Digital Sampling and Appropriation as Approaches to Electronic Music Composition and Production

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“The most beautiful experience we can have is the mysterious - the fundamental emotion which stands at the cradle of true art and true science.” Albert Einstein

Abstract

Through analysis, observation, critical listening, interviews and creative practice, this study explores how techniques of appropriation via digital music sampling are used for electronic musical composition and production. Included is an examination of literature and creative work focused on the Golden Age of Hip-Hop that explores early sampling processes and techniques. Through original compositions and an exegesis, the study provides unique and significant contributions to the field including the identification of four approaches to the design and construction of sample-based composition and associated techniques for achieving them using contemporary music technologies. The Golden Age of Hip-Hop is presented as a historical period of musical significance, not only for defining new genres and sub genres of music, but because of the influencing factors that emerging technologies had on new compositional processes and outcomes. Highlighting the lineage of digital sampling and appropriation in the Golden Age with contemporary approaches to electronic music composition is at the core of this study. The historical analysis is supported by the implementation of the identified approaches using contemporary techniques that further extend practices of digital sampling and appropriation.

I was initially attracted to the topic of this having come as a session saxophonist and record producer heavily influenced by the hybridisation of jazz and hip-hop. Both of these genres were influential factors in my musical development, with modern-day approaches to electronic music production heavily influenced and driven by the use of digital sampling and appropriation in order to construct musical works.
An overview of the art of remixing and how it serves as an apprenticeship within the realms of electronic music production, offers detailed insights into compositional approaches and habits of artists and producers when implementing digital samples of metric and non-metric timing to form a new work within electronic music production. Remixing is also supported by three legal parameters often associated to digital music sampling and appropriation, outlining how fragmented literal similarity, de minimis and the fair use doctrine have been developed to protect artistry, whilst allowing sampling through the democratisation of sampling technologies to flourish and challenge the assumptions of ownership, authorship and creativity. An in depth analysis of four case studies allow for an historical understanding of how digital sampling and appropriation formed the basis of some of the most influential recordings to have come out of the *Golden Age of Hip-Hop* and have continued to influence approaches to composition within modern-day electronic music production. In conjunction with the analysis of cases studies an overview of digital sampling technologies in the form of the Akai MPC 60 and the E-mu Systems SP-1200, offer great insight into the affordances emerging and developed technologies contributed to the compositional process, thus resulting in such formidable and influential outcomes.

Supported by the influencing factors of Hirsch’s theory of post-memory and Perchard’s theory of musico-cultural influences; the outcome of musical analysis resulted in the 4 approaches that can be defined as Lyrical Fragmentation, Cultural appropriation, Constructionist Collage and Improvised Remix. An exploration through composition outlines my use of metric, non-metric, temporal and textural variance, sonic sculpting techniques, and the exploitation of characteristics of sampled source material. These were motivating factors to create works based on the 4 approaches to digital sampling and appropriation. Finally, after ethical clearance (Musician Interviews GU Ref No: QCM/06/15/HREC) from the university, a survey was developed and distributed to select respondents asking them to answer questions related to the ideas in this study.
The data collected from the surveys presents as one of the most outstanding characteristics of this study. It validates the scope and concepts of this study whilst comprehensively outlining individual approaches to digital sampling and appropriation a compositional practice. This data further elaborates on the 4 approaches identified in this study and offers scope for further research.
A List of Original Musical Works

1. Let Me Love You – Lyrical Fragmentation

Let Me Love You is an experimental hip-hop (chilled hip-hop) approach to Mario’s 2004 hit single. The two features of this work are the fragmented vocal that coincides with the newly developed swung 16th approach to the arrangement. This original work offers juxtaposition in rhythmic displacement infused with elements of jazz and electronic influences. Sounds like: Freddie Joachim, Robert Glasper, and Kaytranada.

2. You’re The One – Cultural Appropriation

You’re The One showcases the use of culturally appropriated sounds and instrumentation to form an electronic influenced musical work. This original work features the use of Latin percussion, brass and woodwind phrases and highly nuanced drum sequencing, offering a hybridisation of non-western and western approaches to music production. Sounds like: Giles Peterson, Havana Cultura and The Reel People.

3. 5 Hours In Brooklyn – Constructionist Collage

5 Hours in Brooklyn is an original experimental hip-hop piece, driven by elements of jazz and electronica. Constructed from entirely pre-recorded samples of my own recordings and gathered from sample packs, 5 Hours In Brooklyn showcases the outcomes sample-based composition. Sounds like: D’Angelo, Oddisee, DJ Shadow and Frank Ocean.

4. Covent Garden – Improvised Remix

Coven Garden is an original electronic musical work offering a representation of riding the London Underground. Approaches to electronic dance music have been infused with the conceptualisation of ambient sounds to replicate the journey from Covent Garden to Leicester Square Station. This approach utilises the use of pre-recorded, pre-arranged and non-western appropriated sounds to form a vocabulary of musical textures intended for live performance. Sounds like: Bonobo, Jon Hopkins and Giles Peterson.
Keywords

digital music sampling, appropriation, electronic music production, electronic dance music, composition, hip-hop, the golden age, lyrical fragmentation, Cultural appropriation, constructionist collage, improvised remix, cultural appropriation, musical arrangement, music editing, recontextualisation, decontextualisation, qualitative music research, fragmented literal similarity, de minimum, fair use doctrine, intertextuality, music works, creativity, musical textures, source material, sonic signatures.
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Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed:  

Date:  23/09/2017
Introduction

Through analysis, observation, critical listening, interviews and creative practice, this study explores how techniques of appropriation via digital music sampling are used for electronic musical composition and production. Included is an examination of literature and the production of original creative works which focus on the *Golden Age of Hip-Hop* and explore early sampling processes and techniques. The Golden Age of Hip-Hop as defined by Wikipedia, is a name given to a period in mainstream hip-hop, usually cited as being a period varying in time frames during the 1980s and 1990s said to be characterised by its diversity, quality, innovation and influence (Wikipedia, 2017). Through original compositions and an exegesis, the study provides unique and significant contributions to the field, including four approaches to the design and construction of sample-based composition and associated techniques for dealing them with contemporary music technologies.

*My Musical Background*

A visceral interest and fascination with record production, including the utilisation of hybridised textures and nuances within composition, commenced long before I was aware if its potential future impact in music history and the influence it would have on my future in performance and record production.

Undoubtedly, this fascination dates back to age of 9, where songs *Kokomo*, The Beach Boys (The Beach Boys, 1988), *Teardrops*, Womack & Womack (Womack & Womack, 1988), and *Me, Myself and I* by Da La Soul (De La Soul, 1989) dominated the charts. Previous to 1989, songs such as *It’s Tricky*, Run DMC (Run DMC, 1986), *Word Up*, *Fight For Your Right (To Party)*, Beastie Boys (Beastie Boys, 1986), *Bring The Noise*, Public Enemy (Public Enemy, 1987) and *Push It* by Salt N Pepa (Salt “n” Pepa, 1987) co existed alongside, Prince, U2, Rick Astley, Cheap Trick, Pat Benatar, Phil Collins, The Bangles and Underworld to dominate the airwaves, with the music charts forming and eclectic mix of music of pop, rock, r’n’b and hip-hop.
Each weekend would consist of listening to the top 30’s during the morning and then at 5pm every Saturday and Sunday evening, my mother and father would turn on the radio and listen to the ABC’s Jazz Track with then presenter Jim McLeod. So from an early age my musical listening habits were a hybridisation of jazz, hip-hop and rock music. In conjunction with artists such as Run DMC, Public Enemy, Beastie Boys, Da La Soul, N.W.A, Ice Cube, Dr. Dre, New Kids On The Block and Prince, I was exposed to some of the most influential jazz artists of all time such as Stan Getz, Stephan Grappelli, Oscar Peterson, John Coltrane, Tony Bennett, Jimmy Smith, Etta James, Shirley Scott, George Benson, Dexter Gordon, Scott Hamilton, and then later on Harry Connick Jr.

After studying jazz saxophone for two years at college upon graduating high school, I travelled to Stanford University in the summer of 2000 to immerse myself in jazz music even further, studying under Chu-Cho Valdez, Mulgrew Miller, Billy Higgins, Harold Land, Mark Murphy and other influential jazz artists. However, I never felt at home strictly studying jazz. I always found myself reverting to Prince (Pop/Soul), Stevie Wonder (Soul/R&B), Earth, Wind and Fire (Soul/R&B), Beastie Boys (Hip-Hop), D’Angelo (Soul/R&B), A Tribe Called Quest (Hip-Hop), Red Hot Chili Peppers (Rock), and DJ Shadow (Hip-Hop). I couldn’t wholeheartedly engage in jazz and I didn’t understand hip-hop culture, but what I did understand were groups like A Tribe Called Quest, Pete Rock and the Beastie Boys offered a hybridisation of jazz and hip-hop, which continually captured my imagination. I had grown up throughout the ‘Golden Age of Hip-Hop’, where many of the records I had been listening to throughout the late 80s to early 90s either sampled the same jazz records I’d been listening to on Jazz Track or sampled funk and soul records to form musical content. I felt that I couldn’t solely contribute to jazz and I couldn’t solely contribute to hip-hop, but what I could contribute to was the blending of the two major genres that influenced my musical development - jazz and hip-hop. My pilgrimage to find my musical style began at Stanford University in the American summer of 2000 and this is where I began to experiment with computer software, blending the elements of jazz and hip-hop. This period of time that would single handily shape my musical future.
As Stanford is only a short trip to San Francisco, I caught the bus and then a train to Oakland where I had located a small music shop that primarily dealt in second hand recording equipment and samplers. This is where I purchased my first sample pack made of drum, piano, bass and guitar loops, which could be copied from the CD and imported into a digital audio workstation or sampler. Upon reflection, finding this store was quite fitting considering one of my favourite songs to come out of the Golden Age of Hip-Hop, was ‘93 til Infinity (Souls of Mischief, 1993), by the Souls of Mischief, who hailed from East Oakland. With an already basic comprehension of editing techniques I had been taught through the later part of college, I began to learn how to edit samples with precision, splicing and cutting each one in certain places to either capture a single hit sound or to manipulate and construct phrases. This technique afforded for a very liberal approach toward experimentation, allowing me to place single hits and manipulated phrases into arrangements creating textural contrasts. This processes, became even more comprehensive as I began to later travel the world as session musician using a portable recording system. I spent the majority of my time constructing and crafting intricate instrumental phrases, as I seldom had access to the calibre of musician I required in order to obtain my desired compositional outcomes.

I discovered that this approach to sample-based composition allowed for intricacy, diversity, consistency, versatility and most importantly - individuality. Identifying such approaches to composition allowed me to understand the construction of records that influenced my musical development, later assisting in the development of my own approaches to composition and serving as platform to identify broader trends in approaches to sample-based to composition. To date, I have recorded on over 50 independent and commercial releases on some of the worlds largest record labels such as Sony BMG, Ministry of Sound, Interscope, Lovenest Records and Universal Music Group, having performing and lived across the globe as a session saxophonist and guitarist in countries such as USA, UK, France, Dubai, Japan, Puerto Rico, Bahamas, Singapore and Fiji, with artists I grew up listening to.
The significant rise in digital technologies across all genres has already happened and will continue to happen, therefore, I feel we are about to witness the most explosive compositional period in music history that may rival the creative output of the *Golden Age of Hip-Hop*. Although, in my view, the *Golden Age of Hip-Hop* set the precedent for stylistic innovation surrounding approaches to sample-based record production/composition and outlined nuanced and identifiable idiosyncrasies of hip-hop through the use of technology; the period we are approaching will further outline intricacy, trickery, musicianship and other “slight of hand” techniques yet identified and discussed, largely attributed to the increasing sophistication of digital audio technologies. Tools such as Autotune and Melodyne, including the technique of sample replacement, has already had an impact on studio technique and form the basis of a producer’s artillery.

This study explores approaches to sample-based composition and the manner in which outcomes are categorised and built upon. In order to make sense of approaches, analysis was undertaken to outline approaches to date and further support future innovation. Literature supports and acknowledges the use of sample-based composition and appropriation through the history of composition and genres and, yet does not define approaches resulting in specific outcomes.

Chapter two will examine literature supporting the use of sample-based composition and appropriation as well as providing a historical context for the study. Research design, context review, appropriation in music, the golden age of sampling, fragmentation and quoting, remixing, digital samplers and appropriation and a selected history of digital samplers are subheadings that support the use of digital sampling and appropriation. Chapter two offers linage from early historical findings of appropriation through to the prolific and explosive use of digital sampling and appropriation in the golden age of hip-hop as an approach to composition.
Chapter three explores four case studies, paying particular attention to Beastie Boys, DJ Shadow, Thievery Corporation and Madlib. All four of these artists have produced influential recordings utilising samples and appropriation as approaches to composition. The abovementioned, created individual works of significance influencing and shaping the development of genres and subgenres in the realms of hip-hop, experimental hip-hop, chill-out and trip-hop music, whilst influencing generations of music producers who can be further traced to influencing current pop music and hip-hop recordings. Research undertaken provides significant insight into the scope that approaches to sample-based composition and appropriation allow for compositional outcomes, which further lead to an overview of sampling in music production from a historical and socio-historical perspective.

