sound Texture

The figure above illustrates my own transcription of the layers of sonic textures within this track. Each sound texture is indicated by a coloured rectangle. These are placed in relation to each other to resemble the look of a computer sequencer interface that one would find as part of Reason, Cubase or Logic computer software sequencer window. This track features a single looping melody using a monophonic synthesiser sound that has varying attack and envelope filter characteristics. The original sequence has been sent to a delay effect that also exhibits variable filter and attack characteristics. The clear focus in this track is the repetitive single melody and its gradual juxtaposition against initially a silent texture and then a reverberant one. The composition has a constant sound texture, with only one monophonic sound and the gradual introduction and withdrawal of reverberation and delay effects on the main melody.
5.7.4 Social Context

Autechre released the collection of musical works entitled *Amber* as a CD and vinyl audio disc release in 1996. It features works created using audio technology to control all aspects of the sounds. Autechre used audio technology as creative tools.

As Sean Booth explains:

> I was taught how to deal with guitarists and compression on vocals but I didn't have the slightest interest in this, it wasn't exciting to me at all. I was thinking about drum machines and effect units and small analogue synchs and wanted to know what to do with this stuff. I didn't want to learn how to mike up a drum kit; I wanted to know how to use the studio as an instrument. It was the opposite angle really.\(^{59}\)

Autechre’s music, illustrates the creative use of studio technology to develop new musical forms only made possible by contemporary music sequencing and synthesis devices. ‘Yulquen’ is a good example of Intelligent Dance Music (IDM), a style of EDM that emerged in the mid-1990s. This style of non-dance electronic computer music reflects the changing listening habits of an ageing EDM fan-base as well as the latest audio production technology. This composition would sound very different if performed on an acoustic instruments that were unable to change sound output characteristics.

5.7.5 Relationship to My Work

“Yulquen” is an example of a musical work that utilises sound texture manipulation as a primary compositional tool, and is an example of the use of melodic repetition as a compositional device within EDM. This piece uses a recurring melodic pattern that is

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unchanged throughout the work. The listener’s attention is focussed on the way that the original sequence is mixed with effects that constantly change the reverberation of the sounds. At various places the melodic sequence disappears completely from the overall mix, leaving only the reverberations to create an expansive sonic space that would be impossible to create on acoustic instruments. This track is relevant to my own work in that it utilises a recurring melodic pattern that is unchanged throughout the work. The sound texture is altered through use of echoes and filters on the repeating melody. Developing improvised repeating melodic themes like the one used in this work is one of the main focuses of the creative component of my project.


Red Snapper is a creative group collaboration including Richard Thair (drums, percussion, and turntables), Ali Friend (double bass), and David Ayres (guitars and programming). Red Snapper uses computer sequences to make compositions that are subsequently performed on conventional electro-acoustic instruments. ‘The Tunnel’ features a prominent syncopated bass line (performed on upright bass), a complex sampled drumbeat and accompanying electronic sounds and sound effects.

5.8.1 Rhythmic Characteristics

The tempo is fast (142 bpm). The drumbeat includes a ‘bossa’ style kick drum and a syncopated snare pattern that accents the first of three 16\textsuperscript{th} notes. There are two main drum loops that alternate throughout the track and have a similar syncopated pattern. They are differentiated by the use of a closed hi-hat sound in the first pattern and a ride cymbal in the second pattern. The bass line is an eight-bar pattern performed by a musician using double bass, rather than a sequencer. This bass line is very melodic and has three repeated phrases followed by a turnaround phrase.
The third main rhythmic element is an electronic sample that could be an electric piano or synthesiser sound. This functions like a rhythmic guitar riff in a funk band - providing a melodic counterpoint to the bass line.

5.8.2 Sound Texture
The first drum sample sounds like a portion of the famous ‘funky drummer’ sample used by many EDM producers\(^{66}\). The second drum loop features a prominent ride cymbal sound that could be a portion of a recording of a jazz drummer from the 1950s - in the style of Art Blakey or Tony Williams. In addition to the sounds mentioned above, the track features a short vocal sample and samples of horn sections and jazz trumpet sample loops reminiscent of Miles Davis’ muted trumpet recordings. These are complemented by a synthesiser melody and a treated guitar sample.

5.8.3 Composition Structure
The piece features a complex, layered compositional structure that can be represented by the transcription in Figure 5.3 above The bass line has two different sections - creating an ABABA structure, indicated in Figure 5 by differently shaded blue rectangles. Similarly, the rhythmic basis of the work is built around two different drum sample loops.

Some sounds used in the piece are arranged in alternating patterns that ensure they are sounding at different times. The synthesiser melody and the guitar sample are two different melodies that do not have a consonant harmonic relationship to the other sounds used. It seems as if there are three instrumentalists performing at the same time,

\(^{66}\) The Funky drummer break is a section of a James Brown song that was recorded on November 20, 1969 and originally released by King Records as a two-part 45 rpm single. The drum break performed by Clyde Stubblefield is one of the most sampled recordings in history.
each in a distant harmonic relationship to each other. This somewhat atonal or polytonal method of layering sound textures highlights the timbral qualities of each sound.

5.8.4 Social Context

This track is an example of late 1990s’ drum n bass. It is similar to works by other drum n bass producers such as Squarepusher, DJ Krust, Ronnie Size, Adam F and Amon Tobin. All these producers can be considered musical contemporaries of Red Snapper. Red Snapper is regarded as a pioneering LE act. and was among the first to be able to recreate the sound of the studio albums without sequencers controlling
the drumbeat. Promotional material on Red Snapper’s website market the group as a truly live act different from the studio programmers.

_**Red Snapper distinguished themselves from the outset by performing live, not relying on studio wizardry to reach their audience. During a period when most “live” music consisted of artists sweating over a sequencer in a flight case, here was a group of gifted musicians who took their studio material and bettered it on stage. By processing the raw nature of their instruments, the band invalidates the dichotomy of “man versus machine”.**_61

### 5.8.5 Relationship to My Work

Red Snapper was one of the primary influences on my collaborative group Amphibian - a musical composition and performance project formed in 2000. This track features a drum rhythm that I transcribed and adapted for inclusion in ‘Tentacle’ (Amphibian _Adventures in Whistle Village_ 2001). This work is described in detail in Chapter 6.

Red Snapper uses conventional instrumental ensemble interaction techniques to reproduce computer-sequenced electronic music works in a concert performance. This is the basis of the process that I have adopted within this project. Red Snapper is a performance project that demonstrates it is possible to perform EDM without sequencers amongst a group of musicians focussing on using short repeating melodic motifs and a diverse range of sound textures layered in a linear fashion. The riff-based LE music of Red Snapper was one of the first post-MIDI attempts at combining a conventional instrumental small group music performance model with electronic music making technology.

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5.9 Example 3: Yoshinori Sunahara ‘Earthbeat’ – from Love Beat (Bungalow 2002)

5.9.1 Rhythmic Characteristics.

Figure 6 represents a graphic transcription of Earthbeat. This track is a sequenced composition that features a slow tempo (96 bpm). This composition uses a very short, syncopated, two-note riff (two consecutive dotted eighth-notes within a 4/4 time signature) as the foundation of the rhythmic structure. Against this is a 4/4 drumbeat that sounds as if it were created by a Roland 909 electronic drum machine. A synthesiser is used to make a steady staccato sound that reinforces a 16th-note division of the main drum rhythm.

The drumbeat is spacious and syncopated and features a loud, halftime upbeat accent. The audio signal of the drumbeat is altered using tempo-synced digital delay (timed to 8th-notes) processors with automated tempo shifts and filters that produce a sound texture that is always changing its frequency characteristics. The drums are processed using a beat-synced digital delay that adds complexity to the rhythm at various points where other sounds are being introduced or removed from the overall mix.

5.9.2 Sound Texture

The composition features a prominent keyboard ‘pad’ texture that creates a rich and complex sound with resonant diatonic 9th, 5th, and 11th tones – creating a series of minor ninth chords. This keyboard texture is reminiscent of the complex evolving sounds that are created by digital-modelling synthesisers (such as those made by Waldorf and Nord). These types of sounds have only been made easily accessible to popular musicians over the past ten years. The sounds are treated with echo (digital delay) and reverberation effects synched to the tempo of the sequence. The effect is of triplet figures that give a polyrhythmic quality to the overall work.
The sounds used to provide the rhythm track are electronic, and sound similar to drum machines produced by Roland and Alesis in the 1990s. Prominent snare, kick and high hat sounds provide the basis for the overall rhythm. Processed bell-like percussion sounds add a syncopated rhythmic texture against the unchanging repetitive figure.

The track features two Apple Macintosh ‘Apple-speak’ vocal samples. It is as if these two samples represent male and female robotic characters in a musical conversation or narrative. The words spoken by the Apple-speak program (‘a sound’ and ‘a rumbling’) are cryptic. The vocal samples and the drum track are processed in a way that is reminiscent of Jamaican ‘dub’ techniques.

5.9.3 Composition Structure

The layering of sound textures is quite orderly and symmetrical, while the vocal samples are in a call and response pattern. The utilisation of three chords within the compositional structure implies a stronger connection with classical music theory than some of the other works listed in this chapter. These three chords (Eb9, Db9, C9) are represented by different colour shading in the blocks illustrated in Fig 5.4 above. All the sounds used within the composition are in the same consonant tuning.

5.9.4 Social Context

This track is an example of ‘downtempo electronica’ and could be also classified as ‘lounge’ or ‘chill’. This style emerged in the mid-1990s as EDM parties began to incorporate ‘chillout’ rooms where people could relax and come down from their up-tempo dance and euphoric drug experiences in the main dance space. Sunahara is one of a number of Japanese electronic music producers who have produced complex EDM works that exhibit creative audio production techniques. Yoshinori

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62 Susumo Yokota, E’DA and Aoiki Takamasa are other Japanese producers of EDM and IDM.
Sunahara’s work is also demonstrative of the global nature of EDM culture in that it does not have any overtly ‘Japanese’ elements.

**Figure 5.4 Composition Structure ‘Earthbeat’**

5.9.5 Relationship to My Work

Yoshinori’s work has inspired my own use of Apple Mac computer voices to vocalise in an intentionally machine-like manner. This is the reverse situation to most EDM works where the only recognisably human elements of the audio work are the use of a vocalist or vocal recordings. The use of computer-produced vocal samples creates a futuristic sense – alluding to the idea of artificial intelligence.

5.10 Example 4: Peace Orchestra ‘Da Man Part 1’ – from *Peace Orchestra* (G Stone Records 1999)

5.10.1 Rhythmic Characteristics

It is unclear whether this piece is sequenced or played live by real musicians. It features a slow 6/8 rhythm that is reminiscent of a blues shuffle pattern and could
have been performed ‘live’ by a drummer. 6/8 rhythms are somewhat rare within EDM - 4/4 rhythms dominate the genre. This may in part be a by-product of the technology used to generate EDM sequences (most computer software sequencers’ default pattern is a 16 beat 4/4-sequencer grid). The pattern for the Peace Orchestra work features drum fills at regular intervals. The rhythm is supported by a spacious bass line that matches the first accent of the 6/8 pattern (beat 1).

5.10.2 Sound Texture
The sounds recreate the instrumentation of a conventional popular music instrumental ensemble. Included are acoustic drum kit, electric piano, acoustic bass-style synthesiser sound and a series of sound effects. The bass sound is similar to that found on general digital synthesisers and is lacking the complex sound characteristics of a real acoustic bass instrument. Digital delay and reverberation effects have been applied to specific instruments and to the overall sound mix. There are three bass parts – two that pedal a single diatonic note and another that cycles through a series of chords (Dmi7, F7, Dmi7, E7, Eb7).

5.10.3 Composition Structure
This composition is based around diatonic melodic motifs, rather than the development and manipulation of specific sound textures. This structure is illustrated in Fig 5.6. In this respect it is different to other examples in this discussion. The work develops a series of diatonic melodic themes and, in this respect, is similar to a non-EDM instrumental popular music composition.
5.10.4 Social Context

This composition is an example of ‘downtempo’ electronica. Peter Kruder (the artist behind Peace Orchestra) has released six collections of audio works in collaboration with Richard Dorfmeister. These range from ambient electronic works to more uptempo drum n bass and techno. Peace Orchestra was a solo project that Peter Kruder released in 1999, and it was used as part of the soundtrack to the Machowski Brothers film The Animatrix in 2004. Other groups such as the Gotan Project have performed compositions contained in the Peace Orchestra CD release.

5.10.5 Relationship to My Work

I began performing this composition with the Cyberbass ensemble (see portfolio audio CD 2, Track 7) in 2006. Drummer Rob Vasey was interested in performing this
work as part of his undergraduate studies, so we incorporated it into the Cyberbass performance workshops as an exercise in trying to recreate a pre-programmed audio work in a live performance context. The melodies are all short phrases that offer scope for improvisation by each player in the ensemble.

5.11 Example 5. Laurent Garnier ‘The Man with the Red Face ’ – from

*Unreasonable Behaviour* (Mute Records 1999)

5.11.1 Rhythmic Characteristics

This track features a complex series of distinctive rhythmic sound textures. The layering is in the manner of the EDM style of trance with a prominent on-beat kick-drum sample being introduced, removed and reintroduced throughout the composition. A shaker sample that emphasises an even 16\(^{th}\)-note division of a 4/4 bar sets up the overall groove and is maintained throughout the length of the composition. In different sections, an upbeat high hat sample, a ride cymbal sample, a crash cymbal sample, and a tom tom drum are highlighted. There is also one prominent sequence with a syncopated rhythm over four beats, triggering a cross-stick or rimshot sample reminiscent of a Afro-Cuban bell or stick percussion pattern.

5.11.2 Sound Texture

The sounds include bass synthesiser, multiple keyboard synths, saxophone and various percussion samples. Two of the keyboard parts are melodic in nature, while others are background sounds that create a reverberant atmosphere throughout the composition. The melodic keyboard parts and the saxophones parts are processed through separate digital delays. The bass line features a diatonic pattern that ascends from tonic to minor third and then to the perfect fourth. This bass progression provides the basis of the track. Other sound features are a layered drum in the style of house music with prominent hi hats and high-pitched percussion, plus a saxophone solo performed by Phillipe Naudad.
5.11.3 Composition Structure

This composition exhibits a intricately-layered progression of textures that provide a musical climax at 6.15. This piece uses the layering structure found in many EDM tracks – two main rhythmic breakdowns where the kick drum sample is removed and then reintroduced. The saxophone and keyboard solo parts are arranged in a call and response format, providing the impression of two duelling instrumentalists playing alternate blues based solo riffs. Over the course of the composition, the saxophone part grows louder and more discordant and high pitched. The title of the composition evokes the image of a saxophone player blowing themselves hoarse for an entire track.

5.11.4 Social Context

Laurent Garnier became one of the best all-around DJs in the world, able to span classic deep house and Detroit techno, the harder side of acid/trance and surprisingly jazzy tracks as well. French electronic music producer Laurent Garnier has been performing as a DJ since 1984. He is an influential artist, described by Scaruffi (2003: 417) as one of the “quintessential techno musicians of the nineties”. He was one of the regular DJs at the Manchester Hacienda club, one of the pioneering venues for EDM in the UK. ‘The Man With the Red Face’ has become one of his most popular works and has been remixed by other music producers. Garnier has produced a vast catalogue as well as a book on electronic music. He has worked with a multitude of choreographers and filmmakers. He currently programs his own radio station and still performs as a DJ. A video recently posted on Youtube records this song being performed live in France. The performance consists of an unnamed saxophone player and Laurent Garnier standing behind a mixing desk and a bank of computer

63 http://www.discogs.com/artist/Laurent+Garnier access date 02/05/07
64 These include Funkagenda & Mark Knight, SVEK, Funk Devoid and Jan Driver.
audio equipment. During the ‘live’ performance, Garnier performs as an audio
engineer, mixing the sounds together but not really playing anything. In this video
Garnier is not so much performing as reproducing.

5.11.5 Relationship to My Work

The bass line in this track is the inspiration for one of the creative works devised in
this project. I transcribed the melodic parts, and a performance of this composition
appears
in the first work-in-progress showing of this project in 2005. I subsequently used the
bass line of this composition in an improvised performance that was recorded and is
part of the creative folio.

Figure 5.6 Compositional Structure ‘The Man with the Red Face’
5.12 Example 6. J Laze ‘Lucky Starz’ (Looking Good Records 2001)

5.12.1 Rhythmic Characteristics
This sequenced track features a drum n bass rhythm track sequenced at a fast 169 bpm. It begins with a syncopated electronic cymbal pattern and various other percussion samples, with short reversed cymbal samples, clicks, timbales and conga sounds triggered at different times. A drum kit rhythm begins at 0.46 that features a syncopated repeating kick snare pattern. Hi hat samples outline a predominant 8\textsuperscript{th}-note pattern. At 4.00 the drum kit sequence is removed, before being reintroduced at 4.36. At 4.00 another layering sequence occurs – implying an AB style compositional structure.

5.12.2 Sound Texture
This composition uses many different types of percussion samples and synthesiser sounds. There are no recognisable human voices used. This composition makes use of multiple digital delays and reverberation processors to give the work an expansive, reverberant atmosphere. The constant keyboard pad sound could be a Hammond organ. Other synthesiser parts are layered against this main sound and emphasise the tonic note (E). These parts are a succession of short attack/short decay sounds utilise the filtering capabilities of digital software instruments. A succession of short attack/short decay sounds are layered against the pad.

5.12.3 Compositional Structure
The loop structure for this composition is depicted in Figure 5.8. The constant keyboard pad texture sounds the same chord (Emi9) throughout the length of the composition. This texture provides a drone sound that represents the diatonic key centre of the composition. Layered against this texture is a succession of sound effects, samples and synthesiser sounds processed by a series of beat-synched
digital delays and affected by different digital delays and ebb and flow in volume. Most of the keyboard parts are affected by digital delay effects and ebb and flow in volume. Most of the keyboard parts are a-rhythmic and are used to thicken the texture. The bass line is a spacious four-bar repetitive motif sounded as a sine wave bass tone. This part and approximations of the keyboard parts are outlined in Figure 5.8. The bass sound is resonant in the sub bass region (below 100hz) of the sound spectrum. This bass sound is very hard to reproduce on acoustic instruments. At 4.00 a B7 chord is introduced that creates a diatonic cadential (Emi9-B7-Emi9 or i V i) harmonic movement to the work. reverberation. The main compositional device used in the loop layering structure is a rhythmic breakdown at 4.00 that coincides with a momentary shift in the tonal centre of the composition.

Figure 5.7 Compositional Structure ‘Lucky Starz’
5.12.5 Social Context

This composition is an example of early twenty-first century electronic drum n bass and is produced by Rob Blazye:

Rob Blazye was introduced to the Drum and Bass sound at the age of 16 and was instantly hooked. Using an Amiga 500 and the sequencing program Octamed, early ideas and styles were forged. Upgrading to a PC and sampler at 19, he signed his first track ‘Lazy Dayz’ to LTJ Bukem’s ‘Goodlooking Records’ under the guise of J-Laze.66

LTJ Bukem’s Good Looking Records has been synonymous with drum n bass – using high-quality audio production to produce serene, spacious-sounding sonic textures. This music is more diatonic and less atonal than the related styles of breakbeat and jungle. This style of drum n bass is used widely in television and movie soundtracks, as it evokes the rapid ‘high-tech’ nature of contemporary life.