Chapter four outlines an exploration through composition and a discussion of original works. This chapter focuses on the discovery and outlining of 4 distinctive approaches to sample-based composition and appropriation, whilst demonstrating through a series of works, how these approaches provide significant compositional outcomes. Research into sample-based composition and appropriation supports the theory of repeat memory. This is when an artist may sample and appropriate sounds into a new context and recontextualise for either nostalgic value or to pay homage to an artist who has influenced the development of the artist in question. Chapter four provides a comprehensive insight into the inner workings of these approaches outlining a hierarchy in process driven by technology and how technology further dictates creative choices and outcomes.

Chapter five offers insights into future work and a conclusion offering thoughts, insights and future visions within sample-based composition and appropriation. The research turns its focus toward the integration of composition and live performance through technology referencing compositional and live approaches from artists such as Bonobo, Jon Hopkins, Madlib and Flying Lotus.
The conclusion further refers to the theory of repeat memory and it may serve as an initial motivator for digital sampling and appropriation as an approach to composition. The conclusion outlines digital sampling and appropriation may also serve as a creative platform in which to build from.

As the technical aspects of this practice have been identified as critical listening and being daw proficient, a technical approach to the creative architecture of a new tune yet exists. Therefore digital sampling and appropriation serves to fuel creativity by allowing artists to construct a mosaic or collage of sound before the integration into a new work. Thus in turn allows for the artists to develop their, critical listening, daw proficiency and creative (collaging) skills to triangulate a developed a comprehensive approach to sample-based composition.

Chapter six outlines respondents’ chosen for the purposes of surveying, lines of inquiry including responses, questions put forward and how the collection data was collated and what other significant insights data provided. Chapter five provides further insight into the creative habits of artists utilising samples and appropriation as approaches to composition or to contribute to the architecture of a work.

Although an insubstantial amount of respondents offered their insights, data collected from the few who participated in the study offered intimate details of their approaches when utilising digital sampling and appropriation as an approach to composition. The data collected reflects the prolific and explosive use of digital sampling and appropriation in composition, further offering valuable insight into how such an approach to composition may be further developed and expanded on in future works.
1: Research Design

This study applies a qualitative methodological approach to artistic research driven by the desire to investigate compositional approaches to the use of sampled materials. A qualitative approach to data collection is defined by Strauss and Corbin (1998) as, any type of research that produces findings not arrived at by statistical procedures or other means of quantification (Strauss & Corbin, 1998). Therefore this study offers a systematic investigation that leads to new observations and therefore new knowledge (Reiner & Fox, 2003).

Strauss and Corbin further define a qualitative approach to research as a non-mathematical process of interpretation carried out for the purpose of discovering concepts and relationships in raw data, then organising these into a theoretical explanatory scheme (Strauss & Corbin, 1998 p.11). They further state, qualitative methods can be used to explore substantive areas about which little is known about, which much is known to gain novel understandings (Strauss & Corbin, 1998 p.11). Therefore by employing qualitative methodology to this research, data collected from varied perspectives allows for the identification and definition of meaningful conclusions in addressing the aim of this study that is, creating a new framework.

This study provides a unique and original contribution to the field of musical composition at a time when the democratisation of technology has enabled digital music sampling and appropriation to be undertaken with minimal training and expertise. Increased technological access to sampling via online sources, Digital Audio Workstations’ (DAWs) and hardware development makes the study of digital music sampling techniques highly relevant in today’s globalised society and provides insights that can assist a prominent style of music making. A critique of relevant literature, technology and artists regarding the historical and socio-historical use of sampling, or more broadly appropriation, in electronic music composition is presented as a context review. Literature supports the conscious intent of appropriating specific elements and
textures from pre-existing works and placing them into a new work, thus becoming a well-established and nuanced approach to composition.

Emmerson (2000) states, *composers have also been ‘vultures’ in their voracious appetites in finding fuel for their inspiration; but never so much as in the twentieth century has this appetite been so explicitly declared from the sciences, philosophy, other arts and humanities* (Emmerson, 2000 p.115). Digital music sampling using Digital Audio Workstations’ is relatively recent, therefore creative uses of digital music sampling and appropriation are yet to be fully articulated due to the ongoing development of new and emerging technologies and related musical practices. This literature review determines the current boundaries and climate surrounding digital music sampling and appropriation as an approach to composition. Further, it articulates, develops and implements structured frameworks that allow for certain outcomes when adopting the philosophical orientations of digital music sampling and appropriation as an approach to composition. These frameworks were then applied to an analysis of original electronic musical works, further clarifying and documenting outcomes and processes. Influential factors driving the creative aspect of this research were limited to the integration of musical interfaces and control surfaces throughout the compositional process. Technological advances in design, functionality and overall affordance of technologies also allow artists featured in this research to compose, record and perform original music, whilst assisting my own approaches to composition. Featured technologies used in the creation of works by case study artists include the Akai MP 60, E-mu Systems SP-1200, Technics SL 1200 turntables, vinyl records, Roland TR-808 and TR-707 drum machines, Ensoniq SQ-80 synthesizers and live instrumentation. Overall desirability and nostalgic value (Attack Magazine, 2016) drive the vintage synthesizer and drum machine industry, with prices for original MPC 60s and SP-1200s unattainable and unaffordable for this study.

At the time of this study an original E-mu Systems SP-1200 range between $3,500.00 - $5,500.00 AUD (Australian dollars) dependent on the release date. However, a true indication of market value for the SP-1200 and the MPC 60 has been difficult to
gauge due to the lack of available units for sale. Due to the unaffordability of vintage hardware, technology emulating the originality of Akai and E-mu Systems products was available via Native Instruments throughout the course of this study.

The Studio Maschine, allows for the emulation of circuitry, synonymous of the Akai MPC 60 and the E-mu Systems SP-1200, with emulation accessible by adjusting the clock source. Changing the clock source in Studio Maschine allows an artist to apply similar sound sculpting techniques to the vintage hardware in question, therefore, achieving results similar to the original sonic quality of Akai and E-mu Systems. Although new technologies afford an artist to replicate the process of sampling and sculpting of sound based on the practices of vintage hardware, I view this approach as an ‘iteration’ of process. Likened to the re-issuing of a new piece of technology, processes can vary significantly due to new or developed functionalites based on the affordance of the technology; therefore, the sonic quality of output through new technologies does not allow for the exact replication of output heard from original hardware. However, the affordances of new technology may offer greater variance in programmable parameters, thus affecting the over aesthetic of sound. The quality of sound gained through new technologies my result in new technology advancing toward having the same reputation and influence of older hardware on the next generation of music producers. The differentiation is, where the MPC 60 and SP-1200 were primarily used for hip-hop and dance music production, new technologies such as the Studio Maschine, may be the champion of newly discovered genres, pioneering new approaches to composition from the present and into the future. I must outline in this section, that although each artist and production team associated with the case studies outline their choice of sampling technologies, they do not, ever truly outline the intricacies of their compositional processes. Therefore, unpacking and articulating individual process for this study becomes unworkable without making gross generalisations.

Therefore, in order to better understand the scope and individual processes of digital music sampling in approaches to composition, a qualitative approach to data collection from respondents, best serves this study in order to obtain a greater
understanding of how varied modern day artists approach composition. There are three major components of qualitative research that have been considered in the analytical process of this research.

Strauss and Corbin state, *first there is data, which can come from various sources such as interviews, observations, documents, records, and films. Second, there are the procedures that researchers can use to interoperate and organise data. These usually consist of conceptualising and reducing data, elaborating categories in terms of their properties and dimensions, and relating through a series of prepositional statements. Written and verbal reports make up the third component* (Strauss & Corbin, 1998 p. 12).

In attempts to understand the nature of this research and articulate my compositional processes, I began with reverse engineering and dissecting a set of electronic musical works from the genres of hip-hop, trip-hop and chill-out music, formed by creators known for their extensive and prolific use of digital music sampling. The results of this analysis will define four prevalent compositional approaches, values and techniques in establishing compositional approaches. In concurrence with the above analysis, I have *composed* a set of original works adopting compositional approaches revealed through this analysis. These original creative works provide intimate insights into digital music sampling techniques and showcase how these compositional approaches can be realised. Compositional works for this study identified four individual approaches to create a blend of specific stylistic nuances – identifiable to each approach. The style of each original composition is heavily influenced by genres of music most commonly appropriated and outlined in this research. It is combined with previous recording techniques, then transferred and further developed to assist in the development of musical textures with new and emerging technologies.

Each chosen sound is identified and documented to better understand how a hybridisation of sounds contributes to new genres and sub genres of music. The application of technological developments in user interfaces and control surfaces also demonstrates and explores how contemporary music technology platforms can
exclusively contribute to the development of original music compositions when utilising the affordance of the technology to appropriate and recontextualisation sound.

Development of these compositions is due to the availability and affordance of developed digital audio workstation technologies such as Ableton and Logic Pro X. The affordance of such software, in conjunction with the use of external hardware (Studio Maschine) to initially capture sound, enable composers and music producers of all genres the freedom to cut, splice, sample, manipulate, morph and fragment sounds, to then appropriate them into a new work either as a single shot sample or to form a collaged piece of sound. The compositional activity further explores the affordance and use of digital audio workstations. The replication of compositional approaches with modern DAWs include the development of techniques that model the original practices performed with older technologies; thus directly contributing to the outcomes of compositional and creative processes of modern day musical composition. The original compositions in this study explore and outline newly developed sampling techniques and the use of selected culturally/genre specific appropriated samples relating to the most commonly sampled genres. These have been re-contextualised and placed into new works. Selected groupings of samples created by a variety of companies and retail outlets, including samples that have been directly appropriated from existing works also influence these new works. A creation of new works demonstrate legitimate appropriated and digital music sampling techniques. Through a series of illustrations capturing sections of selected musical arrangements within specific digital audio workstations, I locate and define the use of each sample’s purpose in conjunction with an audio file. I define and elaborate on the intent of the chosen samples including; why they are used, and how each appropriated sample has been musically crafted, manipulated and incorporated. This outlines and defines the purposeful construction and inclusion of each sample into the framework of contemporary sampling techniques. This assists in defining legitimate techniques of appropriation and sampling within contemporary commercial composition.
By providing insight into and clarification of my own compositional approaches, I can provide a contrast between my approaches and those of the respondents I have chosen for the study.

A survey consisting of 11 qualitative questions was disseminated to select global electronic music producers and musicians who are composing, producing and performing within the upper echelons of their selected musical discipline. After ethical clearance from the university for distribution, survey responses were collected, collated and analysed using an open source web development platform software plugin via my Wordpress website. Survey outputs were used to:

1. validate analysis results,
2. unpack the creative decision-making process for using digital music sampling as an approach to composition, and
3. provide an in-depth understanding of varied philosophies and approaches to sample-based composition.

Survey outputs were used to inform and build on the musically focused methods of analysis and creative-practice.

Surveys were disseminated to the following artists and composers: Dust Brothers, DJ Shadow, The Beastie Boys, Thievery Corporation, Cinematic Orchestra, Bonobo, Gilles Peterson, Tony Coleman, Pharrell Williams, Freddie Joachim, Eric Lau, Tim Dalton, Ben Grayson, Mark Ronson, Massive Attack, Kieron Pepper, The Prodigy, Taylor McFerrin, Paul Doornbusch, Joshua Lindsay, Tommy Rando and Simon Grey.

The first section of the survey consisted of questions to encourage respondents to openly and candidly critique their compositional approaches and philosophies. These questions were designed to assist in further defining and outlining the extent in which the four compositional approaches, as outlined above, can be applied to various other pieces of software and hardware.

The second section of the survey allowed respondents to provide their comprehensive insight into the varying uses of digital sampling. Questions were designed
so that survey respondents could articulate and describe new ways of composing using digital sampling and appropriation.

The third section of the survey presented questions that encouraged survey respondents to critically explore the availability and affordability of technology and if it influences the development of creativity and creative output.

The integration of this study’s:

1. context review (chapter 1 & 2)
2. musical analysis (Chapter 3 & 4),
3. original compositions (Chapter 5), and
4. survey (Chapter 6)
create a triangulated set of data answering the aim of this study.

The next chapter will provide a literature review of historical and socio-historical literature contextualising the progression of digital sampling technology and how this technology fuelled innovative approaches to composition throughout the late 1980s to mid 1990s, namely throughout the Golden Age of Hip-Hop. Literature documented in this chapter addresses approaches to composition utilising digital sampling and how such approaches have been developed into contemporary compositional techniques within electronic music.
1.1 Context Review

“Online, everything is a sample. Every audio element becomes a potential fragment for manipulation and recontextualisation. Sampling follows the logic of the abstract machinery where there are no bodies – just simulations of bodies.”
- Ken Jordan and DJ Spooky, 2008: p.103

“The sampling machine can handle any sound, and any expression...
Music becomes liquid architecture. Sound becomes unbound.”
- DJ Spooky, 2008: p.6

1.2 The Origins of Sampling Technique

Whether the fundamental purpose of digital music sampling and appropriation is to:

1) consciously construct a composition entirely from appropriated samples
or

2) merely utilise specific elements to contribute to the overall sound of a composition;

the premeditative thought process of locating source material in which to deliberately capture, sample, manipulate and recontextualise is attributed to a culture that supports creativity and creative license. Metcalf states that:

digital music sampling is even more at home in the 21st century. In spite of the legal obstacles, and sampling’s sometimes-slow acceptance as a legitimate form of expression, there has been an explosion of digital music sampling as a part of countless new musical genres (Metcalf, 2011).

Understanding the significance of how music sampling was developed through innovators such as Pierre Schaeffer, with the introduction of Musique Concrète in Paris during the early 1940s (Quigley, 2007), is critical to appreciating how the technique of
digital music sampling has developed and exists in its current form. Schaeffer was a French radio engineer, theoretician and later composer who began his exploration into the manipulation of sound during the early 1940s whilst working at de la Radiodiffusion Nationale Paris.

Studio d’Essai (later Club d’Essai) played a role in the activities of the French Resistance via radio transmissions during World War II and the first broadcast in 1944 liberated Paris (Quigley, 2007 p.1). Just prior to the initial incorporation and implementation of the tape recorder as a device in which to capture sound, Schaeffer began his experiments with the manipulation of phonograph recordings and quickly evolved a theoretical position for its creative use. The resulting musical genre was named Musique Concrète in order to emphasise the sculptural aspect of how the sounds were captured and manipulated (Dunn, 1992). Schaeffer predominantly used sounds of the environment that had been recorded through microphones onto disc and later tape (Dunn, 1992 p.11). These “sound objects”, were then manipulated as pieces of sound that could be spliced into new time relationships, processed through a variety of devices, transposed to different frequency registers through tape speed variations, and ultimately combined into a montage of various mixtures of sounds back onto tape (Dunn, 1992 p.11).

It took several decades for similar approaches and processes to be developed and implemented for the creation of music using digital technology. With Digital Audio Workstations (DAWs) becoming the primary tool for composition in the late 20th century, the affordance of digital technologies allow computers to become primary tools for creating and performing electronic music. Digital tools now aid composers in the deconstruction of digital files (Cascone, 2002). For example, Electronica DJs typically view individual tracks as pieces that can be layered and mixed freely (Cascone, 2002 p.398). With DAWs, came a modular approach to creating new work from pre-existing materials, forming a foundation of samples that inform the composition of electronic music (Cascone, 2002 p.398).
Digital technologies facilitated the widespread adoption of the concepts of fragmentation, a conscious technique of intentional segmentation and internal negotiation of what is to be saved and what to be lost (Chrissochoidi, 1998), and randomisation, deriving from scientific methodologies of experimental control (Suresh, 2011), to be applied to the sourcing and manipulating of ‘sound objects’ or samples.

As a result, Cascone (2002) states, *the technical requirements for being a musician in the information age may be more rigorous than ever before. However, compared to the depth of university computer music studies, these requirements are still rather light* (Cascone 2002 p.397). *Most digital tools used by composers today have a layer of abstraction, enabling musicians to explore them without demanding excessive technical knowledge* (Cascone, 2002 p.397).

The landscape and definition of the term “computer music studies”, has begun to shift within both education institutions and the music industry. Terms such as ‘Electronic Music Production’ and ‘Music Technology’ are now employed by universities such as the Academy of Contemporary Music, UK and Griffith University, Australia to define units of study within set curriculum that enable students to participate in the creation of music using contemporary digital audio workstations. Where once the traditional term “computer music” outlined the use of computer programming to compose music through programs such as Max/MSP, this definition and understanding for emerging electronic music composers’, now extends to the use of developed digital audio workstations (DAWs) to create music. With the ongoing quest to find and create individualised sounds, electronic music production and composition practitioners endeavour to understand the traditional methods of computer music programming in order to create more bespoke compositions.

Digital Audio Workstations, such as Ableton, and their use of MAX/MSP as the fundamental platform or “back end” of their programming processes, offers the possibility of introducing traditional methods and techniques of computer music composition to a newer generation of computer/electronic musicians.
Developments in technology have extended into the realms of live performance, where technologies used by digital DJ artists allow for the storing and incorporation of sampled sounds to those not too dissimilar of an MPC. Such technologies developed by companies such as Native Instruments have commenced developing and distributing technologies that allow for improvised remixing.

1.3 Sampling Approaches

Non-real time approaches to sample manipulation as seen in the work of Schaeffer, through to developed technologies such as the Akai MPC 60 and E-mu Systems SP-1200 allow for the playback and manipulation of sounds whilst allowing the incorporation and triggering of juxtaposed samples for textural shapes and depth. In the context of a digital DJ’ing, this means the technology in both software and hardware formats allow the artist to perform a song whilst manipulating the sound via audio effects to enhance the overall aural perception of the featured music. In conjunction with these developed technologies, the software allows for the storing of single shot and looped samples that can be triggered using the hardware unit.

Zeilinger (2014) states, sampling can uncover, foreground, and repurpose the meanings of original materials is not new and is frequently made with regard to all types of appropriation-based works. It also threads its way through the canon of cultural theory, from Walter Benjamin’s writing on mechanical reproduction (Zeilinger, 2014 p.8). The significance and focus of this statement is on how real time processes allow an artist to uncover and repurpose the meaning of original materials in the form of mechanical reproduction. Utilising developed technologies such as the trigger pads found on specific hardware units allow for the instantaneous playback of chosen material for ‘inserting expression’. Through the process of inserting expression via the means of mechanical reproduction (triggering), a listener may recognise the quotation and may in turn, pay more attention to the new material as a consequence of that familiarity (Montano, 2014). Radcliffe (2014) further adds in support of the layering and fragmentation of sound, a common strategy involves the creation of a rhythmic (or
“groove”) template that is extracted from an existing break-beat using specialised software, such as Propellerhead’s ReCycle (Radcliffe, 2014).

In support of incorporating a variety of source material to create a pastiche of sound in real time contexts, Montano further states, when a producer chooses to sample material from a variety of sources, there is a production aesthetic of sonic fluidity (Montano, 2014 p.4). This real-time process to ‘triggering’ (inserting expression) via the affordance of hardware units, allows for the inclusion of familiarity via sound, but also allows for the assignable parameter of audio effects to further manipulate and morph sound, for greater expression.

Montano further adds, producers and consumers, can now select an sample from a global window, generating a transnationalism that requires a rethinking of what Andy Bennett describes as “the parameters of the collective appropriations and localised innovations that take place within a stream of globally available media products and information” (Montano, 2014 p.4). Harkins (2009) adds, “this is especially true when improvisations (in the form of jazz) have been sampled, looped and manipulated to form one of the key elements of a new recording. The saxophone solo on ‘Today’ (Scott, 1967) by Tom Scott with The California Dreamers, released by the revered Impulse label in 1968, was re-used on Pete Rock and C.L. Smooth’s ‘They Reminisce Over You (T.R.O.Y.)’ in 1992 and the repetition of the original improvisation transforms a small piece of pastoral psychedelia into a powerful requiem for the souls of lost brothers and absent father figures” (Harkins, 2009).

Harkins further cites Wang (2003) stating, “Pete Rock has been praised as arguably the most sophisticated [underground beat maker of his generation], playing with carefully constructed arrangements that show sampling’s true musical potential: what happens when someone simply takes the time to play with the various pieces. That’s why songs on this album like “They Reminisce Over You”...have become all-time hip-hop classics – they reflect not only Pete’s unmatched ears for outstanding samples, but
also his ability to craft them into something greater than the sum of their parts” (Wang, 2003 p.34).

Another example of technology allowing for improvisation is the importation of original work featuring sections of brass, woodwind or string arrangements. During the mixing phase it is possible to remove selected elements if an artist wishes to trigger these textures at any given moment within live performance contexts. This technology allows individualised and grouped textures to be stored within the software. The software allows an artist to trigger stored samples at will, over any given of song, at any given time. In a real time environment, this approach can be used to further compliment, decontextualise, recontextualise or enhance the music and the listening experience, by creatively and purposefully integrating juxtaposed harmonic or rhythmic samples into the choice of song at the time.

The development of DAWs, including associated live performance software and hardware technologies, are becoming more palatable. (Montano, 2005 p.404) Live performance software tools became more comprehensive in the 1990s, and they significantly affected the stylistic development of dance music (Montano, 2005 p.404). Artists such as Madlib, DJ Shadow, Beastie Boys, John Hopkins, Flying Lotus, Taylor McFerrin, Thundercat, Erykah Badu and even Katy Perry use either individual phrases defined at ‘stems’ or live triggered textures, allowing for deeper audience engagement, which increasingly support approaches of improvised remixing as compositional strategies.

This approach to use of improvised remix utilising samples is highlighted by Hopkins’ in an interview with Electronic Beats (Electronic Beats-Slices, 2013). Hopkin’s states that his approach and signature sound has been described as cinematic, arousing and unpredictable, with his work flow very intuitive and largely based on improvisation (Hopkins 2013):
for me, the process of writing a track is based on improvisation really. I would just get a sound going and make something that excites me as a starting point and my next idea will be triggered by that and then the third idea by that, then they start to build into something without any forethought at all. My general view is just to have no planning in place at all and just let my instinct kind of run wild a bit. I use a lot of recorded sound from outside the studio and things that I hear in my daily life.

Like the sound of the door shutting when I go into the building and the clocks in this room are used as a hi-hat on one of the things. I love involving these things, as they are other ways to avoid using the presets in the computer. For me that's an organic approach (Electronic Beats-Slices, 2013).

Hopkins’ commentary provides a significant insight in the notion of improvising with instrumental stems and the collection and collation of sounds being used to construct and perform compositions. Hopkins’ (2013) reference to construction through instinct is relevant and legitimate for any performer of improvisation.

The definition of improvisation for this study is: the extemporaneous composition or free performance of a musical passage, usually in a manner conforming to certain stylistic norms but unfettered by the prescriptive features of a specific musical text (Encyclopedia Britannica, n.d.). Improvisation can be the highlight of a piece of music, it can be the raison d’être for jazz or it can be an aesthetic/philosophical/ political attitude. Improvisation mostly concerns the melody, it is melodic paraphrase, ornamentation, it tries to repeat the melody in one’s own tempo and interpretation (Knauer, 2004).
1.4 Improvisation

In the context of this study, the above definition supports Hopkins’ approach to composition via the means of remix and free performance of a musical passage, usually in a manner conforming to certain stylistic norms but unfettered by the prescriptive features of a specific musical text. Flying Lotus (Pitchfork, 2015) adds to this definition of improvisation within the context of technology by stating, “I have a controller and I control all of these different clips with, play bits of songs and **remix things live, so that I can mix it up and it sounds different every time**” (Pitchfork, 2015). Here, improvisation techniques and approaches for electronic music composition and live remixing aids the artist’s process of organic production so that the audience is offered something new on each listen.

Remixing has now become a mainstream practice as evidenced by Native Instruments releasing “remix sets” in 2012 (Bandesnaci, 2012) to assist in the constructing of new compositions and approaches to live remixing. Comprising of single shot and smaller looped samples that can be imported into the DJ software Traktor and its associated developed hardware, the Traktor Kontrol Z2, and the Kontrol F1, remix sets, allow a user to add sounds and trigger them in conjunction pre recorded music, predominately in the context of DJ’ing. These single shot and smaller looped samples allow artists and DJ’s the freedom and flexibility to create additional harmonic and rhythmic textures within their live sets allowing users to create their own “signature sound” (Sherburne, 2016).

Native Instruments have developed a comprehensive samples catalogue for artists and DJs, recorded and constructed by some of the world’s leading electronic artists. Sample packs range from recorded vocal sounds including lyrical content, to single one shot isolated drums sounds, piano, synthesizer and guitar samples, to broken down loops and beats. This approach to composition allows artists and DJs to implement critical listening skills. Choosing selected samples to construct their music, artists and DJs) are able to trigger and manipulate composed music in real time.
The technological affordance through parameters such as trigger pads, track synchronisation, cue and edit points, equalisation, delay, reverb and other sound manipulation features of the Kontrol Z2 and Kontrol F1, allow users to load, trigger and manipulate samples in any conceivable sequence allows for the ultimate form of improvised remix. Although the sounds within a composition remain the same, the arrangement and sequencing of sounds can be performed differently each time. With carefully chosen elements in the Remix Decks, an artist/DJ can create re-edits of tracks "on the fly".

As Santos (2014) highlights that, a collection of one shot samples and sound effects triggered from a Remix Deck can punctuate breakdowns, add more drama to build ups, and even help make difficult transitions sound seamless. Artists are able to perform a series of pre-made songs only using Remix Decks (Santos, 2014 p.1). This approach to composition allows an artist/DJ to create their own voice, translating into what Native Instruments define as a “sonic sound” (Sherburne, 2016 p.1)

This “sonic sound” within electronic music production has initiated a discussion on the legitimacy of musicianship exhibited in live contexts, due to ongoing debates about what is truly being performed and who is just pressing play.

Electronic Dance Music artist Deadmau5 states: its no secret. When it comes to “live” performance of EDM (Electronic Dance Music). That’s about the most it seems you can do anyway. It’s not about performance art, its not about talent either (really its not) in fact, let me do you and the rest of EDM world button pushers who hate me for telling you how it is, a favor and let you know how it is. My “skills” and other producer’s skills shine where they need to shine.... In the studio and on the releases- that’s where it counts (Golden, 2012).
1.5 Remix Sets

Live, some digital DJs are merely performing the music of another artist, yet unofficially taking some form of credit for this music. This in-turn creates negative sentiments amongst digital DJs (Montano, 2010). The introduction of remix sets now allows digital DJs to develop their own sonic sound based on the choices of samples they have chosen. This essentially allows users to create their own voice, avoiding copy-cat performance.