5.12.5 Relationship to My Work

This composition is another example of the way that sound textures made up of sequenced musical parts are layered within specific styles of EDM. The rhythm is more syncopated than those within house and techno styles. This composition also utilises evolving keyboard pads as background sounds throughout the composition. The use of a long keyboard texture with accompanying shorter ones is a useful structure for LE musicians interacting in an improvised fashion. The use of a constant keyboard pad texture gives a specific sonic quality to the musical work, similar to the way drone (tampura) tones are used in Indian classical music.

66 http://profile.myspace.com/index.cfm?fuseaction=user.viewprofile&friendid=35978620 accessed 12/07/07
5.13 Creative Work as Artistic-Cultural Expression

The following two recorded works are built around a central theme that reflects the composer’s cultural identity. As well as presenting well-crafted electronic music, these instrumental works provide an insight into a specific musical community that surrounds the composer is affiliated too. In the first example the community is a broad ethnic grouping. In the second example it is a community of African American musicians.

5.13.1 Nitin Sawhney *Beyond Skin* (Outcaste Records 1999)

Nitin Sawhney is an electronic musician who has produced a vast amount of musical works spanning a variety of popular music genres. He is a classical guitarist and pianist as well as an EDM producer. His promotional website (www.nitinsawhney.com) states that he has scored the soundtrack for over 40 films, produced music for advertising companies and major dance companies, and worked on a diverse range of education and community-building projects. He is an artist of considerable stature.

Sawhney identifies strongly with the British Asian community in the UK, and the album *Beyond Skin* presents a series of musical works that contain themes of Indian cultural identity and Indian politics:

*I believe in Hindu philosophy. I am not religious; I am a pacifist I am a British Asian. My identity and my history are defined only by myself - beyond politics, beyond nationality, beyond religion and beyond skin.* (Nitin Sawhney, liner notes *Beyond Skin* 1999)
In an interview with the *Guardian* newspaper Sawhney describes the recording process as an "emotional diary that is cathartic of a(he) moment."\(^{67}\). When composing music his creative reflections foreground specific social and political issues that relate to his own community. In this way Sawhney connects his creative practice with a process of social commentary.

The music combines classical, drum n bass, jazz, hip-hop, and traditional Indian (Hindustani) folk music elements. The album's political and social themes are created by the use of vocal samples inserted into the musical works. Examples include Indian Prime Minister, Atal Behari Vajpayee, announcing the successful conclusion of India's nuclear tests in 1998, and the voice of nuclear scientist Robert Oppenheimer quoting Krishna from the Bhagvad Gita: "Now I am become death, the destroyer of worlds."\(^{68}\)

Sawhney sees the main themes of the music in this work as “much more about the hypocrisy of nationality and religion.”\(^{69}\) Beyond Skin highlights the way that the Indian government, in trying to promote the stability and political interests of the Hindu community, actually makes the destruction of this community more possible via the potential use of nuclear weapons in any military conflict with their adversaries. The musical folio poses questions as to whether the money spent on the technology of nuclear weapons may have been better spent on social welfare programs.

### 5.13.2 Marcus Miller *Tales* (PRA Records1995)

Marcus Miller is an African-American musician who has built a career around live music performance and music production. He has produced over 400 different audio

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\(^{67}\) in Jaggi M 2006 No Barriers Nitin Sawhney Interview Guardian Weekly online http://www.guardian.co.uk/music/2006/apr/01/popandrock accessed 13 October 2006  
\(^{68}\) Quotation from the Bhagvad Gita famously quoted by J. Robert Oppenheimer upon witnessing the detonation of the first atomic bomb.  
works\textsuperscript{70} and is recognised by popular music media as one of the best electric bass players in the world\textsuperscript{71}. Hoard (2002)\textsuperscript{72} describes Miller as the leading stylist in the commercial, contemporary jazz of the 1980s and 1990s.

*Tales* is a collection of compositions that include vocal samples of African American musicians talking about their experiences within the popular music industry over the last half of the twentieth century. These samples include comments by Miles Davis, Billie Holiday, Lester Young, Joe Sample and Roberta Flack. On his website Miller describes his creative process:

\begin{quote}
*I was trying to get the album to sound like a conversation that I've been hearing all my life, a conversation between me and mostly older musicians, Back in Africa, people learned through being told stories by the griots, a tradition that has continued up till now, In contemporary music, telling stories is so important*\textsuperscript{73}.
\end{quote}

Hoard describes *Tales* as a “record that would reflect how people have collected knowledge through time.” *Tales* is a collection of works that do not really fall into the category of EDM but are more related to the styles of smooth jazz or hip hop. Miller uses sampling technology and computer sequencers as well as recordings of instrumentalists to make a musical work that reflects on difficulties faced by African American musicians as well as the concepts that drive their practice and their own personal philosophies of life.

\textsuperscript{70}http://www.musicianguide.com/biographies/1608003358/Marcus-Miller.html accessed October 13, 2007
\textsuperscript{72}ibid accessed October 13, 2007.
\textsuperscript{73}http://www.prarecords.com/artists/miller/bio.html accessed October 13, 2007
Both these works are reflective, and place music and music production strongly within a specific cultural context. Miller and Sawhney’s musical work serve as primary inspiration for my own endeavours in presenting this project simultaneously as a creative and reflective work and ethnographic document. It is my strong belief that recognising the connections and linkages between creative practice and surrounding community is an important part of my work as an artist, and can help make clear the way creative practices emerge within specific historical and social contexts.

5.14 Summary and Discussion

This chapter has identified specific musical works that have inspired and informed the creative work of this project. I have described the musical characteristics of specific works using graphic figures that display the layering of sound textures. I have included western notation on occasion to illustrate specific elements, since certain examples, such as ‘Yulquen,’ include important musical motifs that are central to the effect that the music has on the listener. Others works such as ‘Earthbeat’ and ‘The Tunnel’ use multiple sonic textures to create musical interest. All examples feature a stable quantised tempo and a structure that foregrounds textural layering and dynamic contrast as important elements. These are the main aspects of programmed EDM that I wish to recreate in an LE context.

This chapter also identifies Nitin Sawhney’s Beyond Skin and Marcus Millers Tales as exemplars of works that combine EDM production techniques with recordings of community members talking about important issues that affect their lives. These two creative works closely resonate with the aims of my project by providing a snapshot of a cultural community embedded within a musical text. I aim to add to these templates by also including visual representations of my own community. Furthermore, I aim to acknowledge contemporary forms of communication through internet web-cast performance – reflecting the way that my community connects to
the broader culture in which it is situated. I will now discuss my own community in detail.
Chapter 6

My Musical Community

6.1 Introduction
This chapter discusses the musical community of LE musicians that surround me and
directly influences my work. This chapter describes various types of relationships -
musical, creative and social - that exist between specific individuals and musical
groups that I identify as significant members of my community. I use the terminology
of ‘primary’ and ‘secondary’ influences to distinguish between artists who have
exerted a strong influence on this project and those who have had less of a direct
contribution. For example, musicians such as drummer Ben Walsh from the Bird
and keyboard player Matt Hill from Amphibian are considered primary influences. I
have spent a lot of time performing with them and we share similar ideas. Musicians
in the groups DKO and Mountains in the Sky are artists I have only encountered
through their music. They have had less of an impact on this project hence are
deemed to be secondary influences.

My musical community is a network of independent artists who have developed
professional music careers outside the conventional popular music industry model.74.
The community’s collective creative practices have challenged existing industry
relationships. LE musicians are predominantly own their creative product. They enter
into distribution agreements with conventional record companies to promote and
distribute their musical work, and they work with performance agents and distributors
in specific territories to promote their music.

This musical community exists on the fringe of the popular music industry. None of
the musicians described here earn large financial rewards for their artistic
endeavours. As independent artists, they do not have access to the large publicity

74 The typical historical model involves a relationships between an artist and a record company employed to market
music on behalf of artist for their entire career (see Parikh 1999).
budgets that major record labels use to promote the performers that fill the pop charts. Within the LE community, most musicians collaborate and interact with other musical projects. Some are only beginning their careers as professional musicians, and some do not even describe themselves as professionals. Many have ‘day jobs’ to support their creative practice.

Figure 6.1 graphically represents the three main musical styles that exert influences on this project. These styles have been discussed in Chapters 4 and 5. Stylistically, this project is sited in the intersection of these musical styles. The musical performance process is an improvised one that relies on interactive skills within a small ensemble of individual players, while using instrumentation, motifs and structures characteristic of EDM.

The Australian LE community described in this project takes the form of a network of musical projects that are connected through lines of musical influences, geographical locations, and shared ensemble membership and audiences. This network is a type of professional community, or ‘art world’ that fosters support and provides inspiration for the musical work contained within this project. Figure 6.2 places the artists discussed in this chapter into the broad musical style classifications shown in Figure 6.1. The placement of each circular symbol represents the way that these groups interact and/or act as influences on the musical practice of this community. At the centre of this diagram is the creative component of this project. This diagram acknowledges the musical projects that have been catalysts for the realisation of this project.
Figure 6.1 Map of influences on the Cyberbass Electronic Music project.
6.2 Rationale and criteria for inclusion within music community

The musical projects represented in Figure 6.2 have been identified as part of my own LE music community using the following criteria:

1. **Emphasis on short, riff-based melodies.**
   
   These projects use short riff-based ideas as primary themes. Riffs are usually up to four bars long and reflect the compositional style of EDM.

2. **Use of electronic sound sources.**
   
   Most of these musical projects use electronic sound-generating devices similar to those used in EDM - such as synthesisers, samplers, effects and computer software. Two groups are included that do not match this criteria. The Necks perform as an acoustic piano trio without electronic based sound sources - although recorded works such as *Hanging Gardens* (1991), *Aether* (2001) and *Aquatic* (1994) do include electronic sound textures. I have identified The Necks as part of my music community because this ensemble is a major influence on the Cyberbass music project. The Necks utilise an improvised performance process that results in a continuous musical performance based on the development of a single repeating musical motif. In concert, The Necks improvise musical textures using unusual performance techniques on acoustic instruments, looping short interlocking melodies in a manner common within EDM. The Necks also identify EDM as one of their own musical influences. Wild Marmalade is also included as their music is highly derivative of ‘Goa’ trance music (see Cole and Hannan 1997). Wild Marmalade’s use of a dijeridu and percussion creates a focus on rhythms, and on melodies that have little relationship to conventional pop music.
3. Avoidance of programmed rhythms

These artists perform without the reliance on a computerised electronic rhythm programmer or sequencer. This is an important distinction between the projects included in this discussion and others that have been described as ‘Live Electronic’ acts, but rely primarily on pre-produced MIDI-controlled rhythm tracks. Projects such as Spoonbill, TZU, and Sneaky Sound System are examples of electronic acts that perform in the latter manner.

3. Professional musical connections

The members of the projects discussed in this chapter include musicians with whom I have worked and/or whose music has inspired the development of this project. I have worked with some of these musicians in a variety of musical projects over a long period of time. I have also shared the same music teacher or the same living space with some of the musicians in these projects. Other musicians are those with whom I have come in to contact regularly at music festivals and at other performance venues.

6.3 Identification of a Particular Musical Community:

The above criteria help to define the types of music that have directly inspired my own musical practice and identify the musical community that surrounds and fosters my own work. Reflecting on the creative ideas of this community and commenting on the ways that this community is affected by social context is an important part of the ethnographic aims of this project. Displaying the musical concepts used within this community and providing an analysis of musical works created by this community helps to illustrate the specific innovative musical concepts used within this community.
Figure 6.2 Style Map of an Australian LE Community

Electronic Dance Music Styles

Mountains in the sky
Hermitude
The Levitators
Ko
Decoy
Morph
Wild Marmalade

Electronic Music project

Cyberbass

Jazz Music Styles

Triosk

Impromptu Music Styles

The Necks
6.4 Examples of Primary Influences on the Cyberbass Ensemble

6.4.1 The Bird

The Bird have established a solid reputation as one of Australia’s finest live electronic dance outfits... The Bird have sought an organic interpretation of computer-generated forms of music, combing live drum'n'bass breakbeats and electro synth lines... The band have toured extensively the country and overseas extensively, playing at many venues and festivals including Glastonbury Festival, Livid Festival, Falls Festival, Adelaide Fringe, Woodford Festival, Two Tribes, the Opera House Studios, Home Nightclub, and Earthcore to name but a few.75

The Bird is a major creative influence on this project. Much of the video footage for this project was captured on tour with this group, and members of this band feature prominently within the video content of the final performance as interview subjects and also as characters within the abstract video footage. My experiences performing with the Bird have had a major influence on the musical component of this project. As a pioneering Australian LE act, The Bird has also acted as a major influence for some of the other musical projects within this community.

The Bird was formed in 1993 in a response to the growing popularity of EDM. Drummer and founding member Ben Walsh sought to combine the musical aesthetics of contemporary dance music with the performance dynamics of a live band. Ben was attracted to the rhythmic complexity of the EDM sub-genres such as big beat and trance. As a strong drummer, Ben found the idea of reproducing this music live appealing. He collaborated with keyboardist Simon Durrington to form a

two-piece ensemble that played EDM-inspired music completely live without the aid of sequencers. The Bird can be described as the first completely ‘live’ electronica act in Australia. And at the time of writing, are still performing.

Ben’s comments (Ben Walsh interview 2006) reflect the way that, as a live musician, he saw the emergence of EDM as a challenge to the viability of ‘traditional’ instrumental music performance as a profession:

First time I heard electronic music on the scene I was pretty anti electronic music. Venues were closing down and DJs were taking over and like anything new there is a fear. (Ben Walsh interview 2006)

People were suddenly letting the music in their head out and they couldn’t have the patience learn guitar or make music but suddenly they could get on their little computers and make music.... Humans started to get ideas off computerised stuff (Ben Walsh interview 2006)

It was Squarepusher that got me into it and at first I was afraid [of this style] and then I realised I wanted to do this as a live musician and started The Bird (Ben Walsh interview 2006)

These comments link the emergence of EDM to the formation of Ben’s musical practice. His identification of EDM as a threat to the viability of live music performance reflects the mood of many musicians at this time. Drummers, in particular, felt the effects of drum machines taking over from session musicians.
Much of The Bird’s music is built around the construction of a bass line featured as a primary structural element. Sampled sounds and acoustic drum rhythms are layered against the re-occurring bass line and arranged in the same manner as in EDM. Variation is achieved by stopping the drum rhythm at various points and then resuming, sometimes introducing different sound textures and samples. The structure of these works and their duration is highly dependent on crowd reaction. If the crowd is enjoying the music the pieces will be extended and the arrangement changed, in much the same way as DJs react to crowd enthusiasm on the dance floor. This has proved to be a successful formula for the band and The Bird has attracted a loyal following throughout Australia.\(^7\)

**Musical Illustration: ‘Slippa’ (Track 6 Birdville Sessions)**

This track provides an example of musical structures used by The Bird. The recorded work is based around a series of two-bar bass lines in the key of Bb. The bass lines are accompanied by a series of drum rhythms influenced by Afro-Cuban music, drum n bass and a contemporary reggae-derived style known as ‘stepper’. These bass lines are outlined in the figure below.

These bass lines are accompanied by a series of samples and short synthesiser riffs. Rather than programming these before a performance, the samples are triggered live using an Akai MPC sampler in order to allow for variations in live performances. The number of times each bass line is repeated can be varied. Ben Walsh acts as conductor and cues the entry of each sequence according to the reaction of the crowd.

**Figure 6.3 Sample Bassline ‘Slipper’**

\(^7\) The Bird’s Myspace site (www.myspace/music/thebird) has, at the time of writing, more than 1000 friends.
At the beginning of my musical involvement with The Bird, performances were completely improvised, with the main focus being the creation of parts that established and reinforced a strong rhythm. At some stages in these performances melodic parts performed by myself and keyboardist Simon Durrington were completely out of tune with each other. While this goes against conventional western musical practice, within EDM it is not uncommon for individual musical parts to have no clear harmonic relationship to each other. As long as the textures are rhythmically linked in a coherent fashion, melodic parts do not need to conform to traditional notions of consonance and dissonance.

As well as being a major influence on the Cyberbass project, most of the members of The Bird have performed in the Cyberbass project as guest ensemble members. Simon Durrington, Ben Walsh and Bobby Singh all describe themselves as fulltime musicians who are trying make a career of performing as independent musicians. During interviews they all commented on the way their practice is associated with a somewhat tenuous financial existence:

I’m a drummer… I play on weird junky drums… I live in a country with not much cash for the arts…. How do I pay the rent? (Ben Walsh interview 2006)

I do have those moments where I think ‘What happens when I get older what's going to happen to my health’, but that is just connected to fear and fear is irrational. Part of me does worry about it but being a musician means you have a real freedom to stand back and observe what's going on and find your own niche. (Simon Durrington interview 2006)

These comments demonstrate a clear relationship between social context and performance practice. While on tour, financial realities are interspersed with creative musical exchanges. The members of The Bird act as managers, roadies, publicists
and drivers for their own project. In between performances, members count money, work out costs, negotiate with venues owners and sound operators, and handle their own freight at airports. While not all bands in this musical community function like this, most would have done so at some stage, as the income earned by an independent touring musical act does not usually allow for a tour manager and a support crew.

6.4.3 The Necks

The Necks are one of the great cult bands of Australia. Not entirely avant-garde, nor minimalist, nor ambient, nor jazz, the music of The Necks is possibly unique in the world today... Featuring lengthy pieces which slowly unravel in the most intoxicating fashion, frequently underpinned by an insistent deep groove, the thirteen albums by The Necks stand up to re-listening time and time again.77

The members of this Sydney based group are jazz musicians: Chris Abrahams (piano), Tony Buck (drums), and Lloyd Swanton (bass). The Necks are situated on the graphic representation of my community (Figure 6.2) as an ensemble that does not intersect with any of the groups I have performed with. Although they share the same business agent as other bands with whom I work, they do not perform at similar festivals.

I feel like I can modestly say that what we're doing is very different to what anyone else is doing anywhere. There have been terms like 'improvised trance jazz' and I'm reasonably comfortable with that.78

The music of The Necks is based on evolving musical textures, in that way can be considered to be similar to EDM. However, in contrast to EDM, The Necks sound sources are predominantly acoustic. Many of the early works of this group are based around a bass ostinato played over the entire length of the work (as in ‘Sex’ and ‘Next’). This type of music matches the first criteria set out at the beginning of this chapter - that of short riff based melodies. The Necks also use their acoustic instruments in unconventional ways to create interesting sound combinations.

The Necks live performances are characterised by a continuously evolving musical texture, and focus on the development of a single motif. The first recorded work by the band (‘Sex’) features a one-bar acoustic bass ostinato accompanied by a four-bar piano motif. The work is one continuous piece of music of over fifty minutes.

The music of The Necks is spontaneously created on stage. Each musician sets up repeated musical phrases that slowly shift in tonality. In live performances, drummer Tony Buck sets up rhythm that is constant in tempo but slowly evolving in texture and sonority. Similarly, the bass lines constructed by Lloyd Swanton are repetitive ostinatos that slowly evolve using devices such as octave displacement and spacious rhythmic syncopation. Chris Abraham uses unconventional piano techniques that highlight the sonic capabilities of the instrument. Rather than using ideas that conform to conventional conceptions of harmonic and melodic development, he instead plays repetitive riffs and short phrases that evolve slowly over the duration of the piece. Recorded works by the Necks feature a variety of sampled and digitally-processed sounds. These works can be described as hybrid electronic-acoustic works that are similar to IDM or ‘chillout’.