Like Fender and Gibson is to guitarists and Steinway and Yamaha is to pianists, remix sets allow digital DJs and electronic artists the opportunity to outline their creativity with a fundamental base and platform to commence composing and performing. Musical tones associated with Fender, Gibson, Steinway and Yamaha will always be prevalent within an artists sound due manufacturing technics and selected use of materials. In some instances, an artists sound is defined by the instrument they are using and the combination between an instruments molecular makeup combined with that of a human. A combination of the instrument’s tones and overtones, lyrical verses and the artist’s physicality sets the precedent for the end result of a musical composition.

This compositional outcome has become prevalent within the space of electronic music production, where it is heavily influenced by the choices of sound used in the conceptual journey of arranging. The choice of sound combined with their arrangement within developing technologies will eventually allow artists to define their sound, allowing the audience to identify an artists’ music. Users of this technology possess significant amounts of talent and technical proficiency to create and perform music; however, what they have lacked in the past is the ability to develop and convey their own voice.

It is now possible through the development of highly refined and purposely created remix packs, that artists can build and develop their own voice that can legitimise composition and performance as genuine musicianship. In-turn, this process extends to
the use of DAW’s to capture and create sound. Remix sets allow users to identify individualised and blended sounds that can be incorporated into original works or remixing contexts, with the duality of being an educational and critical listening tool.

The following section discusses the creative appropriation of pre-recorded music for compositional recontextualisation within new a work. It includes a brief historical context of appropriation in music and how appropriation is directly relatable to digital sampling.

1.6 Sampling Technologies in Music

“I invented nothing new. I simply assembled the discoveries of other men behind whom were centuries of work ... progress happens when all the factors that make for it are ready and then it is inevitable.” — Henry Ford on inventing the Ford car (Steele - Gordon, 2002).

Original approaches to sampling were driven by the appropriation and often, the misappropriation of pre-recorded material. The previous chapter provides an historical context of the origins of sampling and the use of technology in sample-based composition. This section briefly explores the origins of music appropriation, how techniques were developed through fragmentation, splicing and collaging to assist in the recontextualisation of sounds into a new work.

It was through the processes of fragmentation, splicing and collaging, that Schaeffer challenged contemporary assumptions about the nature of artistic creation, turning music theory on its head (Patrick, 2016). The creation of these processes raised philosophical, aesthetic and social questions regarding the undertaking of composition. The notion of appropriation in this context, which includes capturing, fragmentation, splicing and the collaging of sound; forms of compositional process that closely align to the artistic creations and techniques of electronic dance music. Emphasising texture and juxtaposition over traditional elements like melody, harmony and rhythm, Schaeffer’s collage-like works anticipated everything from the patchwork physicality of The Bomb
Squad to the archival impulses of hauntology and vaporwave (Patrick, 2016 p.1). Through the recontextualisation of familiar sounds from the environment, mass media and consumer society, Schaeffer’s approach to composition was initially met with considerable hostility (Patrick, 2016 p.1), however in contemporary music production it is now considered a conventional compositional technique.

This musical recontextualisation of familiar sounds is supported by British music and popular culture journalist Simon Reynolds (1998) who stated:

"This is the fin de millennium sampladelic supernova, where the last eighty years of pan-global recorded sound is decontextualised, deracinated, and utterly etherealised ... Sample based music at its best is fully fledged composition: the creation of a new music out of shards of reified sound an alchemical liberation of the music trapped inside dead commodities (Reynolds, 1998 p.45).

Modern compositional literature supports the influence of technologies over creative media production. Zurbrugg (1993) states, new media initially provokes the elementary technological experiments associated with ‘zero’ experiments (and which seem to exemplify the naïve technological apologia). This then subsequently precipitates ‘imitative’ works that employ new media according to pervious conventions (Zurbrugg, 1993). The notion of new sound material incorporated into a new work—whether it be in the form of fragmented recontextualised and decontextualised appropriated samples or the capturing and consolidation of sound—can be aligned to Chion’s third mode of artistic experimentation which is: a “purist experimentation, or the exploration of the new media in terms of their own practical logic” (Zurbrugg, 1993 p.51).

It is through these techniques that Schaeffer started to develop legitimate frameworks which, when implemented, would result in specific nuanced outcomes. Griffith (2010) states that although Schaeffer’s and Pierre Boulez’s outlooks seem to have been utopian, both were convinced that their creative innovations—techniques of
sound transformation and principles of rhythm and form adequate to serialism—were historically inevitable and would provide a way towards the musical future. Ironically, the introduction of AKAI’s MPC 60 and the rival E-mu SP-1200 in 1987 would allow this appropriation, where techniques developed by tape-based composers were now available to a broader community of musicians. Schaeffer’s insight into future music had become a reality.

Commercially developed sampling technologies not only were able to pitch shift, isolate, superimpose and multi–layer textures, but late 20th century composers began to employ techniques of fragmentation and sound splicing from ‘mass-media’ (Shusterman, 2004) and consumer society to create new works of significance.

Shusterman (2004) further adds to the sampling and fragmenting of mass-media that; techniques of sampling, mixing and its fragmented mass-media mentality, prevent the creation of ordered form and logical structure, resulting in songs fractured by “dislocation and discontinuities” where “rhythm is paramount and non sequiturs are perpetual” (Shusterman, 2004 p.474).

“Nothing is original. Steal from anywhere that resonates with inspiration or fuels your imagination ... Authenticity is invaluable” Jim Jarmusch

Therefore new technologies would contribute to the development and introduction of new genres and subgenres of music such as: Neo Soul, Chilled Hip Hop, Trip Hop, Experimental Hip-Hop and Chill-out with Théberge (1997) supporting its use in the creation of music-making stating, techniques in the recording studio bestow characteristic hierarchies, hiring practices, conventions and patterns of work – is considered a form of ‘social technology’, which can be directly associated to ‘machine technologies’. Furthermore, ‘technologies’ in music in the form of discourse, institutions and practice-aesthetic, scientific, pedagogical, legal, or economic- that “produce”
representations of music that have concrete ideological or material effects on music-making are considered music technology, e.g recording devices" (Théberge, 1997 p.157).

Furthermore, through the use of technology, these genres allowed fragmented elements to become the fundamental motif of a new composition. The influence of these early hardware samplers on sample-based compositional approaches will be explored in more detail in later sections. Further developments in technologies later allowed for similar functions to be incorporated into DAW’s, such as Cubase, Pro Tools and Logic, to capture selected musical phrases. Providing the same approach to the capturing and manipulation of sound, technologies, such as, MPC 60 and SP-1200 soon found themselves at home alongside DAWs as a best-of-both-worlds approach to building sound. Although they allowed for similar results, DAW’s, also allowed for the continuous looping and building of arrangements that hardware technologies couldn’t provide. However, hardware tools did allow for the digital processing of themes, textures and single shot samples utilising the physical makeup of schematics and componentry to enhance and process sound that conventional DAW’s were initially unable to produce. This soon enabled a highly nuanced approach to appropriating music for either recontextualised or decontextualised purposes.

In the face if these digital tools, tape-based processes became semi-redundant in the 1990s due to ongoing issues such as the cost of tape manufacturing and distribution. The ease and speed of developed digital technologies allowed for the manipulation and arranging of sounds. The physicality behind Schaeffer’s (1942) approach to tape manipulation of recorded sound may have dissipated in a traditional sense, however the fundamental premise and philosophy of combining multiple layered sound textures set a framework on which composers with digital tools build from. Today, we continue to see the recontextualisation of appropriated music into new works, whether as a nostalgic practice or to achieve specific nuances musicians and additional programming are unable to achieve. As Kimpton (2014) outlines, music’s history is very much like any other form of creativity - influences and ideas taken, reshaped and reinvented. So much of innovation is simply reinterpretation (Kimpton, 2014). With specific reference to
recontextualisation and appropriation of music into new works, Kimpton (2014) states that:

*many hip-hop artists, arguably at the height of the genre in the 1980s and early 1990s, sampled and lifted sounds, rhythms and melodies, without re-recording, into new tracks. From Grandmaster Flash to Public Enemy and beyond, these musicians mixed with apparently incompatible new elements and created works of powerful originality, where beats from soul and screams from gospel taking on entirely new meanings.* (Kimpton. 2014 p.1)

The poignant message here is the acknowledgement of juxtaposed or “incompatible” elements used within a new context or as referred to in this study, a new work. Incompatibility has not always existed to such an extent in musical appropriation. When appropriating *sounds* the focuses is on the method of interoperated collation and construction of all dimensions of appropriated sounds. It refers to how sounds are organised with regard to harmony, rhythm, tempo, timbre, sound quality, and the overall aesthetic values that constitute and define the perimeters of specific genres.

For example, in a contemporary setting, the remixing and incorporation of appropriated sound into songs such as *Apache* by the Shadows and remixed by the Incredible Bongo Band in 1973, outlines the scope and dynamic nature of the recontextualisation and appropriation of sound into new works, with Latin percussion becoming the focus of the rhythmic bed. Edwards (2014) outlines, *combinatory works that consciously follow or deploy pre-determined rules, templates or algorithms, in the creation of new texts, as opposed to the “anything goes” school of remix culture; allow certain artists and practitioners to embrace constraints, rules, and mathematical logics to generate and new mix of the next combination* (Edwards, 2014). In this instance, constraints and rules would be defined by the allocation of specifically **combined** Latin percussion instrumentation to mimic the formation of a ‘traditionalist’ section.
A traditionalist formation may comprise of any, or all of the following Latin percussion instrumentation, A-go-go, Bongo, Cabasa or Afuche (Brazillian), Claves, Conga, Ganza, Reco-Reco, Shekere, Surdo and Timbales (Daley, 2006).

However, to consciously follow or deploy pre-determined rules in the construction of Latin percussion instrumentation, one must first consider the context of possible musical implications when combing Latin percussion combinations as Daley (2006) outlines:

> Latin music is all about rhythms, and there is a lot of percussion going on all the time. You can't just set it and forget it. You have to understand the instrument and where it sits in the music to know where it's supposed to be in the mix. To the nuanced ear, there are significant differences between the often, frenetic rhythms of Cuban salsa, the smoother sounds of Brazilian samba, the sophisticated syncopations of Argentine tango and the larger-than-life sounds made by instruments like cuicas in African music (Daley, 2006 p.1).

Whilst the recombination and recontextualisation of appropriated Latin percussion sounds into a new work, may to the untrained ear, offer exotic flavours reminiscent of Latin culture, mixing varied cultures and traditions such as Argentine tangos with cuban salsa, may similarly equate to mixing country music with hip-hop music in a broader context.

However, this contemporary appropriation led Kimpton to conclude, “Who then would have thought Hank Marvin could be a hip-hop hero?” (Kimpton, 2014 p.1). Further substantiating how approaches to composition utilising appropriation are supported, accessibility to documented harmonic literature allows developing artists to achieve substantial compositional results in which they could showcase their creativity. The appropriation of constructed harmonic motifs into real time improvised solos allows for substantial growth in jazz music especially in the context of live performances. This improvisation allows audiences to engage in the creativity and spontaneity of artists, allowing individualised vocabularies to influence artistry in live performance and
recording studio contexts. The individualised vocabulary extends further than jazz and hip-hop. Electronic Dance Music lends heavily from Blue Note Records, a vast catalogue of sounds where samples are taken to create new compositions. Founded in 1939 by Max Margulis, Francis Wolff and Alfred Lion, Blue Note Records was responsible for the recording and distribution of a style of jazz born out of experimentation.

It would later house a roster of the most prolific and influential jazz artists of all time. The period of 1953-1954 is one of the most critical in Blue Note Record’s history, as many of the characteristic qualities that define the Blue Note style were set in place (Cook, 2001). Blue Note Record’s artist roster contained some of the most prolific jazz musicians including: John Coltrane, Herbie Hancock, Donald Byrd, Teddy Bunn, Chick Corea, Bobby Humphrey, Freddie Hubbard, Lee Morgan, Hank Mobley and Madlib. Indeed, Madlib’s 2003 release *Shades of Blue* (Madlib, 2003), was an album constructed entirely from Blue Note Record’s master recordings and studio sessions. Perhaps the freedom and inventiveness in compositions by artists such as John Coltrane, whose melodic and harmonic vocabulary was developed with the assistance of Slonimsky’s (1947) framework, directly contributes to the high sampling of Blue Note Record artists in Hip-Hop and Electronic Dance Music. Retinart (2016 p.1) states:

*Blue Note Records was known for their selection of artists, whom they treated with a surprising amount of respect, rather than imposing upon them their own ideals about how their work should sound. They would go as far as to pay the artists for their rehearsal time, as well as their recording time, something which other independent music labels wouldn’t do. The benefits of this was, improved sounds, relaxed artists and a comfort from all those involved that translated well onto vinyl.*

*And while the majority of the music they released was aimed at a wide audience, they would also work with lesser-known and slightly eccentric jazz musicians. It’s almost an abstract thought, but the company wasn’t overly concerned with*
making money with these records as they want to simply write about new developments into the history pages of jazz.

This creative freedom is one worth noting, as it is perhaps this experimental, let the artist be an artist, kind of mentality that extended to their covers and to the ideas Miles had for them (Retinart, 2016).

The creative freedom in which Blue Note Records artists allow for the development of new compositions by sample-based artists who sampled this label in an effort to extend their compositional processes and creativeness.