In terms of career trajectory, group members have been able to develop this project amongst the many other musical projects in which they are involved. As highly
respected jazz and improvising musicians, they are in demand as live performers both in Australia and overseas. Widely known in the international music community, Chris, Tony and Lloyd make a good living as independent artists through the collective income of their different musical projects. The Necks command substantial performance fees and are in the fortunate position of being musicians who create original contemporary music and can financially sustain their professional practice through their music performances.

6.4.3 Amphibian

Amphibian is a direct influence on the Cyberbass ensemble. The group features two members of the Cyberbass ensemble: my brother Matthew Hill and me. Amphibian formed in 1999 to explore the possibilities of instrumental music making and extend the role of sound production into the practice of live music performance. As a member of this group, I discuss the development of the ensemble as an ‘insider’, and can therefore comment on the creative achievements of the group in relation to the goals and aspirations of its members.

Amphibian initially consisted of three members: Robert Walsh (drums), Matthew Hill (keyboards, soundscapes) and Barry Hill (acoustic bass). After the group’s first album recording, In Pursuit of Plankton, sound engineer Michael Worthington became part of the group. Initially, Amphibian created original music that showcased high-quality sound production as well as the instrumental talents of the group’s members. Each member of the ensemble had a range of musicianship and audio production skills. It followed therefore, that the development of an original style of ensemble performance and a high level of audio quality in live and recorded creative works were the main focuses of the group.
Amphibian is, on the surface, a jazz trio - double bass, drums and piano - but their music owes almost as much to ambient, electro-dance and classical minimalist Eric Satie as it does to jazz. What really makes this music work, though, is the agile, dynamic interplay between bassist Barry Hill and drummer Rob Walsh. Their playing is a lesson in economy, subtlety and groove.  

Amphibian’s performances and recorded works are influenced by minimalist classical composers such as Steven Reich and Phillip Glass and Arvo Part. Other influences are jazz musicians such as Dexter Gordon and Jacky Terrasson, and individual EDM, and IDM producers such as Square Pusher, Red Snapper and LTJ Bukem.

While not delving into the same sorts of extended musical improvisations that are an essential part of jazz, Amphibian performs music that incorporates an improvisational component into each work. Depending on the context of the performance, each piece could be performed for shorter or longer lengths of time. The compositional process used by the group involved structured rehearsal sessions that consisted of physical warm-ups and specific exercises focusing on developing polyrhythmic awareness within the ensemble. Some ideas were borrowed from Afro-Cuban rhythmic patterns.

Amphibian created an explicit plan for the development of a performance project and of a series of recorded works. This plan involved a pre-production phase, a production phase, and a marketing phase. This plan reflected the collective desire of the group to achieve some level of economic success through the creation of original improvised music. While performing as a trio between 2000 and 2003, Amphibian achieved some degree of critical and commercial success in Australia and overseas.

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The group performed at the Sydney 2000 Olympics and at the 2002 Commonwealth Games in Manchester. The group’s two CDs have received excellent reviews in Australia and in Japan.

Amphibian disbanded as a performance project in 2003 due to differing musical goals and the financial pressures of surviving as an independent musician in Australia. The members continue to collaborate on recording projects and have had some success in writing film soundtracks and music for websites.

Amphibian is a significant influence on the Cyberbass ensemble. There is a strong similarity between the creative processes used in both projects to construct musical parts within a musical ensemble. In Amphibian, the creative process began in a rehearsal studio with a series of musical exercises, similar to the warm-ups that dancers and athletes use to prepare for performances. Rehearsal sessions were recorded and then reviewed by members of the group to identify parts that inspired creative ideas. These were then honed and became specific musical works.

Amphibian focused on developing complimentary sound textures, using a variety of acoustic and digitally created sound sources. These textures were all performed without the aid of MIDI sequencers. My experience in Amphibian demonstrated to me that electronic devices could be triggered live without the need for MIDI-synched devices, and could be used to recreate the sonic textures found in EDM and IDM. For this project and the Cyberbass ensemble, this process is taken out of the rehearsal space and onto a stage in front of a live audience.

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An example of these warm up exercises is as follows: a metronome is played at a low volume level over a PA and each member of the group plays a repetitive melodic motif in a key agreed upon by the group. After 5-10 minutes, key and tempo are changed. Amphibian recorded each exercise in case the motifs played during the warm-ups were considered to be of compositional interest.

This work features a repetitive four-bar bass line in the key of F# minor. A repetitive and somewhat dissonant chord (F#, A#, B) is played on the third beat of each bar by the keyboardist. The drum part is a composed rhythm adapted from a track by the English LE group Red Snapper. Against these three textures is a continuous, suspended keyboard drone played throughout most of the piece. This pad contains a layer of random pitch generation. After approximately two minutes, a series of piano chords are played, cycling four times through a chord progression with no clear harmonic relationship to the preceding musical texture. This sounds as if a sample of another piece of music is introduced momentarily into the composition. The initial drum, bass and keyboard parts are reintroduced and additional dissonant bowed string sections are added to the final section of the composition. Additional diatonic piano notes and bass glissandos are added to the composition in the final section.

This composition represents the way in which Amphibian, like The Bird, composes music in pre-arranged sections that can be looped until the next section is cued. This style of music performance recreates the way in which EDM performers loop sections of pre-recorded musical works until it is deemed appropriate to shift to the next track, either in response to the audience or simply to shift the musical focus of the performance.

Figure 6.4 Bass Line ‘Tentacle’
6.5.4 Wild Marmalade

Wild Marmalade are a High-Energy Organic Trance, Drum and Didj band based in Byron Bay, Australia. Playing "totally live" with ferocious intensity, they create inspired organic dance music, without the use of any electronic machines.... Wild Marmalade create a musical intensity usually only heard from computers and synthesizers, combined with the excitement of inspired musicians being moved by the energy of an audience.81

Wild Marmalade is a trio combining didjeridu and acoustic percussion. This group sets out to recreate the energy of EDM without the aid of any electronics. The didjeridu is well suited to this, because it produces a sound texture that is both multiphonic and monotonal. A didjeridu can only produce one tonal centre but this can be accompanied by various overtones that do not have a diatonic relationship to the main tonal centre. Didjeridu performers can also produce complex syncopated melodic patterns that resemble the sound of synthesiser tones manipulated by pitch and resonance filters.

As a group that does not feature an instrument with a tempered western European tuning system, and having only one performer on a recognisably ‘melodic’ instrument, Wild Marmalade are able to freely improvise continuously, relying on a high level of ensemble interaction to create contrasting sections. Their music is based on short riff-based melodic phrases and is influenced by two EDM music styles, trance and techno. Compositional structures incorporate rhythmic breakdowns, tempo shifts and metric modulation reminiscent of EDM DJ mix tracks.

The members of Wild Marmalade have been part of my musical community for over fifteen years. They have each collaborated with me on a variety of musical projects

and we also share the same music teacher. Two members of Wild Marmalade, Matt Goodwin and Matt Ledgar, have been guests in the Cyberbass residency program. Wild Marmalade often shares the bill at music festivals (such as Woodford Folk festival and Exodus festival) with The Bird and other groups included in this discussion.

While the group has recorded CDs and a DVD, Wild Marmalade is mainly recognised for its live performances. Like The Necks, Wild Marmalade uses an improvised performance process to make music with open-ended linear forms. The group’s performances illustrate the way that a live ensemble with a high degree of musicality and rapport can reproduce the feeling of pre-programmed EDM.

I interviewed members of Wild Marmalade at the Exodus Music Festival in 2006. Their comments echoed those of Ben Walsh and Simon Durrington of The Bird. Wild Marmalade drummer Matt Goodwin is a musician that I have worked with for over twenty years. We have both grown up listening to and performing jazz. Over the course of his music career, Matt has performed with free jazz, folk and contemporary pop bands. He makes the following observations;

I still love playing jazz music, but I have really grown to appreciate the way that 4/4 dance music is so conducive to a whole group of people dancing so easily…. and for me as a drummer it feels like a natural way to play music (Matt Goodwin interview January 2006);

Greg Sheehan is a respected music teacher and performer (percussionist) who first came to prominence as drummer for the Australian rock band Black Feather in the 1970s. His work with Mark Simmonds and the Freeboppers, Wanderlust and Coolangubra, has built his high reputation within the jazz community in Australia. Many of the musicians interviewed in this project acknowledge the influence of Greg Sheehan on their musical development.
We (Wild Marmalade) have a heavy influence from electronic stuff coming back and in our case playing it without machines. (Matt Goodwin interview January 2006)

It’s like the music of the times: the sixties had Woodstock and that was the way it was but this is the way it is now it’s the music of the people. (Matt Goodwin interview January 2006)

Matt Goodwin sees Wild Marmalade as an acoustic representation of EDM. Matt considers EDM and 4/4 dance music (referring to the relentless four-beat kick drum rhythm) as a ‘music of the people and enjoys performing for crowds that move and dance. He has given up performing other kinds of music to tour fulltime with Wild Marmalade.

Matthew Ledgar, the other percussionist in Wild Marmalade, is also a long-time musical colleague. He too has recognised the emergence of drum machines and computer-based music as a potential threat to live musicians, responding to the challenge by developing his musical skills to a very high level.

More than acting as an influence EDM challenged me to be better than it.

I was a percussionist and when I was coming up and drum machines were just coming in and I could see loads of work just going…. (Matt Ledgar interview January 2006)

Within EDM, it’s just one person performing. There is not the action and reaction of a live band, I just wanted to go harder and faster and make infinitely more complex grooves… I am interested in playing
music to push new boundaries and new styles and sounds that people haven’t heard... (Matt Ledgar interview January 2006)

Matthew identifies a key element in differentiating between LE and EDM. The ‘musical action and reaction’ within an ensemble of musicians on stage is the element that a computer-generated musical performance by a single performer cannot recreate. Computer-generated rhythmic sequences are not able to quickly shift in timing and texture in the same way that musicians can if they are controlling the triggering/sequencing process of the sounds used within the performance.

Wild Marmalade exemplifies the way that LE musicians have been influenced by EDM. In concert the band may begin a performance with a short looping didjeridu rhythm, add percussion and a fast 4/4 drum groove until, on cue, they change the rhythm - either by removing it entirely or shifting important musical accents or changing the time signature.

Wild Marmalade’s performances have proven very popular, especially with international audiences in Japan and Europe (where the didjeridu has considerable appeal). The group’s acoustic instrumentation has meant that they have been able to tour easily without being encumbered by lots of equipment, or limited by the need to play with a PA at performances. Wild Marmalade has been able to earn considerable sums of money busking in Europe where the sound of the didjeridu is considered especially ‘exotic’ (Neuenfeldt:1997). In cities such as Barcelona, Wild Marmalade has been able to earn enough money to finance an extended two-month tour to Europe. The group has been signed to a small Japanese label, WomPacific, that has financed a CD/DVD release (Trio Dynamic 2006). This label has also financed a series of Japanese tours for the group in 2005, 2006 and 2007, which have helped Wild Marmalade receive international recognition.
Both the members of this group that I interviewed commented at length on the financial pressures facing musicians in Australia:

I feel like I'm going to be okay, but I have nothing to show financially for the twenty years that I have been a musician. I go to the bank and come out thinking why do I bother being a musician? (Matt Goodwin interview 2006)

For most LE musicians, the pressures of making a living and surviving financially are always present. The art of music making focuses a musician on the craft of performance practice, but sustaining this practice finds them pursuing specific types of music at the expense of others. Matt's comments that he has 'nothing to show' for his years of involvement in the music industry point to the way that musicians have to manage creative practice under the pressure of earning money to survive. How long one can cope with the low financial returns of being a musician in Australia ultimately may determine the length of time one can continue one's creative practice.

6.5 Secondary influences from within my musical community

Other bands that form part of my community (and who are are included in the graphic representation of Figure 6.2) are briefly described below. These bands are more distant members of my community - I have had less contact with them as musicians and collaborators. I have encountered these bands at music venues around Australia. The music that they perform is similar in nature to the bands described as my primary influences, but there are slight variations in the way that they include technology and improvisation within their performances.
6.5.1 Loonaloop

Loonaloop is an Australian LE band that has independently placed itself on the international circuit. The band has performed at festivals and clubs across the globe, appearing at some of the world’s finest festivals - such as Glastonbury (UK), Beach Bop (NL), Planet Roxy (CZ), Big Day Out (AUS).

Best described as a “world beat/dance act”, Loonaloop’s music covers many styles and genres including; Drum and Bass, Trance, House Grooves, World Beats. The five piece line up is well renowned for their intoxicating, high energy live performance.\(^{83}\)

Loonaloop has shared the bill at performances with The Bird. The Band consists of five members; Andrew Byrne (drums programs), Shiney Le Fai (singer, sampler), Sera Beattie (violin), Dougal Hallowes (bass) and L Trees (didjeridu, percussion). Loonaloop include a mix of pre-programmed rhythmic loops and conventional instruments to create music performances that are partly programmed and partly performed live. Like Wild Marmalade, Loonaloop has exploited the exotic Australian sound of the didjeridu in overseas music markets and promoted its music as organic high-energy EDM. By performing live, they are able to portray themselves as free from computer control whilst performing music that appeals to an EDM market. Competing with DJs for gigs, they are able to differentiate themselves as ‘live’ as opposed to programmed even though there are programmed components to their live performance.

6.5.2 KO (K-Oscillate)

Guaranteed loop and sequencer-free, this 100% live act from Melbourne fuses drum ‘n’ breaks, breakbeats, and dub. “We have drums, bass, keyboards, MC and soundscapes,” says drummer Matt Bray. “We use a lot of synths it’s more about get up and body-moving music.”

KO is a music project that has performed on the same bill as The Bird on numerous occasions. Members of KO have expressed to me that they were inspired by the music of The Bird. KO has a sophisticated technical setup, with members of the band sending different computer and audio signals to each other. The group is the first band I have seen include computer software like Logic Audio (primarily designed for the studio) as part of the live sound stage setup. KO’s Matt Bray states that, like The Bird, the group adopts a DJ-like approach to performance, with the emphasis on creating a seamless musical set for people to dance to. KO also tries to incorporate improvisation into their performance, though only as a small part of the performance.

The series of comments below come from an interview on internet music site ‘inthemix.com.au’:

We tend live to blend songs into each other to a degree. We’re always open to improvisation. We always want at least 10% of a show to be improvised. The technologies we’re using via the MIDI live means we still have access to the latest crazy sounds with soft synths and plugins. But at the end of the day it’s still live, improvised on stage. It’s

a good freedom to have, because you don’t know what’s going to happen next, really. (ibid)

KO makes a point of trying to incorporate live performance into music that is firmly within grounded in EDM:

While the sound we play live may sound looped sometimes, it’s by design, not laziness. That’s the main thing about the band. All five musicians are working it out live. The sound coming out through the speakers might sound like loops or samples, but it’s all played live. (ibid)

The group also has a clear view of the appeal of live music as opposed to been pre-recorded music:

But when you have five individuals reacting in real time with a crowd of 600 to 800 people, when that shit hits the zone, no DJ, no recorded music can touch it. It becomes larger than the room. That’s what it’s all about. (ibid)

By playing a mixture of a live drum kit with synth drums, Matt is able to get a traditional rocky sound and fuse it with a limitless array of sounds at the push of a button. The thing is, when most electronic bands go live, they only have that one live drum kit sound, which makes the music kind of lose its edge live. (ibid)

In these comments, KO underlies the importance of a direct audience connection or input into the creative process involved in music making. KO is aware of the
importance of sound texture in EDM and has used an equipment setup that allows them to vary all the sound textures used by members of the band.

6.5.3 Morph

Morph is Australian live dance music at it's best, with influences from Funk, Trance, Breaks, House and Jazz. Played totally live, Morph's 4 members use Bass, Drums, Samples, Synths, Keyboards, Flute, and Sax to create a cacophony of sound through progressive textural layering and artful beat manipulation.85

Morph features band members that have been closely linked to my own creative practice, such as bassist Linden Lester who was one of my students in the contemporary music program at Southern Cross University86. Morph has shared the bill with The Bird on many occasions and members of Morph and The Bird have performed together at various music festivals.

Since Morph does not use a sophisticated technology set-up like KO, Morph's music has more of a contemporary pop sound than an EDM DJ sound. It is the compositional sound and creative process - based on crowd response and the continuous form of the music designed for dancing - that connects Morph to my LE community.

6.5.4 DKO

The latest in a long line of Brisbane bands to grace the live electronica scene, D-Ko's approach is different to most. Rather than settling into a

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85 http://www.morphmusic.org/home.html accessed May 12, 2007

86 In conversations we have had over the past few years, Linden Lester has commented that he has tried to mimic my bass playing style.
predictable 4/4 rhythms or sample-based cut and paste routine, D-Ko attempt to embrace the dance music genre and subvert it at the same time, often with startling results.  

DKO is Evelyn Golding (vocals, synths), Ben Retschlag (bass), Tane Matheson (programming) and Kris Swales (drums). DKO utilise a more structured approach to music performance. DKO uses computer-synced tempos that require drummer Kris Swales to perform with the rhythms of the group synced to a click track. This enables Kris to stay in time with a computer-programmed sequence. The addition of a bass player and triggered keyboards by the vocalist Evelyn Golding provide an example of the way that musicians can combine human and machine based elements within live performance.

Although this band does not strictly match the criteria of ‘avoidance of programmed rhythms’, I include it in this discussion of my musical community because the group member's consider The Bird a major influence on their music. I asked band members what they thought the difference was between a live band and a DJ and received the following responses:

With a live band you get more of a feeling… everyone is in there own energies. (Evelyn Golding interview 2006)

DJ's have their place though. DJ's are replicating what former artists have done.

Live bands and DJ's - it's like the difference between an artist and an artisan. Being a good DJ is like being able to pick a good wine…. you have to be able

pick a bunch of good tracks... (and) ..hype people up ..(Ben Goldstag interview 2006)

Live acts rock though... I have always thought that going to see a live act was better. Computerised style music was always there but seeing it played by real people is just that much better. (Kris Swales interview 2006)

EDM has been inspiring to DKO, and the group has sought to recreate the sound of bands like Massive Attack and the Chemical Brothers while maintaining the music as a live event in front of an audience.

6.5.5 Mountains in the Sky and the Levitators

Mountains in the Sky from Melbourne and The Levitators from Adelaide are two other music projects that I have encountered while touring with The Bird. Both these projects feature conventional instrumentation and electronic instruments. These bands have become well-known in their respective home towns, and use a creative process similar to that used by other LE groups in my musical community. Members of these two projects act as independent artists and market their music without the financial support of a large record company.

6.6 Concluding comments

The musical groups mentioned in this chapter play music that is informed and influenced by other EDM styles, jazz and improvised music. With the exception of The Necks, each group takes the sounds of EDM as the starting point for the development of its creative process. Groups such as The Bird, Amphibian, KO and DKO have sought to create EDM within the context of a live ensemble, without relying on computer-synced rhythms as the foundation of the music performance. This reliance on human communication between band members allows for an
improvisational approach that promotes band and audience interaction. The music of The Necks can be considered a form of ‘acoustic trance jazz’ that takes much of its inspiration from the minimalist music of Eric Satie and Steve Reich.

Each of the bands discussed in this chapter have a relationship to my own creative practice and to the creative components of this thesis. Bands such as Amphibian, The Bird and The Necks have been major influences on my own musical practice. Bands such as DKO, The Levitators and KO have performed at similar venues to the ones at which I have performed. These groups support one another, sharing and loaning equipment such as amplifiers and other sound equipment. From time to time they facilitate the touring experience by offering free accommodation in respective hometowns. These bands compare information on venues, promoters, music festival contacts, recording studios and performance ideas. It would be much harder for anyone of these groups to function without the support provided by the others. If asked to explain their own musical community, the musicians in these projects would describe a different community than that represented in Figure 6.2. Other specific musicians or music projects may be considered more important than the ones I have chosen to highlight.

These groups are all at different stages of development, and no doubt by the time this thesis is published, bands may have changed membership, approaches to music, or ceased to exist. New bands may have emerged performing a similar style of music. It is undoubtable that new musical communities will emerge, and my own will continue to develop.
Chapter 7

Creation of the Creative Folio

7.1 Introduction

This chapter outlines the processes used to devise, prepare, perform, record and expose the works included in the creative folio. It describes the formation and development of the Cyberbass ensemble, and shows how the group’s developmental activities involved innovative rehearsal and performance processes that represent a fine-tuning of practices within the Australian LE community. This chapter demonstrates how the Cyberbass ensemble adapts live music performance to suit the EDM context. This chapter also discusses how the final live multi-media performance is used to present ethno-musicological information directly to a live audience – reflecting my own position as a musician within this community and demonstrating my relationship to the subject material documented in the narrative of the performance.

7.2 Formation of the Cyberbass LE project.

Cyberbass was originally formed as part of the Southern Cross University (SCU) contemporary music performance program. A group of volunteer musicians from SCU participated in weekly ensemble rehearsals that focused on various ways musicians can interact through improvisation. The intention of this program was to within a tertiary education context, introduce musicians from a variety of musical backgrounds to specific EDM concepts, in particular, areas of musicianship that are important to LE. These ensemble sessions were the starting point for my inquiry into the important compositional and performative aspects of EDM that were integral to recreating the music of this genre live. Three main areas of musicianship were identified for special attention: rhythmic stability, motivic invention and development, and sound texture transitioning.
7.2.1 Rhythmic Stability
Most EDM musical works maintain a steady rhythmic pulse. Computer sequences are usually used generate this music, and the BPM of the programmed sequence is typically unchanging. The ‘quantised’ rhythm provides an obvious differentiation between music replayed by a computer and music performed live by musicians. To recreate EDM live, musicians must be able to maintain a steady tempo, and place their rhythmic patterns with absolute precision inside the overall groove.

7.2.2 Motif Invention and Development
EDM uses short motifs that repeat extensively. Musicians performing this music live need be able to improvise simple melodic/rhythmic motifs suitable for extensive repetition, and to vary motifs if necessary through tonal, melodic or rhythmic changes.

7.2.3 Textural Transitioning
As described in chapter 5 EDM uses textural diversity to create interest. To recreate this textural diversity, LE musicians must be able shift seamlessly between specific sounds used and be able to combine a deep understanding of the uses of specific audio technology with strong performance abilities on conventional instruments. Areas of technical knowledge that are important to a successful production include: the use of audio signal processing, normalisation and gain structure. LE musicians must perform with an awareness of the potential for each musician’s set of audio technology performance to produce unwanted audio effects such as digital and analog distortion and feedback.
7.3 Cyberbass Ensemble Program Activities

The weekly ensemble program at SCU introduced participants to various methods of keeping a steady tempo. The program employed musical exercises borrowed from different musical instructors that I have worked with - most notably Australian contemporary percussionist Greg Sheehan, who uses activities such as group clapping games to foster group rhythmic awareness and interaction. I adapted these games for application in a student ensemble that featured a diverse range of instruments and musical abilities. Examples of these exercises are outlined below in section 7.3.1.

These exercises aimed to reflect the compositional process used by EDM producers to create a series of loops to add to a larger composition. This process is similar to those I have used in other LE bands, in which the group will rehearse to maintain a steady pulse while experimenting with different sounds and textures. A major difference between ‘jamming’ in a LE and a conventional music context is that the former aims to create interesting sound textures as the essence of the music, rather than create a musical backing for a melody. Within LE it not necessary to conform to conventional concepts of harmony or tuning. All of these factors create new challenges for musicians who, to perform LE, need to apply their musicianship in an unfamiliar performance context.

7.3.1 Ensemble Exercise (Game) Example 1: Close Listening and Ear-Hand Coordination

The object of this exercise is for the group to attempt to pass a clap around a circle as fast as possible. The rule is that you cannot clap your hands until the person next to you has clapped his or hers.

88 See Footnote 71
Performance Process ‘Passing the Clap’

1. Form circle
2. Participants get ready to clap their hands
3. One participant claps hands
4. Person on his or her left claps as soon as he or she becomes aware that the adjoining person has clapped
5. Process is repeated around the circle
6. Reverse direction

Variations can involve different instrumentation rather than a simple handclap, and playing the game blindfolded.

7.3.2 Ensemble Exercise (Game) Example 2: Loop Transitions

The object of this exercise is for all participants to execute transitions seamlessly, without variation in tempo, sound quality or sound level.

Exercise Process ‘Looping riffs’

1. Group creates up to four loop names
2. Musicians develop a suitable part (instrument and sound) for each loop
3. One person is nominated group leader
4. On group leader’s instruction group begins playing first loop
5. On cue from group leader, each musician switches to his or her part in another loop as smoothly as possible


7.4 Ensemble Workshop Outcomes

Participants in the weekly ensemble program at SCU found the rehearsals stimulating, challenging and enjoyable. These workshops were a unique experience for most participants, as some had never previously focussed their practice on these types of structured exercises. These sessions were similar to workshops in which I have been involved as part of contemporary dance and theatre projects, but different to most of the rehearsal experiences I have had with LE bands. Dance and theatre creative processes that I have participated in tend to place an emphasis on establishing a creative process or ‘score’ amongst performers who may not have previously worked together and may only be working together for a short time.

This ensemble program highlighted the fact that musicians playing music inspired by EDM needed to have a very high level of musicianship, ensemble experience and technical ability on their instrument. Less skilled and experienced musicians found the task of interacting with the group - improvising on their chosen instrument while maintaining a steady pulse - very difficult. This highlighted the need for musicians to focus intensively on rhythm and simple repetitive ideas, adopting an almost meditative approach to music performance. Participants who were able to do this found they could work within their abilities, maintain a connection to the ensemble, and improvise music that sounded stylistically coherent. Those who were unable to do this found it difficult to relate to LE practice.

Detailed analysis of this occurrence is beyond the scope of this project, but it is clear that the LE musician requires a focus on interpersonal communication as well as technical ability or individual creative skill. As more and more people work alone on computers to create music and live ensemble activity decreases, there is real potential for a general decline in the ability of musicians to play in an interactive manner.
7.5 First Cyberbass student Ensemble Performance October 2004

These SCU workshop sessions concluded in 2004 with a public performance by the entire undergraduate ensemble of musicians, which was recorded using the SCU performance space and main studio (see portfolio discussion). This performance featured an ensemble of seventeen musicians improvising continuously for over two hours. The structure of the performance was loosely based on the participation and non-participation of the various instrumentalists. Rather than using a compositional structure, a structure was devised based on the changes of instrumentation that would occur over the duration of the performance. This performance was only partly successful in achieving coherent EDM. Communication within the ensemble was difficult given its large size, range of musical skill level among ensemble members, and less than adequate audio monitoring onstage.

7.6 Cyberbass Residency

After the first Cyberbass ensemble performance, it became clear that it was important to develop a creative process that could overcome the problems encountered in the previous large undergraduate music student ensemble created in the SCU ensemble program. I formed a smaller group of four musicians that became the foundation of the ensemble involved in the final creative work.

The musical development of this ensemble occurred during performances at a weekly music ‘residency’ that I organised at the Arts Factory Lodge in Byron Bay. This residency continued for 18 months, a period of time in which the group gradually built up an extremely strong musical rapport and understanding. This weekly gig meant that the performance process could be developed and evaluated. At a venue

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A ‘residency’ is a term used by musician’s for a regular music performance night at the same venue. This could be organised on a weekly or a monthly basis. Residencies enable musical groups to build a following and work on their performance skills on a regular basis.
where the audience was predominantly pre-occupied with social activity, rather than watching the band, this residency offered a low-pressure performance opportunity where interactive performance processes could be tested. With the venue supplying a PA and a small performance fee, the Cyberbass residency was a rare opportunity to play an improvised gig that offered a financial incentive, albeit a modest one.

The Cyberbass residency gave me the chance to experiment with lineups and instrumentation choices within the group. A number of different musicians took part in this weekly gig\(^\text{90}\). The aim of these performances was to be able to present a continuous set of electronic music without using looping devices or sequences to maintain the rhythm and tempo of the music. Cyberbass used and developed the musical concepts that had been highlighted in the undergraduate ensemble sessions with the aim of achieving a high level of musicianship within the ensemble. The individual make-up of the ensemble changed regularly, but typically included up to five musicians, all of whom were skilled professional musicians, comfortable performing improvised music within the EDM genre.

Over the period 2005 to 2007, Cyberbass presented more than fifty LE performances at the Arts factory, allowing the ensemble to develop high-level skills and effective performance processes. The line between rehearsal and performance became blurred during what was the main development stage of the ensemble.

### 7.7 Cyberbass Ensemble Performance Processes

The Cyberbass ensemble developed a set of simple but critical principles. These were discussed at length by the group, and directed the creative process during performances. The principles were as follows:

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\(^{90}\) See Appendix 3 for a list of musicians involved in this project.
1. Maintain a steady pulse and stay in time with the group
2. Highlight tonal variation (on each instrument and within the ensemble as a whole)
3. Improvise repeating melodic ideas
4. Make effective transitions between sections

Cyberbass (somewhat jokingly at first) adopted the use of football metaphors to describe musical roles within the group, as the musicians needed to combine effectively in much the same way as a football team. For example, everyone within a football team has a distinct set of skills and duties. Field positions are distributed amongst the players to cover all areas, such as ‘attack’, ‘defence’, ‘centre’ and ‘wing’. In the context of the Cyberbass, ‘attack’ came to mean introducing a striking melodic motif or sample against a rhythmic groove being performed. ‘Defence’ became known as providing a stable rhythmic foundation. As all musicians were performing with a variety of sounds, they could each take on a variety of musical roles in one performance. These football analogies also became useful when discussing the success of a performance after the gig. Rather than directly criticising aspects of the performance, musicians would use these metaphors to communicate their ideas. For example, if they thought that the music did not groove well, they would state “I think we lost in that set, defence was bad.” All the players in the ensemble understood ‘the rules’ they needed to follow in order to improvise and perform as a musical sports team. The acceptance of these rules was an acknowledgment by the group of the following musical aspects.

### 7.7.1 Maintain a Steady Pulse and Stay in Time with the Group

This simple aim is deceptively difficult to achieve within an improvising group using electronic instruments. Manipulating music technology while performing, can easily
distract musicians from maintaining a metronomic pulse within the ensemble. As a dominant feature of computer-sequenced EDM, the presence or absence of a quantised, metronomic rhythm is also a critical element within LE. In other styles of popular music where the rhythmic foundation of the music is dictated by live musicians, tempo tends to subtly fluctuate (sometimes unsubtly). LE musicians must be especially alert to avoid tempo fluctuations that might be perceived by an audience. This is particularly so in relation to fast tempos, which tend to slow over time unless a strong effort is made to maintain the pulse.

In Cyberbass, successful maintenance of tempo depended on way each musician approached this task. On numerous occasions, musicians lost their rhythmic relationship to the rest of the group when changing parameters on digital music control interfaces. It became clear that the task of varying sounds produced by electronic instruments interfered with the improvisational process, and that performance interfaces for electronic musical instruments were not well designed for improvising musical performances.

### 7.7.2 Highlight Tonal Variation

This is the area where electronic instruments excel in comparison with conventional musical instruments that produce sound via acoustic or electromechanical means. With each player able to access an almost limitless variety of sound sources, the ensemble was able to produce a wide variety of sound textures, sometimes using only one or two performers. The creation of tonal or sonic variation resulted in unwanted sounds, such as feedback and noise created when sound sources were varied without first checking to see whether the gain structure of the new sound was similar to the last one. Recreating the seamless audio production of EDM requires musicians to focus on producing each sound both technically and creatively at the same time. The musician must monitor the different parameters of the sound as well
as the way in which it works within the ensemble. In this respect, the musician acts as an audio engineer and instrumentalist at the same time.

7.7.3 Improvise Repeating Melodic Ideas

Repetition is an integral part of EDM. Short melodic motifs are repeated and extended to create evolving linear works that reflect the technology used by EDM producers. Musicians in Cyberbass readily incorporated repetition, but issues sometimes arose when personal melodic (and melodic development) preferences began to interfere with the coherency of the group sound. In the latter part of the project, when the group functioned as a free improvising unit, musical choices sometimes provoked negative responses from other players, who felt that melodic ideas played by another member of the ensemble were inappropriate or undesirable within the specific musical situation. This situation emphasised both the importance and difficulty of bringing together a group of musicians with compatible approaches to improvisation and ensemble performance.

7.7.4 Effective Transitions between Sections

One of the continual challenges within LE, is to make seamless changes between sections based around different motifs and textures. On some occasions, the improvisational process was facilitated/conducted by myself as a group leader, and at other times, the process occurred without direction. In the latter case, Cyberbass performed with a group understanding that if a member felt that the they were playing was not fitting with the parts performed by the other musicians, then they were to stop playing and create an alternative idea that was more appropriate. In this mode of performance, musicians were encouraged to communicate to other musicians that they were about to transition to a new section. This offered the opportunity for other musicians to re-evaluate their present musical position and either react to the transition by maintaining the same sound texture or shifting to a new one. The overriding consideration within the group was to that new sound
textures were in a stable rhythmic and sonic relationship to other parts within the ensemble and were introduce with attention paid to the audio characteristics of the texture.

Effective transitions between sections are a crucial element to EDM performances, therefore they have the power to make or break the effectiveness of a LE ensemble. Effective transitions within conventional EDM are executed by computer sequences with a degree of metronomic and technological accuracy that musicians struggle to achieve in a live performance. To maximise the potential for success in this area, I encouraged musicians within the group to simplify the rhythmic and melodic aspects of the improvised sound textures that they created. This could allow for the integration of this additional audio production tasks (such as ensuring new textures have an appropriate signal gain structure and being able to quickly apply appropriate sound processing) into their performance without compromising the ability of the ensemble to execute effective musical transitions.

7.7.5 Focus on Electronic and Digital sound Sources/Instruments

EDM achieves a sonic clarity by adjusting and manipulating digital audio data within contemporary computer-based musical editing systems. At EDM performances, the problems associated with ‘live’ sound reproduction in a reverberant space are minimised. Since the musical works are usually pre-mixed, compressed and mastered, it is relatively easy to achieve good-quality sound reproduction by using appropriate playback equipment. However, the achievement of a similar sonic clarity is more difficult when individual instruments are involved in creating the sound.⁹¹

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⁹¹ One of the main technical issues with performances by The Bird is that inadequate sound production facilities at gigs has sometimes resulted in poor sound quality for the audience. Having to rely on ill-equipped and unqualified sound personnel can mean that the true nature of the musical performance is lost.
To achieve the same level of sonic clarity as conventional EDM performances, Cyberbass used primarily electronic instrumentation. Electronic instrumentation has distinct advantages in relation to digitally capturing the work in a relatively ‘loss-less’ format. All instruments can be recorded without microphones, so there are no technical audio recording issues such as microphone spill, phasing or capsule distortion. Electronic instruments can be captured digitally from a live performance in a way that preserves both the spontaneity of the music and its fidelity. Hence, Cyberbass was able to record live performances as if they were in a multi-track studio, thereby realising the goal of achieving a sound quality similar to programmed EDM. Furthermore, this recording process provides an effective way of documenting the development of the ensemble.

LE Performances involving ensembles of musicians and electronic instrumentation create a different type of musical performance, as the sound and the action of the musician is disembodied. Within a LE ensemble, musicians control a vast array of sound sources. For example, as a bass player I may contribute a bassline, or instead play another sound texture sourced from specific electronic sound generators triggered using my bass that is associated with non-bass function. In this context, audience members are unable to ascribe a particular role to any member of the ensemble, and are left wondering what the performers are doing to create the music. During the Cyberbass performance residency at the Arts factory, audience members commented that when they first heard the group begin playing, they thought it was a DJ. They could not match the movements made onstage to the sounds that were being produced. The performance questioned their own notion of what live music actually represents.
7.8 Discussion of Musical Communications within Ensembles

Within a democratic improvising music ensemble, players need to acknowledge the validity of each other's musical choices. The following discussion and diagrams show some of the issues that emerge in ensemble situations and some ways that musicians in an ensemble can communicate with each other. In some situations, musicians may have ideas about specific parts that conflict with the ideas of other members in the ensemble. In a free improvisation situation, this can present a problem that needs to be resolved by the group.

7.8.1 Cyberbass Group Communication Strategies

The Cyberbass ensemble aimed to avoid the communication problems outlined above through a number of strategies. Where possible, the group only employed musicians who understood EDM and were technically competent on their instrument. The ensemble also used minimal laptop screen based audio controllers, since laptops prompt musicians to respond to visual data. This impedes close listening. Cyberbass members mostly used conventional instruments as controllers of their electronic sound sources.

Initially, I acted as bandleader and conductor of the group, guiding the performance process by indicating whether I felt the music was ‘happening’ or not. The criteria on which I based these judgements, were whether the music sounded balanced from an audio production point of view, and whether the group was interacting well as an ensemble. To recreate the shifting textures of EDM, if the group was dynamically constant for long periods, I would encourage players to cease playing or change their musical motif or sound texture.

Allowing musicians the freedom to improvise, relies on a mutual trust within a group that each performer will add something that relates to what the other members of the
ensemble are playing. This does not mean that each sound texture is in tune or in key with all others. For an LE performance to resemble EDM, each must maintain a stable rhythmic relationship to all others. This relationship could be a cross rhythm, a polyrhythm or something that did not have any rhythmic foundation to its performance. Examples of these sorts of sounds are sampled vocals or spoken word sections that do not have a rhythmic element to their performance.

During the Cyberbass residency program, some musical disputes and heated interactions occurred within the group, these occurred when sound textures were introduced that were considered by either myself or other members to be not in a stable rhythmic or textural relationship to the overall sound of the ensemble. These were always resolved by discussion after the performance but sometimes resulted in musicians no longer performing with Cyberbass. This was most evident with drummers. This is not surprising, as the rhythmic element of the track is most crucial and this is the main creative focus of the drummer. Ensemble interactions therefore, are identified as a crucial aspect of LE performance.

### 7.8.2 Conceptual Models of Performance Interactions

The following diagrams graphically represent some common ensemble dynamics that occurred during the Cyberbass residency program.

Figure 7.1 represents an improvisational situation. Arrows indicate direction and lines of interaction and communication between individual players (indicated by circles). Amongst a hypothetical ensemble of nine musicians, there are multiple conceptions of what the music should sound like. There is instability within the musical form as two dominant musicians are not interacting and are unaware of the musical ideas and choices of the other. Other members of the group are focussing on the musical ideas of either one of these two musicians. This situation is incoherent
because the musical outcomes of the improvised performances could potentially conflict with one another. In this circumstance, the result could resemble that of two distinct musical groups onstage, each performing a different musical work. This resulting sound would undermine the effectiveness of all the musicians involved. discussing the situation amongst the group after the improvisation/performance.