The result is a similar pedagogical outcome to composition as Coltrane developed through Slonimsky (1947). Jazz musicians such as John Coltrane has contributed to the development of twentieth-century music by adopting a specific framework and adapting it to create a new melodic and harmonic vocabulary which defines an artists’ style and approach to composition. In outlining the historical use of appropriation in music and its existence in many forms of art, quotes placed throughout this section from reputable and successful creators in their own right provide further substantiating evidence of creative appropriation across music and other creative forms.

“I had gotten the Jay-Z vocal tracks and wasn’t going to do anything with them. A week or so after that, I was at home in Los Angeles, listening to The Beatles and cleaning up my room. Then it hit me: Oh [bleep], White Album, Black Album. … At one point I saw that I had logged more than two hundred hours … It would have been easy just to slap the vocals over music of the same tempo. But I wanted to match the feel of the tracks, too.” — Danger Mouse, on mashing up Jay-Z and The Beatles’ classic albums into the The Grey Album. (The New Yorker, 2004).
2: The Golden Age of Music Sampling

“Sampling was a very intricate thing for us. We didn’t just pick up a record and sample that record because it was funky. It was a collage. We were creating a collage” Hank Shocklee (McLeod & DiCola, 2011 p.20).

“Innovation was an essential component of the golden age, which explains why the ear was so respected and influential. It was a time of unbridled innovation, where the craft was developed and updated literally from month to month” Paul Edwards (2015 p.149).

The following chapter provides a socio-historical context of how sampling developed as the favoured approach to early hip-hop composition. This approach to composition was based around the purposeful appropriation and recontextualisation of musical fragments to form new works; ultimately defining genres and assisting in the creation of new sub genres. But more so, this chapter offers a greater insight in defining music recording culture and contemporary recording techniques utilising digital sampling hardware technologies.

The rise and fall of sampling’s Golden Age, between 1987 and 1992, provides evidence that sampling was a fruitful musical technique (McLeod & DiCola, 2011). Artists and albums such as the Beastie Boys’, Paul’s Boutique (1989), De La Soul’s, 3 Feet High and Rising (1989) and Public Enemy’s, It Takes a Nation of Millions to Hold Us Back (1989), were prolific in the use of sampling as a compositional technique. Electronic musicians in this period were appropriating, decontextualising and recontextualising pre-recorded samples, which would often form the fundamental basis of their compositions. Such processes allowed for creative freedom, opening up a range of artistic possibilities that largely weren’t censored by legal and economic interests (McLeod & DiCola, 2011 p.20).
McLeod and DiCola state (2011, p.21), the creative field was wide open, with no significant legal or administrative fences yet erected. This had a positive effect on furthering the development of sampling as a compositional technique a situation that would later change.

The use of appropriated and recontextualised samples as a musical technique in the style of hip-hop composition, was met with varied success rates especially in its infancy. One success story was Cibo Matto (1994 -2004 and 2011-present) a Japanese duo who openly outline their use of sampling in the architecture of their material. Miho Hatori documented the fundamental elements of their process. “We are always buying records, searching, searching and sometimes we find, ‘Oh a Silver Apples Record!’ And then we find this one very short part. “There, that bass line!”” (McLeod & DiCola, 2011 p.22)

This process of searching for sounds is called “crate digging” and is used when describing the search for old albums in a record store from which to sample (McLeod & DiCola, 2011 p.22). Crate digging is central to sample-based music such as Hip-Hop (McLeod & DiCola, 2011 p.22) and provides content for new innovations in music composition. “....free content fuels innovation..” Lawrence Lessig (Miller, 2008 p.5).

Hip-hop’s progressive development during the Golden Age can be attributed to new musical compositions through the process of crate digging. A well-documented example is, Paul’s Boutique (McLeod & DiCola 2011). This is the second studio album of infamous Brooklyn based trio the Beastie Boys. Released on 25th July 1989 by Capitol Records, it is regarded as one of the most significant bodies of work to have been produced throughout the duration of the Golden Age. Referred to as “sample mastery”, by DJ Mix Master Mike (McLeod & DiCola, 2011 p.21), Paul’s Boutique (Beastie Boys, 1989) was co-produced by Grammy Award winners E.Z. Mike (Michael Simpson) and King Gizmo (John King), otherwise known as the Dust Brothers. Paul’s Boutique was constructed entirely out of appropriated and recontextualised samples and “although there is no accessible paper trail that confirms what was sampled, or how many samples Paul’s Boutique contains somewhere between one hundred and three hundred is a safe guess”, Mix Master Mike (McLeod & DiCola, 2011 p.21).
John Simpson of the Dust Brothers details the creative processes and the technologies—rudimentary by today’s standards—involving in making *Paul’s Boutique*.

“The people who worked at the studios thought that we were crazy at the time, ’cause they had never seen anybody make songs that way” (McLeod & DiCola, 2011 p.21). Simpson explained that they built a song from one sampled loop of instrumentation that was then layered with other loops and bursts of sound (McLeod & DiCola, 2011 p.21).

Developing and producing an approach for the successful selection of samples must begin with the process of capturing sounds. These are then consolidated building a platform for musical architecture. DJ Spooky, AKA Paul D Miller, elaborates on this metaphor by suggesting that buildings in architecture are nothing more than correspondences between relationships of presence and absence, form and formlessness (Miller, 2008 p.6).

### 2.1 Creating New Music Vocabularies: Fragmentation and Quoting

*The Golden Age of Hip-Hop*, allowed artists and producers to develop new music vocabularies through sampling, drawing upon pre recorded sound sources to develop a catalogue of new music vocabularies.

The appropriation and recontextualisation of samples into new works introduce authentic sonic nuances due to the nature of how the original sample was captured. Variables that affect this include:

a. the environment in which instrumentation was recorded,

b. the use of pre-amps and microphones,

c. production techniques, and

d. the audio quality of the original recording and sample.
Depending on an individual or a combination of the above variables, samples can either be unsuitable for inclusion, become incorporated as a textural component, or become a fundamental motif in a composition.

The use of these variables within samples is also employed in jazz composition. Artists, scholars and critics have argued that growth of twentieth-century jazz music would have been stunted if jazz musicians of the time had to obtain permission or a license from music publishers for the use of every sonic fragment they improvised obtained from other songs (McLeod & DiCola, 2011 p.30).

The curating of a sample library contributed significantly to the musical architecture that proved successful for the Beastie Boys. Originally a three piece punk band, the Beastie Boys combined selected instrumental phrases infused with Jazz, Funk and Soul with textual components collected and sampled by the Dust Brothers. An amalgamation of live instruments and sampled sounds created a musical architecture of colorful and revolutionary sound. As a collective, the Beastie Boys and the Dust Brothers developed and refined their sound through the appropriation and recontextualisation of pre-recorded samples.

This formed a hybridisation of music that would, in conjunction with contemporaries such as Run DMC and Public Enemy, be the catalyst for defining not only a new compositional technique, yet an era of music that would become firmly implanted into the molecular makeup of music history and pop culture. The combination of live instrumentation and sampling became a trademark sound for the Beastie Boys, and a formula they continued to utilise and experiment with throughout their career. In conjunction with the Dust Brothers, the Beastie Boys’ contribution to the ongoing development and exploration of compositional techniques impacted significantly on subsequent composers and music producers including, Run DMC and Public Enemy.
This approach to composition was popular with the production team known as the Bomb Squad, comprising of Hank Shocklee, Keith Shocklee, Eric ‘Vietnam’ Sadler and Chuck D. The Bomb Squad employed sampling as the basis of compositions and was the production team for influential Hip-Hop artist, Public Enemy. The Bomb Squad’s process was to graft together dozens of fragmented samples to create one single song collage. This approach to music production is evident throughout their canon of work, for example, Public Enemy’s, *It Takes a Nation of Millions to Hold Us Back* released in 1988 on the Def Jam label. The architecture, formulation and construction of songs such as *Bring the Noise* (Public Enemy, 1987) and *Fight For Your Right (To Party)* (Beastie Boys, 1986), showcase the collage techniques employed by the Bomb Squad. *This architectural approach to music production, and associated musical output, has been described as being from another planet* (McLeod & DiCola, 2011 p.22).

*The New York Times*, considered Public Enemy’s next release, *Fear of a Black Planet*, so culturally significant that it was included on their list of the twenty-five most significant albums of the last century (“Critics’ Choices; Albums as Mileposts In a Musical Century,” 2000). Additionally, the Library of Congress included *Fear of a Black Planet*, into its 2004 National Recording Registry, along with the news broadcast of Edward R. Murrow and the music of John Coltrane (McLeod & DiCola, 2011 p.22).

Hip–hop historian and journalist Jeff Chang explained that the Bomb Squad developed a method that involved artist group members bringing different types of sounds into the studio. In addition, the Bomb Squad production team played like a Hip-Hop band (Chang, 2005) Rather than using technology to loop and sequence snippets, they played samples by performing on turntables resulting in music that attracted an audiences’ attention (Chang 2005 p.1). “They were figuring out how to jam with the samples and to create these layers of sound. I don’t think it’s been matched since then” (McLeod & DiCola, 2011 p.24).
Similar to the Dust Brothers, the Bomb Squad accumulated sound libraries through the process of trial and error, which afforded the group to purposefully choose musical elements through critical listening to identify harmonic and rhythmic shapes for new works. Consolidated samples libraries allowed the Bomb Squad to draw upon these archived sounds, much like a jazz musician drew on established harmonic and melodic motifs. The Bomb Squad’s technique was to use collect, archive and draw upon specific combinations of samples as textual components to create a desired effect. However, the notion of randomisation as experimental technique (Suresh, 2011), can also be applied to this process, with the desired effect to be attributed to a general foundation on which to build.

*Crate digging* provided an initial platform for randomisation to follow, both in the form of sample selection and collection, combined with the manipulating of samples for construction using technology. Hank Shocklee explains, “*…we had to comb through thousands of records to come up with maybe five good pieces. And as we started putting together those pieces, the sound got a lot more dense*” (McLeod & DiCola, 2011 p.24). Creating new vocabularies can be closely traced to jazz, which in turn influenced hip-hop. *Hip-hop is like of the children of jazz music and is a natural extension of jazz expression -NAS* (Blount, 1998). John Coltrane revolutionised jazz music by exploring new ways to create harmonic variances by implementing developed frameworks to harmonic development influenced by Nicolas Slonimsky’s *Thesaurus of Scales and Melodic Patterns* (Slonimsky 1947). The interval cycles used by Coltrane were unlike typical jazz vocabulary used by other artists in improvisation up to that time (Blair 2003, p.68).

In 1947, Slonimsky published a body for work titled, “*Thesaurus of Scales and Melodic Patterns*”, a comprehensive vocabulary of melodic patterns for composition (Slonimsky, 1947). Slonimsky’s (1947) publication offered a pre-developed set of approaches to harmony, allowing those who study the text a method to further develop and implement their own individual vocabulary through the process of randomisation, intervallic relationships and harmonic variance.
This approach to harmony would inevitably change jazz music forever and is similar in process and result of crate digging for samples during the *Golden Age of Hip-Hop*. Harmonic variances can be assimilated to the process of sampling. The development of new harmonic approaches as developed and implemented by John Coltrane, for example, can exponentially extend the creative process in building improvised solos. The implementation and offering of such a method stimulates creative development, by providing a direct correlation between the process of reconstituting ideas and pre-developed patterns of harmony. Slonimsky’s (1947) method provides a foundation to support the notion that digital music sampling extends the creative process and vocabulary of composition. This offers the composer limitless opportunities and foundations to build upon during compositional processes. Correlations between initial developments in jazz and hip-hop harmony from the perspective of fragmentation can formulate a new digital framework for composition. A fragmented motif or selection that has been spliced, manipulated and crafted, offers the same foundation in harmony and texture in which to build from; as does a motif or developed pattern of notes already designed by a composer and offered to other composers in which to build from. The building of varied and diverse vocabularies contributes to identifiable and the nuanced sound inherent of individual artists’ and producers. The influence of *Thesaurus of Scales and Melodic Patterns* (Slonimsky, 1947) is evident in the continual production of individualised artist vocabularies proliferating from the identifiable saxophone sounds and harmonic approaches of John Coltrane to the sampling of sounds by the Beastie Boys. The above evidence suggests strong parallels in the process of developing individualised vocabulary within jazz and hip-hop.

Jazz musicians who have had their music sampled appreciate their work being exposed to a new audience (Blount, 1998 p.1), therefore, further substantiates the use of fragmented pieces of jazz music in hip-hop vocabulary. On the other hand jazz musicians need to build an individualised vocabulary, therefore one approach for developing jazz musicians to form a fundamental understanding of jazz harmony is to deconstruct well-known improvised solos through the process of transcription and critical listening.
Breaking down the specific harmonic approaches of an artist and applying the findings to the construction of new improvised solos, will inevitably bear appropriated ideas that are indicative of the analysis in question. These new melodic and harmonic vocabularies of hip-hop are discussed by D’Errico (2015) in a book chapter, *Off the Grid: Instrumental Hip-Hop and Experimentalism After the Golden Age* (D’Errico, 2015, p.288), taken from *The Cambridge Companion to Hip-Hop* (Williams, 2015) who highlights that jazz blended with hip-hop has influenced experimental hip-hop. This new music vocabulary is often attributed to the production culture and creative output of the LA Beat Scene. Offering a further example is the fusion of rap and jazz in the production of *A Tribe Called Quest’s* album *The Low End Theory* (D’Errico, 2015.p 280). Continual development of hip-hop music through new and emerging techniques attributed to production teams such as the Dust Brothers and the Bomb Squad. This creative exploration in musical architecture allowed for those who followed to further engage their audiences and encouraged creative expression through sampling techniques and processes.