**Figure 7.1 Ensemble Interactions Example 1**

**1. Incoherent Jam Situation**

- Three players are listening to one player and two are listening to another
- There are two dominant players who are not communicating
- The jam will result in contrasting/conflicting musical outcomes.

This situation could occur if there were technical audio problems onstage that prevented two musicians from hearing one another. However, it could also occur if
two musicians did not agree with the musical direction of another and tried to out play each other in attempt to assert their musical will. This situation could also be caused by a lack of ability in one of the musicians being able to perform with the level of musicianship required to interact and improvise with the rest of the group. The situation represented in Figure 7.1 occurred on many occasions within the Cyberbass residency. It was overcome by either not performing with that combination of players, addressing the technical limitations imposed by the stage audio setup or

Figure 7.2 demonstrates the effect of a strong leader within an improvising ensemble, where all are responding to the direction of one musician. In this situation it is explicitly acknowledged by the group that there is one leader who will determine the direction of the musical performance. It is the role of other musicians to interpret the musical directions of the leader as best they can. This situation simplifies the musical interaction process and is useful when working with a group of musicians that have not previously played together. This situation was adopted at the start of the Cyberbass ensemble workshop. I acted as a conductor, determining when musicians should start and stop playing and what sort of music we should play. This sort of performance interaction method is used by The Bird, with drummer Ben Walsh acting as on-stage leader of the group.

During the Cyberbass residency program, some musicians expressed that this was not their preferred way of playing and interacting. Some openly disobeyed directions that I gave on the grounds that they felt the sound of the music was not to their liking. Others felt that their musical abilities were being questioned when I asked them to cease playing. Clearly this style of performance interaction requires a degree of agreed subservience to a leader that is mediated either by a respect for the musical leader or by other means.
Figure 7.2 Ensemble Interactions Example 2

**Ensemble led by one dominant player**

- This interaction will produce coherent music as all are listening to one dominant player.
- Similar to a conductor/orchestra situation.
- Music determined by the will of the dominant player.

Figure 7.3 and 7.4 represents a more democratic approach to ensemble improvisation. The Necks, described in the preceding chapter, are a good example of the musical groups that exemplify the creative potential of these sorts of musical interactions. In these situations there are a number of performers who have the ability to communicate with all members of the group and are able to create a creative situation where the music is strongly coherent even though there is more than one musician in control of the direction of the music. These approaches maximise the creative possibilities of the ensemble interaction. It allows many different ideas and approaches to be expressed.
This process adopted by the Cyberbass ensemble at the end of the residency program, by this time the musicians involved had established a performance rapport that facilitated complex musical interactions and exchanges between all members of the group. This did not necessarily happen amongst all players at the same time but enabled everyone to have an input into the overall sound of the performance.

**Figure 7.3 Ensemble Interactions Example 3**

<table>
<thead>
<tr>
<th>3. Ensemble with Three Influential players</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Three players are able to listen to some of the other musicians.</td>
</tr>
<tr>
<td>• Other Musicians are following one of these three</td>
</tr>
<tr>
<td>• This enables the musical outcome to be coherent and develop in a multifaceted way</td>
</tr>
</tbody>
</table>

The main problems encountered during these performances, were due with maintaining adequate communication between the members of the ensemble. With a basic PA set up and no foldback, this meant that each musician had to be able to
hear other musicians on-stage. Players that were not used to improvisational style performances, found that their preferred volume of their sound equipment meant that they were unable to hear other members of the group. This resulted in moments where the group lost contact with each other and the quality of the performance suffered considerably. I concluded that the most successful gigs involved musicians who were both familiar with

**Figure 7.4 Ensemble Interactions Example 4**

4. A Very Interactive Group of Musicians

- All are listening in a way where no one person is leading the jam.
- This jam will produce coherent music that will develop in a very multi-faceted way

the sonic qualities of EDM and had a level of musicianship on their instrument that meant they were comfortable performing in an improvising context. Musicians that had a high level of technical knowledge about the most optimum way to control their
performance set up also functioned well within the group. Each Cyberbass performance was as much about learning how to blend each sound and produce a high quality audio production quality at each performance, as learning to interact and improvise coherently as a LE ensemble.

7.8.3 Establishment of the Cyberbass Ensemble

By the end of 2006, the line-up of the Cyberbass ensemble was stable, and consisted of:

- Ben Blay (EWI controller)
- Paul Corley (Keyboards)
- Barry Hill (Bass and Effects)
- Paul Blay, Rob Vasey or Jamie Pattugalan (Drums)

During this period, the group augmented the entirely improvised performances with two pre-composed pieces that were loose interpretations of well-known EDM tunes. One was “Da Man” by Peter Kruder, the other was a bass line used by Laurent Garnier in “The man with the Red Face”. These musical examples have already been discussed in chapter 5.

Performing these musical works, enabled the group to have a musical template for performance on which it could base an extended improvisation. These musical works acted as templates for group improvisation and were the only parts of the residency performances that were not entirely improvised. The existence of these musical templates meant that if the improvisation process began to fail, there was a musical structure upon which the musicians could fall back on to provide a launching pad for a new improvisation.
7.8.4 Other Performance Opportunities

The Cyberbass residency introduced the group to other musicians in the local area and resulted in other performance opportunities for the ensemble. In 2006 Cyberbass performed at three major music festivals: Splendour in the Grass; Exodus and Bonalbo Electronic Arts Festival. The band was also offered work at private functions, and in 2007 performed a short residency in Lismore at the Winsome Hotel. These performance opportunities solidified the band's reputation as a highly original electronic music group. Audience members commented that the group “sounded like a DJ” and also stated that had not heard this sort of music before. Both these comments were repeated on numerous occasions and provided anecdotal evidence that the music produced by the group approximated listener conceptions of EDM.

Three Cyberbass performances in 2006 were recorded using portable high quality digital multi-channel recorders. Excerpts of these performances appear on the first CD of audio examples described later in this chapter. The best moments of these recordings were compiled on to a CD-R that I then packaged as an independently produced CD entitled Improvise. This CD was sold at Cyberbass gigs and created another small stream of income that eventually financed the design of the Cyberbass website. These recordings demonstrated the ease with which LE bands using all electronic instrumentation can be recorded. These recordings sound as though they were made in a studio even though they are simply a documentation of live performances. This recording process of setting up a laptop at a gig highlights the irrelevance of using a studio recording space for EDM and LE recordings. This is one area of difference between conventional pop music and EDM that has yet to be fully explored at the level of theoretical and social inquiry.
To summarise, the focus of the Cyberbass residency program was to develop a creative process that best exemplified the potential of a group of LE musicians to create an improvised musical performances process that sounded like EDM. Cyberbass utilised the improvisational skill of individual musicians to introduce “Interaction and reaction” into the performance of EDM. In defining a creative process that identifies various ensemble interaction techniques and a set of explicit criteria for a EDM performance based on rhythmic stability and linear sound texture transitioning, a model of the creative processes needed to create EDM in an improvised LE ensemble can be established.

7.9 Design of Multimedia Work

So far in this chapter I have discussed the formative elements behind the development of the musical nature of the final performance of this creative project. This development occurred over the period 2005-2007. Over the same time period I experimented with a multimedia design for a live performance of Cyberbass. This performance has been included to highlight the integration of EDM within a multimedia performance mode, one that is reflective of the way that EDM performances are focused on the creative potential for individuals attending EDM performances to construct their own individual engagement with the object of performance, either visual or auditory.

The final performance includes multimedia elements that are presented on a multi-screen array that surrounds the audience and the musicians on-stage. These visuals use images, interview footage and audio recordings gathered at numerous live performances and festivals. I selected a performance design that makes use of multimedia elements for the following reasons. It sets out to reflect the way that performing musicians are ‘surrounded’ and influenced by a community of peers. These peers are represented by footage of video interviews that were recorded by
myself of other LE musicians answering my questions about the nature of their involvement with LE music in Australia. The images on these screens represent my own musical community described in Chapter 6.

Other images portrayed on the screens are digitally rendered footage that was recorded while I was on tour with the LE Music Project The Bird. These images represent the scenes encountered while touring and working within my musical community as a LE musician. By surrounding the musicians and audience with these elements during the final performance, the live performance provides both a symbolic and narrative contextualisation for the musical performance. It is intended that audience members will be able to view the musical performance, and relate the music being performed to the images and commentary of the video recordings displayed on screens to the music being performed on stage.

The video performance aspect of the performance necessitated a far more complicated technical production set up. To develop this I set up a program of work-in-progress showings. The video element was designed as a multi-screen performance. This type of performance was chosen to blur the lines between types of media performances that are available today. These include “feature film” screenings, immersive multi-screen displays of moving images, and highly visually designed musical environments such as those encountered at EDM events.

7.9.1 Multiple Performance/Reception Sites

As noted, the final performance is a creative work is a multimedia, event. Music was improvised in front of an audience and a multi-track audio recording session, and the separate instruments were recorded by high quality contemporary studio equipment. To facilitate a improvisation of the video imagery projected during the final performance, the VJ has been placed amongst the musicians on stage, and
participates in the improvised process by creating the visual information sent to the video screens using video editing software\textsuperscript{92} operated with an Apple laptop computer.

Figure 7.6 shows the mediation and technology used in transmitting this particular creative performance to an audience that was both present in the room in which the performance took place, and offsite via a viewing portal on the internet (designed and produced in conjunction with the SCU School of Arts AV Services). Video footage of the work was combined with a discreet output from the video screens and a mixed feed of the audio signal produced by the band performing on stage. The two audio sources of the video material and the improvised ensemble were combined with the two video feeds - one from the projection screen and the other from a vision mixed output of three cameras that were documenting the performance. These were compressed into a QuickTime movie that was streamed over the internet via the SCU web server. Streaming rates were optimised to 250kb to accommodate the standard broadband connection speed in Australia\textsuperscript{93}.

To test this set up, two 'work in progress' (WIP) performances were staged, one in April 2006, another in April 2007. Each was a live electronic music performance accompanied by a multi-screen video set up. The first showing tested the technical aspects of the performance design and focussed on developing musical interactions between the ensemble. During this performance, technical problem with the coding of the rendered QuickTime file meant that the full video program could not be replayed in full. Excerpts of this performance can be viewed on the supporting DVD.

\textsuperscript{92} VDMX Version 2.0
\textsuperscript{93} 250 kilobytes per second is a relatively slow speed compared to the streaming rates available in other countries. (OECD (Organisation for Economic Co-operation and Development, http://www.zdnet.com.au/news/communications/soa/Australian-broadband-among-world-s-worst. OECD/0.130061791,339280104,00.htm) Communications Outlook 2007 report found that Australia's broadband was among the world's most expensive and slowest. The OECD report studied the average download speed for the incumbent telco -- in Australia's case Telstra -- in each of the 30 industrialised countries that are OECD members. It found Australia second from the bottom, beaten by the likes of Poland, Belgium and Mexico.
Figure 7.5 Use of technology to transmit performance to a onsite and virtual audience.

Creative Performance

Video screens

Audio PA System

3 Camera Shoot

Digital Audio Mixed in studio A

Cyberbass Audio Visual ensemble

On Site Audience (unmediated)

Vision mixed video format

Convert to ‘Quicktime’ Codec stream

SCU Web Server distributes stream over bandwidth

Digital Codec Transmission (internet)

Codec decoded via PC reproduced on (LCD screen and Audio System)

Internet Off site Audience (digitally mediated)
The second work in progress showing developed the interaction of the musicians with the video images. During this performance, a pre-edited and rendered series of images was replayed and the musicians played with a chart of sections that contained written key centres, rhythms and bass lines. In this performance, the musicians’ performances were more structured and less improvised, with a focus on integrating/syncing the musicians’ performance to the video material displayed on the screens. This performance was a complete success with all technical aspects functioning correctly.

The final performance incorporated two additional elements to complete the multimedia design. The first was the establishment of an internet connection that enabled the web streaming of the performance. The other was the addition of a VJ (Kirsten Bradley) who was able to compile the video footage in real-time. This process enabled the mixing of the images to react to the music, introducing a key improvisational element into the creative process that allowed both the music and the video content to be created spontaneously. Prior to the date of the performance, I met with Kirsten to discuss the visual design of the project and the video recordings to be used within the performance. The final performance took place on October 17, 2007 and was 57 minutes in duration. The performance was divided into sections that matched an improvisational music section to the video content. In each section a style of groove and a tempo range was selected as a template for the group improvisation. These sections formed a narrative structure based on the video responses of people interviewed during the research phase of this project. This narrative structure enabled the video responses to form a coherent picture of the ideas and thoughts of those imbedded within my musical community.

The audience in the auditorium of the final performance numbered 95 people. The internet viewing audience was unknown but I received confirmation from viewers in
different parts of Australia and overseas (one as far as Colombia) who were able to
log on and watch the performance online.

7.11 Portfolio Items

The creative portfolio is presented in the form of two audio CDs and one DVD. These
are support material to this written thesis and are detailed in appendix 1. The
following sections should be read in direct reference to this support material.

7.11.1 Audio CD 1: Initial Recording and Audio Documentary.

Track 1: ABC Documentary (2NR ABC Local Radio broadcast October 30 2004)
This is from an ABC documentary recorded as part of the ABC 2NR local music
program. The interviews include comments from some of the musicians who
participated in the initial project. Interspersed among the interviews and presenter
commentary, are excerpts from the first Cyberbass performance on October 24th
2004. This recording is features the Cyberbass Student Ensemble that participated in
the workshop program and numbered 14 musicians. During the recording tempos
and pitch is not stable. The recording highlights the limitations of using an improvised
format with a large group of musicians.

7.11.2 Audio CD 2: Cyberbass Workshop Recordings CD release (Improvise
2006)
This audio CD includes recordings from the Cyberbass residency program as well as
excerpts from the first two ‘work in progress’ showings. These recordings have been
made using a Laptop equipped with Logic Audio and a Motu\textsuperscript{94} audio interface. These
recordings were mixed using Pro Tools 7.0 audio software and have been edited and
processed for the purposes of creating a CD to promote the group and sell at

\textsuperscript{94} MOTU is an acronym for Mark of the Unicorn – a manufacturer of analog to digital converting audio hardware.
performances. They preserve the authenticity of these live improvisations, since minimal editing was applied – only volume and EQ automation was applied to balance the sounds of each instrument and each excerpt. Each track on the CD represents sections of performances that demonstrated a strong adherence to the performance principles of consistent tempo, smooth textural transitions and coherent sonic textures – outlined earlier in this chapter. With the exception of two tracks (track 7 ‘Da Man’ and track 4 ‘Hit Single’) all sections are free improvisations within an EDM/LE context. CD 2 is arranged as a coherent album, and contains both up and down tempo sections.

**Track 1: ‘Intro Set 1’ (Byron Arts Factory)**

This recording features a simple synthesiser texture interspersed with a computer vocal triggered using an MP3 player. This texture comes from part of the introduction of a performance at the Arts Factory. The use of somewhat ambient introductions allows for the musicians to get used to the sound on stage and make sure that the technical setup is working correctly. This ambient texture also reflects the way that EDM DJs often use ambient textures without a clear tempo to open their performances. The absence of a rhythmic element at the start allows for a build-up of musical tension.

**Track 2: ‘Good Bit’ (Byron Arts Factory)**

This recording is another excerpt from the same performance as Track 1. This recording shows a seamless transition from an a tempo section to a groove section. The sound textures include piano, electric bass, Virus Synthesiser and Roland V drums. The Roland V drums are useful for reproducing the highly processed drum sounds of EDM. The groove matches drum n bass patterns – with a constant non-syncopated kick drum and snare pattern accompanied by a steady 8th-note hi hat.

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95 During the Cyberbass residency program, audience members wanted to buy a CD as a memento of the gig.
The bass line is a very simple motif moving from the tonic to the minor third. The main melody is played by Ben Blay using a Virus patch controlled by an EWI MIDI controller and outlines a descending melodic pattern of octave, major 7th, perfect 5th then tonic. There is no major or minor third tone to determine the triadic quality of the harmony. Paul Corley adds a bubbling sound texture created using a Reason patch controlled via a ‘Korg Kaos Pad midi controller’. He incorporates the sounds of voices recorded from the movie The Piano Teacher. These voices are processed through delay effects to make them unrecognisable. The piano part provides a contrasting B section melody that is played alternately in between the Virus parts. The piano melodies imply a sub dominant harmony. Later in the recording, Paul switches to an electric piano sound that provides a higher-pitched descending melody. The piano sound is then switched to an organ sound with a slow legato series of notes that end on the tonic.

This recording represents one of the high points of the improvisational process in the Cyberbass residency because it features seamless rhythmic transitions. Admittedly, during the performance the entrance of the drums is cued by me, but the quality of the performance relied on the drummer's ability to hear the cue and react appropriately. It also relied on the ability of the other players to begin playing their parts in sync with the drums. The music sounds ‘composed’ and is an example of the improvisational possibilities in a LE ensemble.

**Track 3: “White Rabbit” (Byron Arts Factory)**

This composition features a different drummer playing an acoustic drum kit. The composition is slower than the previous recording and has more of a Latin American ‘bossa’ rhythm. It begins with Paul Corley playing a bell-like melody (56 45) in a 5 beat cycle. He is then joined by Dan Brown improvising on the piano using a pentatonic scale. I begin to perform a bass part that is a repetitive over 32 beats.
With the addition of the organ and a 8\textsuperscript{th}-note bassline, the improvised groove evolves into more of a straight rock beat, accompanied by a lead synth solo by Ben Blay - triggering the on the Virus synth with a EWI controller. The main organ accompaniment provides a slow moving texture. This recording is another example of the way an improvising ensemble can achieve a degree of compositional complexity within an EDM context. This improvisation has an evolving linear structure and features strong interplay between the musicians, The inclusion of acoustic drums makes the band sound more like a group of musicians performing live, and less like a computer-sequenced electronic work. This is an example of the importance of the rhythm track as a style-defining feature of EDM.

**Track 4: ‘Hit Single’ (Great Northern Hotel)**

This recording is part Cyberbass’ first gig outside of its residency at the Byron Arts Factory. It included a much bigger band, featuring two drummers and turntablist Tone Broker. This recording is the basis of a piece that became the ‘theme’ for the Cyberbass ensemble. The bass line is borrowed from bass line Laurent Garnier’s EDM composition ‘The Man with the Red Face’. This work is discussed in detail in Chapter 5. The performance features smooth rhythmic transitions between the two drummers in the band as they take turns in providing the rhythmic basis for the improvisation. The bass line features a harmonic modulation that was spontaneous but sounds completely composed as it works well against the dense keyboard pad played by Paul Corley. Dan Brown’s sparse piano playing and organ introduction provides an important part of the melodic interest in the composition. The bass line is performed with an Akai bass synth played through a Yamaha effects unit. This technical set up requires careful articulation of the bass notes for the digital synth unit to track the attack and decay characteristics of the note properly. Without dampening the adjoining strings, the sounds produced are not clear.
This improvisation can be divided into two sections identified by the contrasting bass lines - the first ascending and the second descending. These two sections also provide compositional contrast. The first features a piano solo and the second features sounds produced by the turntablist Tone Broker. The transition between these two sections works well, and is another example of creative group interaction. The end of the improvisation is somewhat arbitrarily chosen and the audio program is gradually faded in volume. The recording documents another high point in the creative output of the Cyberbass ensemble. Given that this recording was a complete improvisation with no direct leadership, it is a demonstration of the way that an ensemble can interact in the manner represented by Fig 7.4 to produce improvised music.

**Track 5: ‘Whoosh’ (SCU Performance Space - from ‘Work In Progress’)**

This improvisation features the same synth texture as the previous track. The tempo is slower and uses a cleaner drum sound reminiscent of an early 1980s Roland drum machine. The bass line emphasises the relative major, playing a one-note rhythmic riff a minor third above the previous one. This track features a violin and a different keyboard player but produces a very similar overall sound to the previous track.

**Track 6: ‘Telemetry’ (Byron Arts Factory)**

This improvisation features strong musical interplay between drummers and other instrumentalists. This improvisation uses two drum kits – one acoustic and one Roland V drum kit triggering sampled sound-effects rather than drum sounds. The bass line utilises an ascending triadic idea with a minor tonality, in this case modulated to a blues sound by the chords played by the keyboard player. In this composition, Ben Blay plays a bass line on the EWI wind controller. This improvisation is an example where the traditional roles of instruments are subverted.
Track 7: ‘Da Man’ (Byron Arts Factory)

This recording is the only recreation of an EDM composition within the ensemble. The piece, by Peter Kruder, is discussed in Chapter 5. This composition sees the Virus controlled by a EWI taking the lead melody, while the rest of the band recreates the chordal textures and bass lines found on the original recording. Paul Corley performs processed sound textures using an Ableton audio software patch controlled by a conventional MIDI controller. As this piece is performed with a drummer playing on an acoustic drum kit, it sounds more like a fusion jazz band than an EDM recording.

Track 8: ‘C3’ (SCU Performance Space - from ‘Work in Progress Performance 1’)

This is an early example of the Cyberbass ensemble. It is a study in the ability of a group to build sound texture around a drum rhythm and bass line that are repetitive, and tacet at periodic intervals. A series of textures from piano, violin and keyboards are augmented by vocal samples.

Track 9: ‘C2’ (SCU ‘Work in Progress’ Showing No 1)

This is also an early example of a slowly evolving soundscape improvised by a group of musicians. The first part of the work features a series of sound textures created by Matthew Hill using long stereo delay processing and a specific harmonic filtering process created using MAX MSP software in conjunction with triggered vocal samples and sound presets from a Wahldorf Digital analog modelling synthesiser. Violinist Cye Woods adds a varied but spacious collection of melodic motifs. Paul Corley adds sparse electric piano tones that are reminiscent of Brian Eno’s ambient work “Thursday Afternoon”.

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<sup>98</sup> Thursday Afternoon is a 1985 album by the British ambient musician Brian Eno consisting of one 61-minute composition of the same name
**Track 10: ‘Intro Set 2’ (Byron Arts Factory)**

This recording is a simple sparse piano and synthesiser recording that functions as the final part of the CD produced to publicise the Cyberbass ensemble. The recording includes three computer generated voice-overs. These voice-overs are spoken recordings of written excerpts from this thesis that became commonly used as sound textures within Cyberbass performances.

**7.11.3 DVD: Work-In-Progress Performances 1, 2 and Final Performance**

**Chapters 1-2: Excerpt from Work in Progress Showings**

Chapter 1 is a recording of the first work-in-progress performance that took place in April 2006. This performance tested the technical set up of the performance space and the ability of the musicians to improvise an LE performance in response to visual imagery. For both work-in-progress performances, I complied the video program before the performance. Within the video program, a specific series of video images were designated as ‘cue points’ for musical transitions. I incorporated a repeating video image as a signal that we had reached a cue point. These cue points enabled improvised music to shift in relation to the changing images projected onto the video screens.

The images were rendered in Imovie 5.0, Artmatic 2.0 and complied in Vtrack 2.1. Even though I have had no formal video editing training, I found these programs easy to use. UAE, the company that makes Artmatic and Vtrack software, incorporate a number of unorthodox editing features. For example, within Artmatic there is a randomised image-morphing feature controlled and represented by a dice icon. This type of feature facilitates ‘experimental’ editing without the need for in-depth

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**Important Note** DVD is a Dual layer disc that is best replayed on a Apple Mac or PC with a dual layer DVD burner/reader. Some machines may not automatically open the DVD if this occurs, go to ‘File’ menu of media player and select ‘Open’ Video Ts folder.
knowledge of the image-controlling and editing functions. These types of features also made the process of editing images enjoyable.

The first work-in-progress showing encountered a problem with a corrupted DVD file that was the source of images projected on the video screens surrounding the band and the audience. This resulted in an incomplete showing of the entire program of images. As a result, the audience could not gain a sense of the narrative visual element of the performance. The musical aspects of the performance were relatively successful, apart from the fact that the group did not perform as well as it could have. This is understandable, given that this was the first time the show had been performed and the ensemble was still getting used to the communication dynamics needed to perform this type of music.

The second work-in-progress showing featured a smaller number of musicians and only one drummer. No technical problems were encountered, and the group (which by then had performed regularly at the Byron Arts Factory residency program) was now quite adept at performing together. The compiled image file displayed rendered images and excerpts from the video interviews complied into sections that contained the same question asked to different respondents. The interview topics/responses formed a narrative structure to the performance - centred on the ideas and views of participants in the Australian LE community.

In these interviews, I asked people the following seven questions:

What is your name?
What are you doing here?
When did you start becoming interested in electronic music?
What are your influences?
What is the difference between a band and a DJ?
Can you make a living in Australia from your music?
Where will you be in five years?

These questions facilitated a (usually short) informal interview. A short interview was often all that was possible, given the distraction of the surroundings and the individual situation of each respondent. Some could only speak for a few moments before going on stage. Some were concentrating on other tasks at the time and could only spare a few minutes. A short impromptu interview process conducted in a casual manner elicits what might be seen as spontaneous and somewhat ‘unconsidered’ responses, and I acknowledge that responses may have differed in some ways if respondents were given more time to ‘consider’ their answers. On the other hand, I was known to all respondents as a participant in the LE community, and all interviews were undertaken in an atmosphere of conviviality in a ‘natural’ gig environment - rather than in a more contrived interview setting. I believe that respondents answered my questions in a direct and honest way.

During the final performance, the interview sections were broken up into seven distinct sections and interspersed with abstract imagery. The function of this design was to offer an alternate audience focus (images on screens versus musicians on stage) and to create a narrative structure that enabled audience members to understand some of the issues facing LE musicians. This helped blur the line between a screen-based event and a conventional music performance, encouraging audience members to question whether they were watching a band perform or watching a documentary presentation. The use of multiple screens aided the perception that the performance was not a band performance or a documentary presentation, but more of a multimedia event. Audio from the video program was fed back to one of the musicians who could add effects to the voices heard on video. The overall aim was to wholly integrate the performance of the musicians into the
presentation of the video material, and to encourage the audience to question the source of each sound – a musician’s bank of electronic sounds, audio associated with the video, or a combination of both.

**Final Multimedia Performance**

The final performance involved two extra dimensions. A video operator (Kirsten Bradley) compiled the images on stage while the musicians performed. The performances was also web-cast through the SCU University internet server. Off-site audiences could log on to www.scu.edu.au/Artseven and watch the performance on computer screens as a QuickTime codec file.

I will now describe and analyse each section of the final performance. Note that the following discussion should be read while viewing the creative portfolio DVD submitted with this thesis. After selecting ‘Final Multimedia Performance’ from DVD menu, DVD chapter points correspond to the time code markings indicated below.

**00.00 Improvisation 1**

The performance opens with a synthesiser pad that provides a constant sound texture and sounds a ‘concert A’ pitch. This sound is played while the audience are entering the performance space and is designed to make audience members question the nature of the looming performance. A sound effect with a rapidly-changing dynamic range and a resonant series of short attack and decays and no stable frequency is heard. Both these sounds are triggered by Matthew Hill. I trigger a series of Apple-speak voiceover samples using a mobile phone as a MP3 player\(^\text{98}\).

These samples replayed the following text:

\(^{98}\) To prevent my mobile telephone from receiving calls at during this performance it was switched to flight mode. The mobile phone was a convenient sound triggering device that could fit in my pocket and enabled me to play the bass and trigger sound loops at the same time.
One cannot consider the practice of one musician in the field without an acknowledgement of the set of influences that surround them. *(Blacking 1977)*

Programmed music cannot recreate sensory nature of real world interactions or the theatricality or the performance process of a group of musicians interacting and communicating on stage *(Toop 2005:34)*

Changing relationships in the creative practice of a particular musical community can be characterised in to two broad groupings. The first represents changes to the way that audiences listen to and consume musical product. A second represents the many changes and innovations that have altered the way that musicians create and compose music. Together, a summation of these forces helps drive the emergence of new musical paradigms and new musical cultures. *(Hill:2009)*

Welcome to human machine music...
Welcome to human machine music..
Welcome to human machine music...

These triggered samples act as a machine MC for the beginning of the performance and feature some quotes and ideas that are integral to this project. These samples aim to indicate that the performance is a reflection of the relationship between humans and machines. At 03.10, I begin to play a bass synthesiser part, alternating between concert A and C. This repeating motif forms the basis for the rhythm of the remainder of the introduction section. At 04.10, Ben Blay begins triggering a Virus Synthesiser with an EWI, and Paul Blay begins to play a medium tempo drum n bass
rhythm on the Roland V drum kit. The electronic kit sounds triggered by Ben are reminiscent of early 1980s drum machines.

The melodies played by Ben Blay are based on the improvisation from ‘Good Bit’ (CD 1, Track 2) and provide the main melodic focus of this part of the performance. I repeat the same melodic bass line throughout the track and switch between an acoustic bass sound and the AKAI bass synthesiser. At the end of this section (08.10), I improvise a new bass line that is a simple, syncopated, rhythmic figure pedalling the octave (concert A). This bass line acts as a cue for the video artist and the rest of the band to begin the next section of the performance.

This opening musical section is partly structured and partly improvised. The gradual layering of the instruments facilitates the smooth mixing of each instrument into the overall sound heard by the audience and recorded by the engineers in the studio. As the performance was being mixed and streamed live it was important for the technical aspects of the sound reproduction to be as flawless as possible, recreating the sound of EDM.

The imagery of the first section of the performance resembles the imagery that was sequenced and rendered in the second work-in-progress showing. It begins with a scrolling cursor with text that includes statements and quotes that relate to the overall theme of this project.

Abstract rendered video footage is gradually introduced - depicting scenes from the start of a tour that I commenced with The Bird in 2006. This tour is the source of most of the video material screened throughout the performance. Images in this sequence include band members checking in at airports, plane travel and roadside landscapes.
06.23 Interview sequence 1: “Introductions”

This section of the performance (06.24 to 08.12) features the first sequence of video images of interviews. The audio for this section of the performance is sourced from the video footage and is accompanied by background electronic sounds triggered by Matthew Hill using an Apple Laptop computer. This montage of video responses features members of my LE community identifying themselves. In this sequence some of the respondents simply answer their name while others explain where they are and what they are doing at the time of the interview. Respondent Matt Goodwin signals the end of the sequence stating:

And it's pretty much all improvised and it's like organic dance trance music. (Matt Goodwin Interview 2006)

This video image is looped a number of times to signal to the live performers that this first pre-edited interview sequence is ending. This cueing system worked extremely well.

08.13 Improvisation 2: ‘The Man With the Red Face’

This section is based on the bass line taken from the Laurent Garnier composition discussed in Chapter 5. This part of the performance begins with Matthew Hill triggering a keyboard pad sound layer. This sound layer is the same one created by Paul Corley on the previous two work-in-progress showings. I then introduce the bass line and Paul Blay begins to play a medium tempo drum rhythm. Ben Blay then improvises a Virus/EWI solo for the duration of the section.

The images shown in this section are an improvised collage of rendered video footage. Prior to the performance, I instructed the video operator Kirsten Bradley to
combine the screen images in a loosely-defined order. Within this section, the focus was on combining images that I had captured with my mobile phone while performing with The Bird. These images present an abstract representation of the view that musicians see from the stage at various performance venues such as Woodford Folk Festival and at Earthdance EDM festival. This imagery attempts to convey the surreal feeling that one has when faced by a throng of people who are all focused on your musical performance. For the web feed the screen images are mixed with images of the band at the actual performance. At various points one can see the subtle eye contact interactions of the band as they maintain a stable musical relationship to the video projections and to the other performing musicians.

12.11 Interview Sequence 2: Influence of EDM on My Musical Community

People were suddenly letting the music in their head out and they couldn’t have the patience learn guitar or write scores for orchestras but suddenly they could get on their little computers and make music….Humans started to get ideas off computerised stuff. (Ben Walsh interview 2006)

a heavy influence from electronic stuff coming back in to the people and in our case playing it without the electronics. (Matt Goodwin interview 2006)

There’s not the action and reaction of a live band, it’s just one person musically. Machines are here to stay. (Matt Ledgar interview 2006)

This section features members of The Bird, Wild Marmalade and DKO. These identified in Chapter 6 as part of my musical community. The interview respondents talk about their ideas about performing music inspired by EDM in a LE context. Their comments reflect the way that LE musicians were inspired by new sounds and ideas introduced by EDM. Respondents’ voices are processed by a digital audio delay line
that Matthew Hill had set up - using an audio input into an Apple laptop that controlled Max MSP audio software. This allowed him to process the audio from the video screen program and create an improvised ‘dub’ mix, integrating the audio from the video screens into the sounds produced by the musical group onstage. As these interviews took place in impromptu settings at festivals and music performances there is a lot of background noise – for example the sounds of a Chai tent jam\(^9\) (at 12.35 and 13.30) and sounds of a band on the stage nearby (13.35). The end of the section is triggered by a loop of Wild Marmalade performing live captured on video by me from the audience area in front of the stage. This is the cue for the next LE improvisation to commence.

The screen images of the interviews feature impromptu indoor and outdoor settings. Matt Ledgar is interviewed sitting on the grass near the Chai tent at the Exodus Festival 2006. Matt Goodwin is interviewed at his tent campsite at the same festival. Dion and Evelyn are interviewed at the backroom of The Zoo nightclub in Brisbane. Interspersed with these interviews is video footage of Wild Marmalade performing at Exodus Festival 2006.

**14.12 LE Improvisation 3: ‘Trance Music’**

This section of the performance is a LE improvisation based on the tempo and key signature of the music performed by Wild Marmalade - looped on the screen at the end of interview section (14.12). I instructed the members of the band to maintain the tempo of Wild Marmalade loop and the same key signature and improvise in EDM style of trance. This improvisation demonstrates the layering of sound textures

\(^9\) Chai tents are a fixture of outdoor music festivals I have attended in Australia and overseas during the last twenty years. They offer healthy, non-alcoholic refreshments and home-cooked desserts and snacks. Chai tents try to create a relaxed informal atmosphere, and some proprietors encourage acoustic musicians to play impromptu performances with acoustic instruments. As a result, many festival-goers bring drums wind instruments and guitars to the tents to meet other musicians and jam.
within a LE context that is similar to the programmed EDM examples discussed in Chapter 5.

Once Paul Blay establishes a stable 4/4 rhythm on the kick drum, I begin a syncopated one-note bass line sounding concert F. I maintain this bass figure throughout the entire improvisation, using different octaves and legato dynamics. Paul Blay maintains a 4-beat kick pattern and Matt improvises interlocking, syncopated parts on the Virus keyboard and Roland synthesiser. At 17.24 Paul stops playing the snare and then restores the snare pattern at 17.47. This is an excellent demonstration of the musical effect that can be created by removing sound textures and reintroducing them. As a group we decided before the performance to cue two points where we consciously removed the stable rhythmic relationship maintained between each sound texture, and instead play a free a-rhythmic jam. These points occur at 16.42 and at 18.38. This is a style of performance that is unique to LE and would be unable to be reproduced by a solo performer using quantised sequences. Throughout this section of the performance Matthew reintroduces samples of the interview audio as a separate sound layer.

During this section, images of Cyberbass performing show the subtle visual cues that a performing ensemble use to interact on stage. One has to be mindful of the technical parameters of the instrument and also interact with the other musicians. For example, at 17.40 Paul Blay and I visually confirm that a change in the layering process is about to occur. In keeping with the improvised nature of this section Kirsten projects screen images that visually complement the music.

19.15 Interview Section 3: ‘Acknowledging Influences’

In this section, respondents discuss influences that have informed their musical practice and their performance of LE. Below are excerpts of comments:
Technology has totally changed what we can do as musicians, I can fit all this technology into a small backpack and I can combine multiple outs of all these different sounds into a new sound, so it's really up to your own skills in composition and experimentation - it's all good. (Simon Durrington interview 2006)

It's like the music of the times ....I still love playing jazz music and all that stuff but I have really grown to appreciate the way that 4/4 dance music is so conducive to a whole group of people dancing so easily, and for me as a drummer it feels like a natural way to play music. (Matt Goodwin interview 2006)

I wanted to turn musicians onto the fact that this music could give rise to all sorts of composers who couldn't play instruments. (Ben Walsh interview 2006)

Allright, so this shit can be played by people. (Kris Swales interview 2006)

Some respondents (such as Simon Durrington) comment on the way technology has offered up new creative possibilities. Some discuss specific artists that influence their music (from Squarepusher and Cold Cut to Jimmy Hendrix and King Crimson). This section echoes the discussion in Chapter 4 - indicating that a complex set of influences can prompt musicians to re-orientate their creative practice. Throughout this section Matthew Hill plays very sparse chords using an electric piano sound that helps to provide an introduction to the next instrumental section.
The interview with Simon Durrington took place in a house in London while The Bird was preparing to perform at various venues in Europe in 2005. Sections of the video images demonstrate latency and synchronisation discrepancies - a product of condensing the video image into a QuickTime format that can be streamed over the Internet.

22.01 Improvisation 4: ‘Jazz’

This section is an improvisation that begins with a slow-tempo, small-group instrumental, jazz performance. Ben Blay applies reverb and sound processing to the sounds of his tenor saxophone. Paul Bay uses a sound patch on the V drums kit that recreates the sound of an acoustic kit. Prior to the performance, the only instruction I gave to Cyberbass was to perform in a modal jazz style, demonstrating the way that small group jazz ensembles interact while performing a largely free improvisation. The theme of this section was to demonstrate that a more conventional popular music performance relies more on melodic development of instrumental motifs to create musical instrument rather than just a layering of specific electronically-generated sound textures. In this section, the performance of the instrumentalists is recognisable by the sound of the instruments. The audience can visually identify the performer making each sound. Paul and Ben apply their own sound processing while they perform, taking the simultaneous roles of performer and engineer.