Not everyone stitched samples together with the complexity and purposefulness of Public Enemy. There were plenty of songs from the Golden Age that merely looped the hook of an earlier song, and it was this type of sampling that began provoking legal action (McLeod & DiCola, 2011p.26).

*Once money came in and said, “Yo, you can’t keep doing this”, all the momentum just kind of dropped out. It was like bottom fell out of the bucket. And those cats were saying, “Man, that’s out style. Now you’re telling me that our style’s too expensive?”* Mr. Len (McLeod & DiCola, 2011 p.26).

Mr. Len’s ‘money’ refers to lawyers and the introduction of legal requirements for use of sound samples. Legal requirements such as licensing led to constraints in creativity and a change in hip-hop music architecture with the first legal case against and artist for copyright infringement appearing towards the end of 1991. Soon record labels understood that once artists began to understand the potential value of their music, if used
in fragmented and incremental forms, sampling and creativity would change the face and dynamic of the music industry. Sound sampling was a major contribution to the development of genres and production techniques and it was this process that exponentially extended the creativity of those developing and implementing this compositional technique. It allowed for creativity and new musical architecture that couldn’t be imagined or developed through standard musical practices. Electronic and acousmatic music composer Bernard Parmegiani stated in a discussion that, “pre-composition for electronic music (acousmatic) composers was learning the tools—in the current time the software tools—used to create the music” (Doornbusch pers. comm., 2005). This holds true Hip-Hop artists and producers such as the Beastie Boys, Dust Brothers, Bomb Squad, Run DMC and Public Enemy.

Developing the necessary skills to manipulate and utilise platforms in which to communicate creativity, allows for the output of pre-determined and significant outcomes of creativity, often relating to sonic dimensions otherwise unforeseeable through basic trial and error. At times, developed processes define an artist’s style, as they continually implement the same techniques into their creative process. This compositional trait became evident in the creative use of samples by the Beastie Boys, Dust Brothers, Bomb Squad and Public Enemy. Throughout the Golden Age, the crate digging and sound sampling compositional technique rose to prominence via the genre of hip-hop. However, outputs of such processes relied heavily on intellectual property belonging to other artists in the form of physical formats such as records. The accessibility of intellectual property in the form of physical formats combined with the capabilities of sampling platforms using electronic technology such as the Akai MPC 60 and E-mu SP-1200 allowed for music to be sampled and recontextualised into new musical architecture.

This resulted in an evolution of two music production techniques; a) innovation in the core techniques of music construction developed through the compositional processes of groups such as the Dust Brothers and The Bomb Squad, and b) the types of genres and sounds that were collected and archived from sound libraries. Although elements of funk, soul and jazz presented as ‘go to’ genres when developing libraries of archived
sound, the construction of sound libraries was not solely limited to these genres. Expressiveness through the combination of layered textures or narratives taken from movies and social commentary also presented as means in which to sample and outline a story. The level of innovation and competition in hip-hop, made it vital that each new album release pushed the boundaries in order to stay relevant. The collection of source material through the process of crate digging, allowed for the purposeful identification and collation of material from which to build a composition. Although at times unlawfully appropriated and recontextualised into a new work, this approach to composition allowed for the integration of highly developed skills and the historic creative output that was the Golden Age of Hip-Hop. The implementation of appropriated ideas and textures from different genres to create new music vocabularies has served as a foundation for producers in consolidating and developing their ideas. D’Errico (2015) further states:

*In the absence of a rapper, these DJs and beat makers developed a specific set of values and aesthetics that were shaped by the capabilities and limitations of turntable and sampling technologies, as well as the user’s ability to transcend these limitations. In this way, the history of “experimental” hip-hop production emerged from instrumental hip-hop production—defined by the technologies being used, as well as the ability of the producer to expand on these technologies through individual skill and technical manipulation* (D’Errico, 2015 p.282).

D’Errico (2015) furthers the idea of music vocabulary development through the introduction and assistance of electronic technology. For example, the MPC 60 and E-Mu SP-1200 served as fundamental tools in the creation of a specific set of values and aesthetics within the culture of hip-hop production (D’Errico, 2015 p.282).

Williams (2014) adds to the idea of creating music vocabularies with the assistance of electronic technology by categorizing two distinct approaches. The first approach takes digitally sampled sounds and other ‘borrowed’ sounds, and employs the useful distinction of Lacasse’s ‘*autosonic quotation*’ and ‘*allosonic quotation*’. ‘Auto-
sonic quotation’ is quotation of a recording by digitally sampling it, as opposed to ‘allo-sonic quotation’, which quotes the previous material by way of re-recording or performing the quotation in live performance (Williams, 2014p.35). This offers a distinct categorisation of one approach. The purposeful collection, collation and development of new music vocabularies by implementing strict frameworks, allows for purposeful sampling and integration into a new work. Williams further discusses the variations found in ‘sequencing’: the act of putting samples in some sort of sequential order. Gillespie makes the distinction between ‘syntagmatic sequencing and morphemic sequencing’, where the latter samples short sounds (such as a snare hit), and the former utilises longer musical phrases and passages (Gillespie, 2007).

By purposefully implementing a combination of auto-sonic quotation with syntagmatic sequencing, this approach to composition allows for the fragmentation, development and consolidation of longer motifs, thus providing a greater platform in which to build from. By purposefully implementing a combination of allo-sonic quotation along with morphemic sequencing, allows for the integration of smaller textures and single shot sounds. The first approaches assists in the development of a strict foundation in which to build from, with the second approach adding composition value through purposefully placed textures. In conjunction with the identification of autosonic, allosonic, syntagmatic sequencing and morphemic sequencing as specific approaches to sampling and the construction of textures, current approaches to the construction of electronic music production incorporates all approaches to achieve new music vocabularies and hence, compositions. The appropriation of sample quotes and fragments from jazz to create hip-hop, rap and electronic dance music highlights that digital sampling and appropriation is a well-founded and legitimate practice employed by artists in creating new music vocabularies.
2.2 Remi.xing

“A music remix, in general, is a reinterpretation of a pre-existing song, meaning that the “spectacular aura” of the original will be dominant in the remixed version” Remix Theory (Navas, 2012).

This section discusses various approaches to remi.xing, extending on the idea of new music vocabularies. By offering a dedicated practice in which to implement ideas Remi.xing is usually considered a technological, musical, and/or legal phenomenon (Navas, Gallagher, & Burrough, 2015). Literature regarding remi.x, for example, often gravitates to a description of digital sampling and its related legal or ethical ramifications (Navas et al., 2015 p.15). In this chapter, however, I wish to focus on remi.xing as a sample-based compositional practice that emerged around the time of the Golden Age of sampling.

The term ‘Remi.xing’, can be defined as a form of composition and music production typically associated with hip-hop and electronic dance music. The affordances of audio software combined with the accessibility of digital hardware through which remi.xed music can be performed and distributed, lend to an explosion of sample-based electronic dance music in the 1980s. Remi.xes are described by Irvine (n.d.) as cultural hybrids that emerge from combining (or rendering inoperative) the categories of "high" and "low" cultures. As Navas (2012) outlines in “Remix Theory”, postmodernism is dependent on a particular form of fragmentation, whose foundation is in early forms of capturing image and sound through mechanical recording.

Remi.xing can be categorised into three distinct forms of construction: extended, selective and reflexive (Navas, 2012 p.104). Extended remi.xing is the process of lengthening the original track in the studio by incorporating instrumental sections. DJs’ mix these instrumental sections with other music, serving as an additional tool in which
they can showcase their material at an underground/non commercial level. I will address each of these three categories of remix in turn.

*Extended remixing* typically lends itself to the subtracting and reintroduction of instrumentation throughout the selected instrumental sections. Creating sparseness in sections allows for instruments to be used as a textural component over another piece of music. Furthermore, research presents a decidedly comprehensive, calculated and predetermined version of this process is called a ‘mashup’. A ‘mashup’, is the use of multiple recognisable and fundamental motifs taken from preexisting works in which to create a new work. These sections do not necessarily have to be appropriated and arranged with precise skill, however they must outline the intentional use of recognisable elements of a known song. The artist Girl Talk is the most controversial ‘mashup’, artist to have commercial success. However, this success has been met with legal ramifications due to the illegal appropriation and incorporation of samples from established recording artists. Girl Talk’s creative process uses fragments of time that are incrementally divided to disguise Elvis Costello’s samples to create a new composition. This process is not only in breach of copyright laws but limits creativity (Gaylor, 2009). “You can’t argue [that it’s] your creativity when it’s based on other peoples stuff” (Gaylor, 2009). The undertone of this discussion isn’t the issue of using appropriation and digital sampling as a composition technique to create news works, it’s about the initial sourcing and collation of samples in which to use in a new work. In the case of Girl Talk, the utilisation of entire recognisable motifs of pre recorded and previously distributed music that, in most cases, has already made its mark within society and has some form of cultural attachment, prior to its use as the basis for Girl Talk’s music.

The notion of simulacra for Girl Talks’ compositions is to create a likeness in order to gain a form of musical traction. This is heavily reliant on culture and nostalgic flavors of chosen samples to incorporate into the new composition. In order to be creative, Girl Talk draws inspiration from hearing pre-recorded sounds and making a correlation between textures.
The process begins with finding particular motifs in which to build new compositional forms and adding to this foundation with additional appropriated content.

Selective remixing is the process of using pre-recorded instrument and vocal samples from the original recording session and using such samples in the creation of a new composition. This new composition then becomes a variant of the original mix to often accompany the original mix on an Extended Play (EP) or album. The intent of selective remixing is to recontextualise the music to cater for a wider audience. The term ‘new work’ is often associated with this style of remixing. Remix artists can create entire new works where the stems (an individually recorded instrumental or vocal track, often divided and configured into sub grounds within a mix), become a feature of the new work and not a remix of the original work. Selective mixing can range from collaboration and appropriation to a remake or cover version of an original composition and will differ as to how each one of these is calculated and defined.

Reflexive mixing allegorises and extends the aesthetic of sampling and extended on the original work, where the remixed version challenges the aura of the original and claims autonomy even when it carries the name of the original. Material is added or deleted to reflexive mixing, but the original tracks are largely left intact to be recognisable (Navas, 2012 p.66).

A remix applying reflexive remixing bears the complexities of culturally defined musical elements incorporated from traditional styles of music. For example, Mad Professor’s dub/trip hop album, No Protection, is a remix of Massive Attack’s Protection, but can still stand as a work of its own (Navas, 2014 p.66). Mad Professor’s production is partly traditional Jamaican dub and extensive manipulation (Navas, 2014 p.66).
2.3 Conclusion

The art of remix directly supports the practice of composition and record production. The initial idea for creating remix compositions is fundamentally based on information shared or collected from second or third party sources. Applying reflective, selective or reflective remixing to create composition allows for the artist to build on a developed idea or motif.

For an artist to draw on musical elements and influences with the idea to include into a remix, a remix artist requires developed critical listening skills and theoretical musical knowledge to ascertain what original sections music are to be included into a new work. The differentiation between composing a new work from scratch and a remix is; a remix artist must locate sections and fragments of pre-existing source material to combine and layer into a new work, whilst maintaining some form of aural familiarity relatable to the original work. Unlike a jigsaw where only selected pieces fit 1, 2 or 3 sides together, much of the source material will work in multiple combinations, however, arranging these combinations can ultimately determine the scope of theoretical musical knowledge a remix artists posses. If a remix artist does not understand basic diatonic harmony, a remix may present with combinations of major melodic intervals of minor or half diminished harmony.

Therefore, developed critical listening skills and theoretical musical knowledge plays a significant role throughout the remix process. Learning and developing the art of remix also enables an artist to highly refine their approach to composition often dictated by the nuances of the original motif. Researchers suggest that creative practices surrounding the art and craft of remix, can be directly attributed to certain developmental stages throughout the compositional process that would of once normally been developed by the deconstructing and reverse engineering of set repertoire in a more traditional conservatorium setting.
The use of DAW allows for the immediate playback, orchestration, re-orchestration and arranging of parts and sections to trial extends the development of creativity. The use of archaic and/or modern pieces of sampling hardware to capture, articulate and distribute music directly contributes to the overall musicianship requirements and compositional approaches of artists. Although sampling technologies allow for the capturing and manipulation of sound, musicianship through the initial performance of music into a DAW or sampling hardware directly contributes to the quality of musical output to build on. A better performance with a better understanding of DSP (digital signal processing) will allow for a higher bitrate in sound, thus directly attributing to the quality of recorded output and materials available for the construction of a new work. The counter argument for remixing being a dilution of the original owner’s property is that art cannot be created or destroyed — only remixed (Ferguson, 2012). New media is created from old media and order; to remix, one must copy, transform and combine (Ferguson, 2012).

“Our creativity comes from without, not from within. We are not self made, we are dependent on one another and admitting this to ourselves isn’t an embrace of mediocrity, or derivativeness; it’s a liberation from our misconceptions and its an incentive to not expect so much from ourselves and to simply begin”. – (Ferguson, 2012).