26.48 Interview Section 5: ‘Live Band Versus DJ’

A live band, you get more of a feeling everyone is in their own energies. The DJ plays the newest, freshest stuff. (Ben Rochstag interview 2006)

I enjoy a live band because its something that I cant do. (Anna interview 2006)
They are completely different... I prefer a band though...makes you feel alive again. DJs have their place though. DJs are replicating what former artists have done. (Kris Swales interview 2006)

A band has a lot more instruments – drums, bass guitar. A DJ you only have to look after a couple of lines. With a band there is probably more action on stage. (Dion Swales interview 2006)

DJs are cheap.... anyone playing in a live band has to spend time learning how to play music and compose and improvise on their instruments. You can have a whole band on one CD. If you're a DJ you can go, ‘Well now I am going to play Cuban or West African or funk’. You would have to have fifty bands to do that live. (Bobby Singh interview 2006)

It's like the difference between an artist an a artisan. (Ben Rochstag interview 2006)

In this section, respondents’ views on the difference between a live band and a DJ are heard and displayed on the screen. The audio of the video interviews is augmented by a hip hop drumbeat performed by Paul using the V drums to trigger samples of a turntablist’s scratching and electronic drum samples. Ben Blay triggers short electronic ‘sound FX’ sounds from the Virus synthesiser. I begin playing a repeating bass line that continues throughout the section. Matthew adds a background keyboard pad that has a discordant diatonic relationship to the bass line. The music of this section is an improvisation based on a hip-hop drumbeat.
The comments by the various respondents indicate the importance of the visual spectacle of live band performance. There is a feeling that live acts represent a performance that an audience member cannot achieve and that the performance of a DJ is perceived as one that requires less skill and training, therefore less valuable, since the possibility of becoming a DJ is open to 'everyone'. There is acknowledgement that the skill set of an instrumentalist musician performing in a band is different to that of an EDM performer/DJ.

31.00 Improvisation 5: ‘Drum n bass’

The next improvisation is based on a conversion of the hip-hop drum rhythm into a double-time rhythm based on a drum n bass rhythm. There was no specific instruction given to the musicians in this section, other than to perform in the style of drum n bass - as discussed in Chapter 5. The section opens with Matthew layering two sounds, a pitched-shifted vocal sample and a subsonic synthesiser texture that constantly pitch shifts downward. The bass line features a bass synthesiser sound triggered from the double bass. Ben Blay triggers incidental electronic sounds from the Virus controller. Paul uses an acoustic percussion instrument, a ride cymbal to provide an 8th-note rhythm that increases the dynamic level of the improvisation.

I view this as the weakest musical section of the performance. The tempo does not sit well and the various sounds used by the musicians do not present a clear representation of drum n bass.

36.51 Interview section 6: ‘Limits on Creative Practice’

Australia is really too small to survive as a musician (Ben Walsh interview 2006)
In Australia, the general acceptance for someone that does something culturally, they go is ‘Well I can understand that you gonna make a sandwich for me, but what are you going to do for me as a dancer?’ Sorry mate, I love Australia but people here are culturally a bit retarded. (Ben Walsh interview 2006)

People here can be really brilliant but they can be as poor as the guy next to them. (Ben Walsh interview 2006)

Unless you’re the Powderfingers or the Wolf Mothers it’s hard to make a living in this country. (Kris Swales interview 2006)

I don’t care about wealth, but I care about the next generation of drummers growing up and thinking ‘I can’t be a musician mate, I can’t afford it. (Ben Walsh interview 2006)

I’m a drummer…. I play on weird junky drums…. I live in a country with not much cash for the arts…. How do I pay the rent? (Ben Walsh interview 2006)

Music… its not the best living. (Anna interview 2006)

Australia is not willing to support anything different that is not already seen as popular in other parts of the world. (Ben Rochstag interview 2006)

This section presents a collage of respondents’ comments on the possibilities of making a living in the Australian music industry. Most respondents agree that making enough money to survive playing music in Australia is a very difficult task. Ben Walsh makes some strong comments regarding the lack of appreciation in the
wider Australian community of the contribution that musicians make to society, by comparing the way a sandwich maker is more valued then a musician or cultural worker. Some respondents take a philosophical view on the non-monetary gains of musical performance. Others are cynical, pointing to the fact that “you just have to know someone to make it in the music industry.” Accompanying the video audio is a series of incidental minor third tones played by Ben Blay on the EWI controller. Matthew Hill gradually introduces the same keyboard texture used in the second improvisation of the performance.

39.02 Improvisation 6: ‘The Man With the Red Face, Part 2’
Upon a visual cue point at 39.02 I begin to play the same Laurent Garnier-inspired bass line performed earlier in the performance. This is accompanied by the same drumbeat as played earlier. This section is quite structured, and the only improvised elements are incidental melodies performed by Ben Blay on the Virus synthesiser.

The music is accompanied by screen projections of scrolling text, featuring (among others) quotes from the Australia Council report Do Not Give up Your Day Job.

Australian musicians and artists are the biggest supporters of the Arts in Australia through the money they forego by continuing their practice. (Aust Council for the Arts: 2003)

40.45 Interview section 7: ‘Perspectives on the Future’
Where I think what happens when I get older what’s going to happen…. but that is just connected to fear and fear is irrational. (Simon Durrington interview 2006)
Part of me does worry about it, but being a musician means you have a real freedom to stand back and observe what’s going on and find your own niche. (Matt Ledgar interview 2006)

I feel like I'm gonna be ok. (Matt Goodwin interview 2006)

It's worth being a poor povo fuck to get up there and do what you want to do for living and be poor but be happy. (Kris Swales interview 2006)

We put a lot of emphasis on money in this culture, but when you put emphasis on spiritual things like the wealth of giving music to other people man I feel rich. (Ben Walsh interview 2006)

Ultimately it's your life and you get one crack, so you might as well go in there, suffer, struggle live on fuck all all money but be happy. (Kris Swales interview 2006)

The last series of video images detail respondents’ comments to the question “Where will you be in five years?” This question seeks respondents’ perceptions of their future participation in my own musical culture. Throughout this section, Ben and Paul join me in an improvisation based on the key centre of the previous section.

**43.50 Improvisation 7: ‘Closing Sequence’**

At the last interview cue point (“be happy”), Paul Blay begins to play the same drumbeat used in improvisation 6, and I return to the same Laurent Garnier-inspired bass figure. This section features Matthew playing chords with an electric piano sound, and triggering a processed sample of the interview audio. Ben improvises a melody, using an EWI triggered a ‘saw-tooth’ Virus synthesiser patch.
At 45.53, I play an alternate bass line that is the same as on ‘Hit single’ (CD 1, Track 4), featuring a descending melody. Paul plays a louder rhythm that includes the ride cymbal. The band continues to improvise until we end the performance with a quiet section (47.30) that is entirely improvised. The ending of the musical performance is signalled by a gradual fading of all instruments.

During this section Kirsten Bradley projects various video clips that show the text that was displayed at the start of the performance, and a pre-mixed, rendered credits sequence on the screen amongst other images.

**7.11.4 Final Performance Summary**

This performance can be viewed as a structured audiovisual improvisation. It integrates LE performance with audio and visual material recorded during a national tour with The Bird. The performance has a narrative structure built around the views of my own musical community, and provides insights into the creative processes used by this community to make innovative music grounded in the compositional structures evident in EDM. Adding a video operator to the ensemble integrates the improvised music with improvised screen imagery. Those viewing the performance offsite (via the internet) had a somewhat different experience to those present in the concert space. The mixing of images of the actual performance and the screen images for the web stream created a ‘abstraction’ effect - with images appearing as a ‘set’ visual collage, rather than allowing audience members to navigate their own visual journey.

**7.12 Summary: Creation of the creative portfolio**

This chapter has outlined the processes used to devise, prepare, perform, record and expose the works included in the creative folio. It has described the formation and
development of the Cyberbass ensemble, and showed how the group's developmental activities involved specific rehearsal and performance processes that represent a development of creative practices within the Australian LE community.

This chapter demonstrates how the Cyberbass ensemble adapted live music performance to present a final multimedia work informed by the ideas of my musical community and the musical concepts of sound-textural layering used in EDM, as well as technological developments that enable music performances to be viewed simultaneously in different contexts. The final live multi-media performance presents ethno-musicological information directly to a live audience and online audience. This performance enables the viewer to make their own interpretation of the multimedia performance.
Chapter 8

Concluding Remarks

8.1 Introduction - Reflecting on Creative Practice.

This project has displayed my reflections on creative practice as an active participant in the Australian LE sub-genre. I have documented the development of the creative processes that lay behind my activities as a performer of improvised LE, and highlighted connections between my work and activities and attitudes associated with my musical community. I have focused on portraying the ideas that Australian LE musicians have used in developing a creative practice that incorporates elements of EDM and electronic music in an improvised ensemble performance setting. A variety of changes in the last decade, including technological innovations and associated cultural developments, can be seen to have affected the way musicians in my community have developed music performance practices.

8.2 Defining an Art World

My art world is centered around the groups identified in this project. These groups are all at different stages of development, and no doubt by the time this thesis is published, bands may have changed membership, changed their approach to performance or ceased to exist. New bands will have emerged performing a similar style of music. It is also certain that my own musical community will continue to change.

The music of the LE community incorporates elements from many different musical music genres, including jazz, classical, North Indian folk music, hip hop, dub and reggae, but is focused on incorporating compositional structures of EDM within a improvised music ensemble context. The groups identified in this project connect in a musical and extra-musical ways. They inspire each other. Some groups, such as
The Necks have been a strong musical influence on me, while others, such as DKO and KO, have collaborated with my own projects at concerts and festivals - sharing equipment, resources and taking turns to play to the same crowd at music festivals and club venues.

On a business level, the groups within this community operate as small business ventures and part-time hobby projects. While simultaneously supporting each other's musical practice, they compete with one another for the attention of audiences, record companies, venue owners and agents.

My community of musicians involved in the LE genre can be seen as fringe dwellers in relation to the popular music industry, outside the dominant paradigm of contemporary pop music and also the socio-economic norms of contemporary society. As early adopters of creative technology and work practices they may herald a future mode of creative practice.

8.3 Economic Realities and Creative Opportunities.

The musicians in my community need to pay the rent and find a commercial outlet for their creative work if they are to continue creative practice as musicians. This community reflects Shuker's (2005:205) description of "The ongoing tension that exists between the essential creativity of the act of music-making and the commercial nature of its production and dissemination."

All musicians discussed within this project are aware that their own creative practice is curtailed by their economic situation. While pursuing their creative practice they must be mindful of the fact that in the long term they may need to earn money in other ways. While this may seem an obvious observation, the tension between
economic realities and creative opportunities exerts adaptive pressures on musicians that result in changes to musical practice.

8.4 Acknowledging Influences.
This project acknowledges a range of developments that have acted as broader influences on the contemporary creative practice of Australian LE musicians and on my own musical work. Some changes, such as the popularity of EDM and the development of musical technology, have had a direct impact on the way music is performed. Others, such as falling real rates of pay have had more of a secondary effect, by making musicians go about their practice in different ways. Some developments have been local and some global. Together, they act to shape new musical forms and cultures.

Technology, economic realities and social factors lead musicians to work in different ways. My own musical practice is driven by an interest in the way that technology can make new sound combinations that I find interesting and exciting. I enjoy the music played by DJs at dance parties but also love watching a jazz band interact to create great music onstage.

8.5 Connections Between Creative Practice and Social Context.
I have undertaken this project not simply to devise and perform a creative multimedia work. One of the main reasons for undertaking this project was to explore connections between the creative practice of specific musical communities and the wider social context. Music occupies a central part of contemporary culture - a world without music is 'unthinkable' - yet an understanding of the connections between music and the development of culture remain remains elusive.

I began this project inspired by the writings of Attali, who identifies a historical link with the creative processes and interactions used by musicians and the development
of models of economic production used within European societies. In his work, Noise: The Political Economy of Music, Attali (1985) described a future phase of musical production within society termed ‘composition,’ where everyone simultaneously produces and consumes musical product. The development of software such as ‘Garage Band’, the emergence of illegal and legal music-sharing via the internet and the appearance of social networking websites that allow anyone to upload multimedia content to the internet seem to support his hypothesis.

His related assumption that the activities of musicians predate wider cultural change is an adventurous one, and has been largely untested in relation to contemporary musical communities. My own musical community is one that works closely with computers to interact on stage and perform musical works. In this community of independent artists, we organise our industry links via email, and use the internet to promote our musical practice and sell our music online. We function as a community of small businesses within an economic environment that offers us little in the way of ‘traditional’ financial security and support.

As early adapters of technology in relation to creative, business, and social affairs, the LE community can be portrayed as a ‘radar environment’ for social change. LE musicians (and other musicians) have been quick to embrace the idea of the ‘independent’ worker, functioning outside mainstream industry organisations, and developing alternative workplace and social networks that enable them to continue their chosen activity in spite of a challenging environment. In my opinion, Attali’s thesis warrants further detailed investigation and discussion.

8.6 The Effect of Technology.

EDM and LE are heavily reliant on technology and, accordingly, the effect of the development of music technology is fore-grounded in this project. Advancements
over the last decade have made it possible to perform EDM with a group of musicians on stage without sequencers providing a quantised steady beat. This has enabled a type of live performance that is unlike conventional popular music forms.

Viewing an LE performance, it is often unclear to audience members what sound is being made by each musician. Unlike in an EDM performance by a DJ, there is a perceivable action and reaction amongst musicians, but the connection between action and sound is obscured. Sounds used are produced by machines triggered by musicians using a variety of controllers rather than being electromechanically reproduced through instruments and amplification systems. Triggering devices such as Kaos pads, laptop computers and small portable USB-powered MIDI controllers are examples of emerging technologies that have only been available to musicians in the last ten years. Portable hard-disk recording devices have also only become available over the same period. The recording processes used in this project that document the music performances in high quality were not available in the twentieth century. In these respect, my creative practice and the music produced by my LE community represent cutting-edge creative work.

8.7 Musical Characteristics of LE

Using a combination of western musical notation and my own graphic representations of EDM musical examples I have displayed specific ideas within EDM that have influenced the way that LE musicians construct their musical performances. EDM foregrounds the gradual layering of electronically-processed sound textures and a stable, quantised rhythm.

As a musician trained within the European ‘art music’ tradition, my musical performance framework is built around Bach’s Well Tempered Clavier and a lifetime of listening to Western art music. As an LE musician, I draw on the musical concepts
that I have absorbed while growing up in Australia. My parents were very musical and stimulated my interest in music performance from an early age. As an Australian I do not have a clear musical heritage from which to draw upon. In this respect, I am unlike other musicians that I work with (such as Bobby Singh whose North Indian and Sikh heritage guides his musical practice). As a result I feel that my musical practice is hybridised and multicultural. LE is also a hybrid style of music and therefore links strongly with my own cultural identity.

EDM musical styles, while utilising sound textures from outside the European art music tradition, are still programmed on software that display possible note choices with the aid of a keyboard graphic based on Bach’s original harpsichord design. The discordant tones of drum n bass are perceived as haunting and dark by an audience that may not be able to define a diminished 5\(^{th}\) interval or a minor 9\(^{th}\), but can still link the sound of these tones to the imagery of a Hollywood horror movie. Similarly, the use of diatonic chord movements and melodies within the EDM style of trance helps audiences feel the music as uplifting and satisfying. Audiences recognise that computers can reproduce programmed sequences perfectly over and over again, and the computer-sequenced drumbeats of EDM give the listener on the dance floor a sense of trust in the rhythm of the music. For the first time in history, a generation has grown up dancing not to live bands but to machine-produced EDM.

Analysis of EDM can effectively combine elements from traditional musicology with more genre-specific techniques. For example, in most of the examples analysed in Chapter 5 there is an element of diatonic harmony that can be identified using traditional musical notation, and conventional notation can still provides a simple and clear way to convey musical ideas to other musicians. On the other hand, one of the most effective ways of analysing an EDM piece is to use a modern graphic illustration - similar to that which is displayed on a software sequencing program. In this way,
elements such as changing musical textures and repeated loops become readily apparent.

8.8 Musical Interaction Within LE

This project focuses on the way in which music technology can be used to make improvised music spontaneously in front of an audience. Electronic instruments have great sonic power and are not limited in frequency, decibel level, or the type of sound they produce. A great deal of time is spent sculpting the sound itself, choosing the virtual instrument to be used from the nearly limitless number of digital configurations available. One must become sound engineer as much and music performer simultaneously.

In attempting to make music that is created like improvised music but sounds electronic, it has been important to address the preconceptions that musicians bring to the ensemble process. Musicians are generally not used to performing music in the way that EDM is composed - using computers and sequencing software. The ability to improvise a repeating melodic motif or sound texture and blend it with the overall sound of an ensemble is one that has not been developed by traditional music education pedagogies.

Electronic music performance requires a split focus. LE musicians need to be able to set gain structure levels, test computer connections, organise a palette of sounds, maintain a stable rhythmic relationship with the rest of the ensemble, invent suitable musical motifs, and monitor the way their sounds interact with the sounds of other members of the group.

Computers have inherent limitations for use within a group of musicians as they are designed for data entry rather than for musical interaction. Computers are designed
to be controlled by one person. They are designed for visual interaction - a sense that potentially gets in the way of the aural sensations that guide our ears to make coherent music. The technology of digital music-making limits the ability to interact with other musicians while constructing the sound itself.

These factors force a re-evaluation of the ways in which it is possible to interact on stage while manipulating technology in real-time to produce LE. During this project it became clear that group interaction processes had to be clearly defined if LE music was to succeed in producing music that resembled EDM. By performing regularly together the Cyberbass ensemble built up a framework for musical interaction, based on the ability of the members of the ensemble to engage in very close listening and make quick adaptations to suit the overall ensemble groove and sound.

8.9 Multimedia Performance and Web-Casts

This project can be seen as a form of digital storytelling. Burgess (2006:2) discusses the use of digital media in “transforming personal accounts into shared public culture.” With the aid of a mobile phone, cheap video camera, video projectors, musical equipment, computers and musicians I have displayed the views and creative processes of my own musical community simultaneously to a local and international audience. Internet technology enabled the transmission of creative works to a wider audience than has previously been possible. This development offers musicians great scope to develop careers and expose their work to a global audience.

8.10 Limitations of This Project.

This project does not set out to identify the features of all EDM works or try to present a definitive discussion of EDM. It does not seek to represent the practice of all Australian musicians involved in EDM or in LE. The focus of this project has been to
present a creative work that highlights the activities and views of my own creative community. As a participant, I am able to observe the creative practice of this community and demonstrate the way that this practice is innovative. Through a series of interviews conducted during the research phase of this project I am able to display some of the views of members of this community. These are incorporated into a multimedia work that highlights what I see as important issues facing the development and of this community and the formation of the creative practices used by its members.

I acknowledge that the video interviews incorporated into the multimedia work do not present a comprehensive profile of LE musicians in Australia. Further work is needed in documenting the development of musical communities and displaying their creative practice and the social pressures that influence them.

This project shows the potential of multimedia technology as a performance tool. However, since the visual material was shot with a consumer-grade digital video camera and rendered by myself (a musician rather than video editor), the image quality is not high-grade. The final multimedia work provides a digital file of the compressed web cast video and audio codec. This process further reduces the video quality of this part of the creative portfolio. The live, improvised nature of the final multimedia performance has also produced some musical sequences that are better performed than others.

8.11 ‘Hybrid’ Research

This project intentionally straddles a number of areas. I have analysed examples of EDM works and identified prominent elements using traditional and contemporary analysis techniques. I have described the cultural context of my own musical community and used a form of fieldwork (in the form of interviews with members of
my own music community) to understand the views an ideas that have helped shaped the musical practice of LE musicians. I have incorporated this primary ethnographic data into audio-visual material used within a large-scale, multimedia performance, and I have documented the various creative processes leading to this performance.

Thus, my project presents a multimedia text, ethnographic research, musicological analysis and a documentation of creative practice within a musical community. I hope that this project demonstrates the value of a hybridised, practice-based approach to music research in helping us understand the way music cultures develop.
Bibliography


Bibliography

Routledge.


Discography

Abrahams, C Swantton, L and Buck, T performing as The Necks:
- (1990) Next Sony Music


Blazye, R performing as ‘J Laze’ (2000) Lucky Starz Looking Good Records


Durrington, S Hill, B and Walsh, B performing as The Bird:


Golding E, Retschlag B, Matheson T and Swales K, performing as DKO (2007)’The Rule Of Thirds’.


Hill, B Hill, M and Walsh, R performing as amphibian
- (2000) In Pursuit of Plankton

Hook, P Gilbert, G Morris, S & Sumner, B Performing as New Order (1983) Blue Monday

Hutter, R Schneider, F Kur, W and Bartos, K performing as Kraftwerk (1977) Trans Europe Express Berlin Columbia.


Ledger, M and Goodwin, M Mullumby S, performing as Wild Marmalade


Miller, M (1994) Tales PRA Recordings.


Thompson, K performing as DJ Krust (1997) “Kloakin Device” From Size R Through the Eyes with Ronnie Size Full Circle Recordings.


Webster, D and Webster, B Performing as transa, (1999) Carlas Theme Hook Recordings.


Appendix 1 Support Material and Creative Portfolio

Item 1. Audio CD 1: Initial Recording and Audio Documentary.

Track 1: ABC Documentary (broadcast 2NR ABC Local Radio October 30th 2004)
Produced by Andrew Parkes Copyright ABC 2004

Item 2. Audio CD 2 Improvise.

See CD Packaging for track Listing

Item 3. Creative Portfolio DVD

Important note: The DVD submitted with this thesis is a Dual layer disc that is best replayed on a Apple Macintosh or PC computer with a dual layer DVD burner/reader. Some consumer DVD players have difficulty reading Dual Layer DVD Discs. Some computers may not automatically open the DVD. If this occurs go to 'file' menu of the media player application and select 'open media' or 'open file' and select Video TS Folder on DVD Disc Image. If difficulties persist, Final Multimedia performance can be downloaded as a 165mb Quicktime Movie file from http://artseven.scu.edu.au/barryhill/movies/stream.html.

Item 4 Audio CD 3 List of Reference Audio Recordings

Track no /Name - Artist/Label
1. Carla's Theme - Transa, Hook Recordings
2. Kloakin Device - DJ Krust, Full Circle Recordings
3. Yulquen Autechre Warp Records
4. The Tunnel - Red Snapper Making Bones
5. Earthbeat - Yoshinori Sunahara Ki/oon Records
6. The Man Part 1 - Peace Orchestra GStone Records
7. The Man with the Red Face - Laurent Garnier Mute Records
8. Lucky Starzs - J Layze Looking Good Records
9. Beyond Skin - Nitin Sawhney OutCaste recordings
10. Tales - Marcus Miller PRA Records
Appendix 2 Transcript of Video Interviews

1. Introduction
These interviews took place at various locations in Australia in the period between Nov 2005 and March 2006. SCU Graduate Research College Ethics Committee approval was obtained prior to the recording of these interviews.

Interviewee's were chosen either for the fact that they were a musician in a band that was one of those described in this project. Others were part of the support crew of one of the bands described in this project were chosen somewhat at random from the audience (such as Ian Howard from London).

Each interview was preceded by a short discussion with the interviewee obtaining permission from the interviewee to video them and describe what would be done with the footage. I described the project to the interviewee and showed them the ethics document that I had prepared in relation to the Southern Cross University ethics committee approval I had obtained for this project. After receiving approval from the interviewee, I asked for responses to a short series of questions.

Interview Questions.

- What is your name?
- What are you doing here?
- Can you describe the music you play?
- Can you describe the music you play?
- What are your musical influences. Any particular Artist that you remember?
- What is the difference between a band and a DJ?
- Can you make money as an Artist in Australia?
- Where will you be in 5 years?

Sometimes it was not possible or relevant to ask all questions. Some questions were only relevant to musicians. Sometimes the answers provoked an extended conversation that strayed into other subject areas. The English Audience member Ian Howard was one example of an interviewee who was not able to respond to all the questions, given the loud background noise and the excited state in which he was in when interviewed.

2. Video Performance transcript.

What are your musical influences. Any particular Artist that you remember?

Bobby Singh- Our style of music is called Farurkhabad.

Ben Walsh- Mitch Mitchell was a killer drummer...grew up with Frank Zappa...Aphex Twin Squarepusher Propellorheads Cold Cut Chemical Brothers Prodigy I came out with an anthology bible of the most influential shit I started playing in pubs when I was 13.

Ben Walsh- People were suddenly letting the music in their head out and they couldn’t have the patience learn guitar or make music but suddenly they could get on their little computers and make music.”...“Humans started to get ideas off computerised stuff”.
Ben Walsh- First time I heard electronic music on the scene I was pretty anti electronic music venues were closing down and djs were taking over it was like a far like anything new there is a fear.

Ben Walsh- It was Squarepusher that got me into it and at first I was afraid of it and then I realised I wanted to do this as a live musician and started the Bird”.

Ben Walsh- I thought These djds have no idea about rhythm but this music was amazing and I started getting into it and people were listening to drums so I thought what an opportunity...”

Ben Walsh- Electronic music is an absolutely free source of music ........I wanted to turn musicians onto the fact that this music could give rise to all sorts of composers who couldn’t play instruments”.

Ben Walsh- I thought that electronic music as well as spawning a new breed of non instrumentalist composers it would also give live music a fresh kick up the arse.

Matt Ledgar- Every artist in this country is forging and pushing the boundaries.

Matt Ledgar- I started playing when I was 15.

Matt Ledgar- More than influenced it challenged me to be better than it” I was a percussionist and when I was coming up drum machines were just coming in and I could see loads of work just going.

Matt Ledgar-Theres not the action and reaction of a live band its just one person musically machines are here to stay.

Matt Ledgar-I just wanted to go harder and faster and make infinitely more complex grooves.

Matt Ledgar-I play music to push new boundaries new styles and new sounds that people haven't heard.....

Matt Ledgar-I love working on the computer it gives you a chance to sit an go right inside look at each sound in detail and hit it again and again.

Matt Goodwin-a heavy influence from electronic stuff coming back in and in our case playing it without machines

Matt Goodwin - Its like the music of the times the sixties had Woodstock and that was the way it was but this is the way it is now it's the music of the people

Matt Goodwin-I still love playing jazz music and all that stuff but I have really grown to appreciate the way that four four dance music is so conducive to a whole group of people dancing so easily and for me as a drummer it feels like a natural way to play music.

Simon Durrington- Technology has totally changed what we can do as musicians

Influences.

Simon Durrington- I can fit all this technology into a small backpack and I can combine multiple outs of all these different sounds into a new sound so its really up to your own skills in composition and experimentation its all good.
Kris Swales- DKOD The reason we started inspired by live sets from people like underworld the Bird.
So I thought well this shit can be played live...

Evelyn Golding-All kinds there is no set rule to my influences.

Ben Macpherson-Stuff like Hendrix, Led Zeppelin King Crimson and prog rock .....Pete Gabriel stuff...I love world music, massive attack left field I try and bring that in to what I do.

Dion Swales-The Bird is unbelievable the drummer
I cant program as good as he drums it should be the standard.

**What's the difference between a live band and a DJ?**

Anna- Live band you get more of a feeling everyone is in there own energies
A bad band is one that doesn't look at the audience when they perform.

Kris Swales-The DJ plays the newest freshest stuff
I enjoy a live band because its something that I cant do.

Anna-They are completely different... I prefer a band obviously makes you feel alive again.

Kris Swales-DJs have their place though. Djs are replicating what former artists have done.

Dion-A band has a lot more instruments drums bass guitar a dj you only have to look after a couple of lines. With a band there is probably more action on stage.

Bobby Singh-DJs They are cheap.... anyone playing in a live band has to spend time learning how to play music and compose and improvise on their instruments. You can have a whole band on one cd. If you're a dj you can go well now I am going to play cunban or west African or funk. You would have to have fifty bands to do that live.

Ben Macpherson-Its like the difference between an artist and a artisan.

Ben Macpherson- being a good dj is like being able to pick a good wine like you have to pick a bunch of good tracks.....hype people up
Seeing some one get up and spin records its like watching something that anyone can do.

Ian Howard-You guys went off!... the difference between computers and live music
......Doing it live...... the people just cannot understand that you can do that with live instruments.

Kris Swales-I have always thought that going to see a live act was better. Computerised style music was always there but seeing it played by real people is just that much better. But the best djs can take you to a really great place. Live acts fucking rock.....

Matt Ledgar-Bands can go places that machines cannot unless the operator is really really good. When you get three people onstage the action and reaction.

**Can you make money as an Artist in Australia?**
Kris Swales-Australia is really too small to survive as a musician.

Ben Walsh-In Australia, the general acceptance for someone that does something culturally they go is well I can understand that you gonna make a sandwich for me but what are you going to do for me as a dancer. Sorry mate I love Australia but people here are culturally abit retarded.

Ben Walsh-People here can be really brilliant but they can be as poor as the guy next to them.

Ben Macpherson-That's the the beauty of being a musician in Australia.

Kris Swales-Unless you're the powder fingers or the wolf mothers its hard to makea living in this country.

Ben Walsh- I'm a drummer.... I Play on weird junky drums..... I live in a country with not much cash for the arts.... How do I pay the rent?

Anna- Music its not the best living.

Ben Walsh- Australia is not willing to support anything different that is not already seen as popular in other parts of the world.

Ian Howard-If you went to London you would take it all mate. You would be playing at Sounds V-live, Equinox Ministry of Sound.... people would love you, you would go off mate.

Ben Walsh-I care about the next generation of kids growing up in this country and going awww you cant be a musician.... you just cant afford it.

Dion Swales-You gotta be keen You cant you pretty much have to know someone who knows someone who can get you the gig.

Ben Walsh -This country is the way it is. Arts is the way it is... Arts don't get much support in this country there is no artists with big houses I sometimes wish it was like that but it isn't so I don't worry about it.

Evelyn Golding-Earning money and making good music are two different things.

Evelyn Golding-I got no burning ambition to be a superstar.

Kris Swales -You just got to way it up I could earn a shit load of money doing some shit job working for have a shit job and work hard to to earn a lot of money for someone else but that takes time away from making music.

Kris Swales - Its hard if you're an artist cause you really believe in what you do and you want to make music and make something good and believe in what you are doing.

Matt Goodwin - I have fuck all to show for the twenty years of music that I have played.

Dion Swales - I gotta a day job.

Dion Swales - During the day I write music and at night Im a dominos delivery driver.
Anna - I work in a music store.

Evelyn Golding-You find ways survive that’s just part of being human but you also find time to do what you love as well but ifg those two things could combine that would be great.

Evelyn Golding-I don’t want to ever feel like I have to earn money to make music.

**Where will you be in 5 years?**

Simon Durrington- I do have those momentsWhere I think what happens when I get older whats going to happen to my health but that is just connected to fear and fear is irrational.

Simon Durrington- Part of me does worry about it but being a musician means you have a real freedom to stand back and observe what’s going on and find your own niche.

Matt Goodwin-I feel like im gonna be ok.

Kris Swales-Its worth being poor povo fuck to get up there and do what you want to do for living and be poor but be happy.

Ben Walsh-We put a lot of emphasis on money in this culture but when you put emphasis on spiirirtual things like the wealth of giving music to other people man I feel rich./

Kris Swales-Ultimately its your life and you get one crack so you might as well go in there suffer struggle live on fuck all money but be happy.

Evelyn Golding Im happy to earn money in other ways.

Dion Swales-Put in a lot of work.

Ben Walsh-You all want to be musicians?? Buy a fone Learn how to negotiate Learn how to do a little bit of graphic designLearn how to put a poster together Cause if you think that all you have to do is put a demo tape together and a manager is going to come along and sign your band Your being mislead.
### Appendix 3 Production Details Final Multimedia performance

#### 1. Human Machine Music Audio Input List

<table>
<thead>
<tr>
<th>Musician/Artist</th>
</tr>
</thead>
</table>
| 1. V drums Kik | Paul Blay  
| 2. V drums Snare |  
| 3. V drums Auxiliary |  
| 4. V drums Stereo left |  
| 5. V drums Stereo right |  
| 6. Cymbals Overhead left |  
| 7. Cymbals Overhead Right |  
| 8. Bass Di | Barry Hill  
| 9. Bass Mic Cabinet |  
| 10. Announcement Mic |  
| 11. Mobile Fone Di |  
| 12. Laptop Left | Matthew Hill  
| 13. Laptop Right |  
| 14. Virus Synth Left | Ben Blay  
| 15. Virus Synth Right |  
| 16. Video Laptop Left | Kirsten Bradley  
| 17. Video Laptop Right |  

#### 6 Foldback Sends

(3 Stereo 3 Mono)

- Stage Far Left
- Stage Left
- Drum Fill
- Stage Right (Stereo)
- Stage Far Right (Stereo)
- Send To laptop (stereo)

#### Notes

- Video to be triggered from Onstage Video Laptop
- FOH PA to be Configured in QuadMode
- Performance to be continuous
2. Stage Layout Human Machine Music

- Bass Amplifier
- Bass and Bass synth Barry Hill
- Roland V drums Paul Blay
- Audio Laptop and Keyboards Matthew Hill
- Video Laptop Kirsten Bradley
- Announcement Mic
- Overhead Mic
- Foldback
- Foldback
- Foldback
- Foldback
- Foldback
- Front of Stage
- Virus Synth and Electronic Wind Instrument Ben Blay
3. Performance Space Layout for HMM Webcast

Entrance

Musicians Stage area

Mixing and lighting desk

Audience area

Video screen front

Video screen left

Video screen right

Pa Speaker Front Left

Pa Speaker Front Right

Pa Speaker Left rear

Pa Speaker Right rear
Appendix 4 Program Notes Multimedia Performance

**Human Machine Music**

Electronic culture project  
Multiscreen video collage  
Live music performance.

Video Collage Producer - Barry Hill  
Music Director - Barry Hill  
Video Operator - Kirsten Bradley

Running time 60 mins approx

(Alert!! Some coarse language in video content!)

About this Project

This Multimedia Performance is the creative component of a Post Graduate Research Project entitled “Human Machine Music”. This project has been conducted through the SCU School of Contemporary Arts and Social Science and has been produced by SCU Doctorate student and APA scholarship recipient Barry Hill. It presents a video collage projected onto three video screens that is complimented by a music performance. The music is performed by the Cyberbass LE Ensemble.

This performance will be web-cast live and be available to view on the web at [http://www.artseven.scu.edu.au/barryhill](http://www.artseven.scu.edu.au/barryhill). This stream will be available to be viewed at the same website after the event in a variety of digital media formats.

**Cyberbass LE (Live Electronica) Ensemble**

Barry Hill – Eminance Electric Upright bass triggering akai bass Synthesiser and digital effects.  
Matthew Hill- Keyboards-Ableton/MaxMsp Audio Software  
Paul Blay – Roland Virtual Drum Kit.  
Ben Blay - Virus Synthesiser/Electronic Wind Controller/Saxophone.

The Cyberbass LE Ensemble has been evolving over the last three years. Jazz improvisation and electronic dance music combine to produce music performances that are reminiscent of Australian jazz trio The Necks, and the work of electronic music producers such as LTJ Bukem, Aphex Twin and Laurent Garnier. Unlike most electronic music that is programmed to a rhythmically sync to computer controlled tempo, Cyberbass musicians interact as a Improvising ensemble, using individual musicianship skills rather than computer control to produce coherent music.

The Cyberbass LE Ensemble started out as a SCU contemporary music electronic ensemble workshop as part of the SCU contemporary music
program. Since then, it has moved out of the classroom and into the real world. Cyberbass has performed at Music Festivals such as Splendour in the Grass and Bonalbo Electronic Arts Festival. The Cyberbass debut CD ‘Improvise’ is available for purchase by contacting barry@amphibianmusic.com

Notes on the Creative Work.

Over the past 24 months Barry has Toured Australia and Europe as a bass player and computer musician with the successful Australian “Live Electronica” band ‘The Bird’ (www.thebirdweb.com). While playing and touring Barry kept a video diary, recording conversations informal interviews and live performances with a mobile phone and a digital video camera. The images are presented in the performance as a video collage that has been created using V Track, ArtMatic, Final Cut and Imovie digital video editing software. Interspersed with the rendered digital footage, are snippets of interviews with other performers audience members and technicians. The responses of the people on screen give some insight into the world of Australian Live Electronica musicians.

‘Live Electronica’, is a music genre that is relatively new. It reflects the fast emerging technology of digital audio production and the rapidly changing social dynamics of 21st century musical culture. The last ten years has seen the contemporary music industry become dominated by electronic music that has been programmed on computers. The electric guitar and drum-kit now share the stage with the sampler, laptop computer and the deejay’s instrument- the venerable turntable. A whole generation of people in the world have now grown up on Electronic Dance Music and are now used to the computer precision of Electronic Dance beats, unrelenting and somewhat inhuman.

Live Bands are now becoming able to recreate the sound of this music by performing with new technology such as software synths and improved interactive MIDI (Musical Instrument Digital Interface) controllers such as Roland V Drums and the Electronic Wind Instrument (or EWI). In Australia there are many bands that building a name for themselves reproducing electronic music live. These include Loonaloop, Morph, The Bird, Amphibian, KO, DKO, the Resin Dogs the Levitators and Triosk just to name a few. These bands can be seen to be part of an emerging culture of electronic music that combines stage musicianship and computer musical instruments. Overseas, bands like The Bays(UK), Nerve and Pnuma Trio(USA) are emerging from the fringe, attracting big crowds and playing live music with conventional instruments and computers sharing the stage, but without a Drum machine dictating the Rhythm. It is music that uses the playing and ensemble skills of jazz but is inspired by Electronic Dance Music.

This creative work then seeks to portray the cultural world of this emerging musical form and analyse the creative processes of musicians involved in this genre.
Cultural Significance.
Performing as an independent band in a small electronic music subculture in Australia has its drawbacks. There is not much money in the Australian Contemporary Music Industry. Musicians must be innovative and market themselves in a variety of ways to survive economically. The last ten years has seen the music industry transformed by changes to the way we listen to music and participate in musical cultures. Music CD sales are falling as Ipods and file sharing become our preferred mode of listening to music. Curiously, live music concerts and festivals are still attracting big crowds—it seems that live music is still being demanded by 21st century audiences. Where does this leave the professional music performer? What are the prospects for the future of live music performance? These questions interest me both as a social researcher and a musician.

Theorists such as French Economist Jacques Attali believe that musical subcultures say a lot about the wider social developments of a community. By studying emerging musical subcultures, one can ascertain the direction that wider society may well develop. For example, in the early 80s, with the advent of the MIDI computer languages and cheap home computers like the Atari 1040st, Contemporary Musicians were one of the first types of people to incorporate computers into their everyday creative practice. Now many types of jobs in western society involve intensive computer use. In this way, one can characterise the creative practice of musicians as a form of “radar environment” for social change.

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Emma Newman
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More Info? Contact Barry Hill barry@amphibianmusic.com
Appendix 5 Examples Poster Graphics Cyberbass Performances

free performance tuesday 4th april 2006
scu contemporary music
d block room 129
6pm-8pm

human machine music
exhibit live music
multimedia

featuring barry hill and
the <cyberbass> ensemble

?? barry@amphibianmusic.com
cyberbas
scu.electro.big.band.project
directed.by.barry.hill

14.adventurous.musicians. 
a.rhythmic. 
exploration. 
into.the.electronic. 
a non.stop. 
live music/dance. 
experience.

saturday 
23rd October 
Coorabell Hall 
8pm-late 
10/5 dollars at the door