2.4 Digital Samplers and Appropriation

This section introduces digital samplers and how the affordance of this technology significantly contributes to the architecture of sample-based composition. This section also outlines the capacity in which digital sampling technologies serve as a medium to sample and archive sound. To ‘archive sound’ does not imply archiving/replicating of entire sound recordings, more so, fragments of sound from source material (recordings, tv shows, films etc). This section discusses the link between digital samplers and appropriation in sample-based composition and how the archiving of sound allows an artist the affordances to introduce new musical vocabularies.
“Whether one could exactly re-create a guitar riff [with session musicians] is a moot point for many hip-hop producers, because they want to access the sonic qualities that can only be found on a particular old album recorded in a specific time and place. They are looking for that certain kind of timbre, a certain kind of aura, that signifies, for instance, an old guitar sound taken from a funk-rock record from the 1970s” Kembrew McLeod (Edwards 2015 p.35).

Although technology supporting the practice of digital sampling is relatively new, artistic notions of appropriation as creativity most certainly are not. From musical references, literary allusions and to visual puns, the humanities bear innumerable examples of authors building on the foundations of their predecessors (Katz, 2004). Nothing is genuinely new; culture like science and technology, grows by accretion, each new creator building on the creativity of those who came before them (Self, 2002). Nothing is new; rather modern forms are built upon the evolution of previous forms. This approach is unquestionable for sample-based artists appropriating sounds to create modern genres such as hip-hop, experimental hip-hop and trip-hop. Artists such as the Beastie Boys, Public Enemy, The Bomb Squad, DJ Shadow, Massive Attack, Madlib and Tricky, offer an array of approaches and outcomes that lay the foundations for further techniques and sub genres to be developed. In particular, the genre of trip-hop was developed out of the hybridisation of genres including jazz, r’n’b, dub, reggae and acid jazz.

Musical textures are often constructed out of multiple layers of combined samples to make one sound. For example, a number of single snare drum samples collected from multiple recordings may be combined together to create a more sonically rich snare drum layer that adds to the overall sonic value of the work. The use of juxtaposed layers to create varying timbres was a method implemented by producers that has become an aesthetic indicative of hip-hop. A hip-hop producers’ methodology has much in common
with the experimental approach of collage artists who work in other media, particularly visual media (Schloss, 2000).

Both based on elements of randomisation, the creative process of trip-hop is also driven by the quality and availability of the source material and its recorded context. Schloss (2000) draws on Romare Bearden’s approach to collage art to illustrate how collage art and trip-hop could closely relate:

you have to begin somewhere... so you put something down. Then you put something else with it, and then you see how that works, and maybe you try something else and so on. And the picture grows in that way. One thing leads to another and you take the options as they come, or as you are able to perceive them as you proceed. The fact that each medium has its own special technical requirements doesn’t really make any fundamental difference. My overall approach to composition is essentially the same whether I’m working with the special problems and possibilities of the collage or with oils, water colors or tempa. As a matter of fact, I often use more than one medium in the same picture. Once you get going... all sorts of things begin to open up. Sometimes something just falls into place like piano keys that every now and then just seem to be right where your fingers happen to come down. But there are also all those times you have to keep trying something over and over and then when you finally get it right you wonder what took you so long. And of course there are also times when you have to give it up and try something else which sometimes turns out just great as the beginning of another, totally different picture. By the way, this sort of thing is much more likely to have to do with how something fits into the design or ornamental structure of the painting than with it’s suitability as subject matter” Romare Bearden (Schloss, 2000 p.153).

Thompson (2008) further outlines; the alleged difference between “free” improvisation and other musical practice has been a contested one. When considered thoroughly, the notion that musical practices without pre-established compositional or
idiomatic imperatives will transcend performers habitual, preplanned or intuitive use of compositional impulses - where music can be exclusively “in the moment”- seems fatuous (Thomson, 2008). In consideration, the development of digital samplers allowed pre-established compositional or idiomatic imperatives to be captured and recycled, thus contributing to the development of new musical vocabularies allowing for extended creativity.

For example, chopping up an instrumental solo into twelve parts, rearranging those parts, and laying them over drums sampled from another composition might be seen as more creative than simply repeating the main riff from a popular song (Edwards, 2015 p.35). Appropriation is contextualised as,

certain images, objects, sounds, texts or thoughts would lie within the area of what is appropriation, if they are somewhat more explicit, sometimes strategic, sometimes indulging in borrowing, stealing, appropriating, inheriting, assimilating... being influenced, inspired, dependent, indebted, haunted, possessed, quoting, rewriting, reworking, refashioning... a re-vision, re-evaluation, variation, version, interpretation, imitation, proximation, supplement, increment, improvisation, prequel... pastiche, paraphrase, parody, forgery, homage, mimicry, travesty, shan-zhai, echo, allusion, intertextuality and karaoke (Pichler, 2009).

The recontextualisation of appropriated and culturally appropriated aspects can be directly attributed to the closely related concept of hybridisation. The concept of hybridity in composition is to display the influence of one or more styles of music within a new work, with the consideration that every composer must mediate between the diverse influences, intentions, theories, and emotions impinging upon the compositional moment (Adler, 1998). Adler further adds that;

for some composers these mediations may be relegated to the subconscious, for some they may be considerations of fine distinctions that come into play only at the level of detail. The meanings cannot be confined a priori by a particular
ideology (such as of the separability of music and politics), an inevitability which is merely foregrounded in the cross-culturally hybrid work. This ongoing emergence of meaning implies that the discourses, both individual and cultural, that contribute to an individual’s musical experience are relevant to any musical analysis, for analysis is an assertion of music’s meaningfulness (Adler, 1998 p.2).

Early examples of appropriation and hybridisation can be found in works dating back to the German Baroque composer George Fredric Handel, which are related to the compositional techniques of 17th century Italian composer Giovanni Bononcini. Therefore this approach to composition supports the practice of utilising ‘fine distinctions’ to achieve levels of detail in the quest to articulate music’s meaningfulness. Therefore, if elements and textures are appropriated or replicated and made accessible for distribution throughout music, this approach only widens and creates extended awareness of varying musical cultures throughout the world. Appropriation in sample-based composition has the ability to develop further understanding and acceptance of cultural practices in a global society. This approach further allows for artists to articulate the meaningfulness of and depth of musical composition, where the inclusion of appropriated hybridised textures only quantifies cultural awareness and acknowledges the influence non-western musical and social culture in a western society.

However, there remains an element of cultural disdain when discussing authorship when appropriating hybridised non-musical textures, especially in the form of intertextuality. Hesmondhalgh states;

“The resulting ethical and political questions about authorship and ownership of sounds are tangled enough in the case of rap, where it can be argued that distinctively African American form of cultural production, centered on intertextuality and recontextualisation, has been systematically discriminated against by intellectual copy write law” (Hesmondhalgh, 2000 p.280).
Utilising Cultural appropriation as an approach to sample-based composition should advocate cultural awareness globally through the advertising of music. Presented in varying musical genres may increase cultural awareness and provide accessibility to different cultures socially and musically. However, the ethical and political nature of appropriation and Cultural appropriation derived from the commodification of music and entertainment globally diminishes the opportunity for learning of other cultures through musical sampling and appropriation.

This section concludes by acknowledging the proliferation of digital samplers as accepted tools for sample-based composition, however, also outlines the ease at which lengths all music can be sampled, re-appropriated, recontextualised and often misappropriated into a new work. It also acknowledges differing approaches and philosophies compositional approaches, with Thomson’s statement of “digital samplers allowed pre-established compositional or idiomatic imperatives to be captured and recycled” (Thomson, 2008). Consideration must also be given to the immediacy and expeditious nature music can be sampled and appropriated using digital sampling technologies; including the political, cultural and legal implications the misappropriation of textures can have.

Combining identifiable appropriated hybridised textures utilising digital sampling technologies allows for significant harmonic, rhythmic and textural variance. However, it skews and questions the boundaries and extent artists can navigate technologies to articulate their musical expressiveness. If referring to Adler’s statement supporting how appropriating hybridised textures directly leads to articulating musical experience and music’s meaningfulness; this approach assists in the development of musical vocabulary and libraries of archived sound in which to build from.
2.5 A Selected History of Digital Samplers

This section provides a selected history of digital samplers and their impact on the development of sample-based compositions, namely through the *Golden Age of Hip-Hop* 1989-1992. This section provides context for the study, outlining how developed technologies became such a quintessential component of early digital sampling and appropriation.

The techniques of capturing, editing and construction of modern day digital music samples seldom stray from the exploration and manipulation techniques devised by Schaeffer in the 1950s. However, the introduction of digital music sampling technology such as Akai’s Music Production Centre (MPC) during the late 1980s allowed artists to expand their creativity and creative palette through the capturing and storing of precisely edited phrases taken from pre-recorded music of varying genres and eras. Akai’s MPC allowed for such samples to be imported into a piece of commercial hardware that allowed artists to chop, manipulate and disguise selected phrases with great efficiency and speed. The MPC’s primary function was to allow artists to construct and save multi-layered sounds as constructed samples; later enabling artists to cut, splice and manipulate chosen phrases and material. The affordances of the MPC began to deepen the expression, design and construction of compositions, incorporating added textures and sonic qualities. The technology also served as a live performance tool allowing artists to construct and perform numerous instrumental sounds. Developed and archived sounds could be stored and imported into the hardware, with the performance of sound (triggering) operated through expression pads, further allowing sounds to be performed with immediacy.

Roger Linn, an American born musician and sound engineer, was responsible for the development of the first ever drum machine (Linn, 2014). Linn’s first commercial venture was the LM1 Drum Computer in 1980 (LM1), in essence a drum machine. This innovation changed the face of music production.
The LM1 was the first drum machine to feature the digital samples (McNamee, 2009) of recorded acoustic drums sounds, allowing music producers to program their rhythmic patterns with greater precision and clarity.

Although the LM1 wasn’t the first programmable drum machine with the likes of the Synclavier (1977) and Fairlight (1979) being developed and released into the market as programmable music workstations, it was the first to allow music producers and artists the flexibility to work towards achieving a predetermined sound by utilising samples. This was due to the 18 fixed drum sounds recorded of various Los Angeles session drummers. This hardware’s weakness was the lack of cymbals due the high cost of including longs sounds (Linn, 2014). A notable feature was the swing function that allowed for rhythmic phrases to emulate a swung or shuffled feel. The swing feature, often referred to as the shuffle feature, soon became one of the main features to become synonymous with the Linn brand (Linn, 2014).

It was in 1981 that the LM1 was featured on its first UK #1 hit, with The Human League’s, *Don’t You Want Me* (The Human League, 1981). It also topped the US Billboard Hot 100, spending fours weeks at the top of the charts in July 1982. Due to the functionality, versatility and programmability of the LM1, this digital sampling music technology soon became the premier accompanying tool for many synth-pop and progressive acts of the early 1980s. Another notable song that featured the LM1 was George Benson’s, *Turn Your Love Around* (Benson, 1981), released as a single in October of 1981 by Warner Brothers music.

*Turn Your Love Around*, reached number #1 on the American Soul Single charts in January 1982 (The Top 100 R&B Singles, 1982), a top five position in the US Billboard Hot 100 and a top ten ranking in the US Jazz charts (“George Benson,” 2016). Later that year *Turn Your Love Around* helped earn George Benson a Grammy Award for the best R & B song at the 25th Grammy Awards in 1982 (25th Annual Grammy Awards, 1982). Steve Lukather and the late Jeff Pocaro of Toto, were both significant contributors to this record with Lukather being awarded for song writing credits.
After the continual development of model updating and technological partnerships between Linn and varying other parties, Linn Electronics, the developer and distributors of Linn products, was to close in February 1986 due to heightened manufacturing costs and ongoing functionality issues. It was with Japanese consumer and electronics technology brand Akai, that Linn’s next partnership would again change the approaches to music production globally.

Due to the availability of new and emerging technologies, the highly developed and updated sampler Akai MPC 60 was distributed and used by music producers and artists. This technology allowed an evolution of music creativity during the 1980s.

2.5.1 AKAI MPC 60

“Expanding upon various techniques developed by pioneering Hip-Hop DJs –including beat-juggling, cutting and mixing-the MPC introduced a much wider range of possibilities regarding not only the manipulation of individual samples, but their assemblage into musical composition as well. Furthermore, the expansion of the machine has coincided with the musical development of the Hip-Hop tradition, as producers have responded and reacted to changing technological trends with increasingly innovative trends in performance practice.” Michael D’Errico (2011).
The Akai MPC 60 was the first sampler to be developed between Roger Linn and Akai and was first distributed in 1989. The MPC 60 laid the foundation for later digital sampling machines (Table 1). The Akai MPC 60 (MPC 60) was the first digital hardware platform that allowed producers and artists to develop a library of sounds. The most important development of the MPC 60 was its ability to chop and splice into separate regions that could then be assigned to velocity/after-touch – sensitive pads.

This allowed compositional control of any discrete moment of the sample with a speed that is impossible to achieve by cutting a vinyl record (D'Errico, 2011 p.28). One of the most significant technological advancements of the MPC 60 was its vast expansion of memory to accommodate producers and artists with the possibilities of combining a great many sample sources. As a standalone sampler, the MPC 60 possessed a factory sound bank that was originally produced and recorded by drummer Willie Wilcox (Trask, 1988). The MPC 60’s success was widely supported by third party sample sellers. The original sound package library included four factory floppy disks, each with differing drum kit sounds. The original fours disks comprised of a studio kit, rock kit, dry kit and a synth kit. Third party sample options grew exponentially through the process of sampling later allowing artists to purchase samples packs. Third party sample sellers sold additional sound libraries that could be imported and manipulated by producers and
artists using the MPC 60. In combination with developed features including; syncable MIDI time clock, 16 velocity sensitive pads, a floppy disk drive to support such third party sounds, the MPC 60 showcased 8 assignable outputs, one stereo, and one effects send for live use. This, allowed artists the freedom to create, develop and incorporate sounds into their work in both a live and studio context. The MPC 60 not only allowed for the recontextualisation of appropriated samples, it also allowed for the dexcontextualisation of sound. Brian Eno (1999) states, “that even the “weaknesses” or the limits of tools become part of the vocabulary of culture.” Therefore the affordance of the MPC 60 and its technological idiosyncrasies (sonic processing qualities) allowed the MPC 60 to development and archive bespoke sounds and samples.

Not only did the MPC 60 allow for the development and archiving of bespoke sounds, it allowed users to multi-layer sounds, which assisted in defining a vocabulary of culture inherent of early hip-hop music production. The sampling and creation of sounds using a medium such as the MPC 60, is not always limited to the development and archiving of sound. When referring to the production processes of DJ Shadow, Blanning, (2009) defines multiple musical/sonic results of this undertaking include: music producer, music librarian, curator, guide, archivist, breaks conservationist, Hip-Hop protector and a stockpile of the natural resources of the music (Blanning, 2009).

Although met with much criticism at the time, one of the most profound examples of a MPC performance during the past 30 years, was Kayne West’s debut of his 2010 single, Runaway (West, 2010) on the MTV Video Music Awards. West (2010) diligently showcased the accessibly and versatility of the MPC as a live performance tool. Playing his MPC 2000XL, West triggered a series of piano notes, recorded drum sequences and Rick James vocal samples (Caramanica, 2011). The development and use of the MPC in this context highlights the sonic limitations of a turntable and culture of Beat-Juggling; an act of manipulating two or more samples to create a unique composition, often utilising two or more turntables along with one or multiple mixers. However, removing the MPC from its more natural environment of the recording studio, allowed West to showcase the
performative affordances of this technology, foregrounding the physical and percussive nature of the beat-making process (D'Errico, 2011 p.1).

*Instrumental* beat-makers (where the focus of the composition is on its instrumental quality opposed to the inclusion of vocals) have established a unique subgenre in hip-hop, asserting their authenticity through music technology and production techniques, that have stemmed from a distinct musical lineage of producers and DJs of the past, including Grandmaster Flash, the RZA of Wu-Tang Clan, and J Dilla (D'Errico, 2011 p.2). AKAI and the development of the first MPC 60 are closely associated with the development of hip-hop.

### 2.5.2 E-MU SP-1200

![Figure 1.1 The E-mu Systems SP-1200 released in 1987](image)

Although the MPC 60 was popular amongst music producers and artists for it’s functionally and versatility, it was in 1987 that E-MU of Scotts Valley, California, developed a sampler that would rival Akai’s MPC 60. The SP-1200 was originally developed for dance music production, and became an icon of Hip-Hop’s Golden Age (Chapter 5) due to its ability to construct the majority of a song within one piece of portable gear. The main point of differentiation between the MPC 60 and the SP-1200 is
the variety of techniques that can be adopted through the functionality of each unit in the capturing and manipulation of sound. The SP-1200 only allowed for a total sampling and storing time of 10 seconds as opposed to MPC 60’s 13.1 seconds, with each individual sample not to be longer than 2.5 seconds in length (SP-1200: Perfect Sampling, 2011). Evidentially, this led to a style of fragmented sampling that characterised sampling practices throughout the Golden Age. The SP-1200 also allowed music producers and artists to consolidate and remix their sounds within one unit. Other success factors of the SP-1200 were its numerous sample manipulation features and overall sound quality. The multi-pitch and tune/decay edit functions allowed for extended variations of sampling and pitch manipulation.

Due to the variance in playback speed and sound of captured samples, the process of appropriation and re-appropriation of samples into a new work was much simpler. The SP-1200’s “12 bit grittiness” sonic characteristic would eventually become an integral part of the sonic landscape and nature of the SP-1200. The popularity of the 12-bit grittiness was due to its ability to replicate the crunchiness and warmth often associated with vinyl records. This made for a very desirable outcome, specifically when sampling from vinyl, as the SP-1200 could capture the forms of isolation and depths of field that are often lost through the analogue to digital conversion within the digital transfer of information. These sound characteristics can significantly change the sonic nature and spectral complexity of samples.

Detrick (2007) describes the SP-1200’s cultural significance as a compositional tool and instrument by drawing parallels with two of the world’s most illustrious and influential musical instrument brands of all time. He suggests that just as the Stradivarius and the Fender Stratocaster were standard-bearers by which other instruments were judged, the SP-1200 quickly became the tool of choice for East Coast beat makers during Hip-Hop’s Golden Age. The crunchy digitised drums, choppy segmented samples, and murky filtered bass lines that characterised the vintage New York sound are all mechanisms of the machine (Detrick, 2007).
There is significant merit in Detrick’s (2007) comparison of the Stradivarius and Fender Stratocaster in positioning the SP-1200 as a contributor to innovative and engaging music production during the Golden Age. Schloss (2000) highlights that samplers add a sense of romantic nostalgia. In conjunction with nostalgic values placed upon the sampling segments of previous songs, their ‘retro‘ appearance is reminiscent of the symbolic values associated with vintage guitar by rock musicians (Schloss, 2000 p.202). Technological hardware allowed music producers of the Golden Age to outline their creative process using samplers as a legitimate musical instrument for composition and performance. This technology has directly contributed to the development of new and emerging musical genres, setting a precedent for contemporary music production practices that employ digital sampling and appropriation.

Prolific in its use, the SP 1200, is featured on a number of records including, for example: Pete Rock – INI, Soul Survivor, Petestamental (Pete Rock, 1998), Cypress Hill – Cypress Hill (Cypress Hill, 1991), Cypress Hill – Black Sunday (Cypress Hill, 1993), Jay-Z – Reasonable Doubt (Jay-Z, 1996) and Kid Koala – 12 Bit Blues (Kid Koala, 2012). The success of the MPC 60 and E-MU SP-1200 can be measured by the rate at which new units and technological advances have been incorporated into subsequent Akai MPCs (Renaissance) and the development of more recent equipment such as the Native Instruments Maschine Studio.

The MPC 60 and the SP-1200 were archetypal technologies, supporting the development of new genres, but more so, assisting in the architecture of compositions. Although the Golden Age of Hip-Hop was prolific in the amount of creative output it generated, the collection, collation and archiving of source material in new musical works introduced a new point of contention in the form of intellectual property law considerations.
2.5.3 Copyright Considerations

“A free culture supports and protects creators and innovators. It does this directly by granting intellectual property rights. But it does so indirectly by limiting the reach of those rights, to guarantee that follow-on creators and innovators remain as free as possible from the control of the past. A free culture is not a culture without property, just as a free market is not a market in which everything is free.” Lawrence Lessig, Free Culture (2004) p.13.

This section introduces copyright considerations, including three legal parameters (de minimis, fair use doctrine and fragmented literal similarity) relating the appropriation, misappropriation and recontextualisation of pre-recorded source material into a new musical work. Gently expanding on the scope of these select legal terms, this chapter offers a greater insight into how such frameworks protect artists’ creative output, and continue to protect artists from the misappropriation of individual creative works into new musical works.

This section offers a brief overview of legal parameters associated with digital music sampling relating to intellectual property and copyright law. The proliferation of original musical content developed throughout the Golden Age outlined the accessibility and ease of decontextualising, recontextualising and appropriating sound to form new musical works, utilising developed technologies to form a compositionally rich period in musical history. The introduction of legal frameworks, including well documented legal cases protecting the intellectual property and copyright of musical authors may appear to have disrupted and fragmented its modern day use as an approach to composition, however, as technology develops, so does the capacity in which a sound can be morphed and manipulated.

Although the ‘face’ of digital sampling or ‘misappropriation’ may have deviated slightly placing a greater emphasis on sampling technologies assisting in the creation and the development programmable content; the practice of fragmenting increments of sound
from pre-existing works to form the fundamental basis of a new work is still prevalent. None more prevalent than Drake’s 2015 hit Hotline Bling (Drake, 2015), where Timmy Thomas’s Why Can’t We Live Together (Thomas, 1972) was sampled to form the harmonic structure of the 2015 hit, thus outlining sampling fragments of sound to recontextualise into a new work is still very much existent. This section will explain how the legal term De Minimis, in conjunction with the Fair Use Doctrine and Fragmented Literal Similarity, are used in copyright infringement through appropriation using case studies. These legal requirements have artistic implications for appropriation of digital music sampling as a tool of composition.

“Fragmented literal similarity exists where the defendant copies a portion of the plaintiff’s work exactly or nearly exactly, without appropriating the work’s overall essence or structure” (Music Copyright Infringement Resource, 2012).

The terms de minimis, fair use doctrine and fragmented literal similarity, define the argument and legitimacy of what proportion of music becomes the sampled artifact in a new composition. De minimis is defined as of little worth or importance and, insignificance (Whipple, 2012 p.76). In music production, de minimis determines the overall quantity of samples used in a new music composition; however, this definition of ‘quantity’ poses much conjecture and in turn raises whether artists can be protected with this legal framework.

Fair use doctrine is defined as any copying of copyrighted material done for a limited and “transformative” purpose, such as to comment upon, criticise, or parody a copyrighted work (Stim, n.d.). This doctrine applies to certain scenarios when incorporating source material such as in commentary, search engines, parody, news reporting, teaching, criticism, library archiving and scholarship. It may also apply to use in a new composition. A common context for the use of fair use doctrine, it can be argued, is in the recontextualisation of sporting or news commentary into a new composition where the focus is not on the semantic function, rhyme scheme or grammatical structure of the surrounding lyrics.
The third legal framework that can be applied to the misappropriation of music is *fragmented literal similarity*. Derived from the term ‘substantial similarity’ which is defined as, “whether the ‘copied material’ is either quantitatively or qualitatively a substantial portion of the original work such that it merits copyright protection” (Zaken, 2014). Fragmented literal similarity exists when the copying is obvious but only a small portion of the original work is used in the new work (Zaken, 2014 p.289). Substantial similarity can be broken into two basic types: comprehensive nonliteral similarity and fragmented literal similarity (Carter, 2013 p.3), however it is fragmented literal similarity that is most commonly argued in conjunction with de minimis and fair use doctrine, as research suggest, sample-based composition is often constructed from appropriated fragments of music into a new work. Wilson (2002, p.181) outlines, that once a court establishes ownership and copying, it applies an unlawful appropriation analysis to the case in question. The trier (a person, or group of persons, who determines facts in a legal proceeding, usually a trial) of the fact determines whether a substantial similarity exists between the original and infringed work that exceeds the threshold for an unlawful appropriation (Wilson, 2002 p.181).

The court will then consider four non-exclusive factors when determining whether the *fair use doctrine* protects copyright infringement. These non-exclusive factors include (Wilson, 2002 p.184):

1. the alleged infringers’ purpose and character for the use,
2. the nature of the use,
3. the substance of the portion used and
4. the impact of the use on the potential market of the copyrighted work

The above intellectual property considerations are supported by the legal frameworks of fair use doctrine, de minimis and Fragmented Literal Similarity, however, research suggest that even though the above points can be argued in copyright infringement
scenarios, these frameworks, do not act as sole deterrents for the misappropriation of pre-recorded music.

The affordance and development of digital audio technologies allow artists and music producers significant opportunity to capture, archive, recontextualise and decontextualise prerecorded sound. The culture of sampling and appropriation by artists and music producers is not without severe legal implications in the form of intellectual property and copyright considerations. I do not declare I possess significant expertise on such legal terms, however, I do believe de minimis, fair use doctrine and fragmented literal similarity are relevant in the context of this study, due to the architecture and construction of sample-based composition and how source material is collected, collated and recontextualised. Their significance in the context of this study further substantiates the hope the misappropriation of music-affected creativity, whilst protecting artists’ creative output by employing copyright infringement legislation. In 2015 Robin Thicke’s Blurred Lines (Robin Thicke, 2013), was subject to legal proceedings, with the song exhibiting similarities to Marvin Gaye’s song Got To Give It Up (Marvin Gaye, 1977).

The case against Thicke and producer Pharrell Williams, argued that similarities found within the Blurred Lines is copyright infringement as opposed to creative homage (Suzor & Pappalardo, 2015).

To further contextualise the scope and dynamic of how copyright can be argued, the following definition is provided:

> Intangible rights granted by statute to the author or originator of certain literary or artistic productions, whereby for a limited period, the exclusive privilege is given to that person (or to any party to whom he or she transfers ownership) to make copies of the same for publication and sale (Copyright, 2016).
Thicke admitted he was influenced by Gaye’s song and wanted to make something with the same ‘feel’. Copyright law focuses only on similarities when assessing infringement. This ignores the way that all creativity builds upon the past (Suzor & Pappalardo, 2015 p.1). Keller further adds in support of Thicke’s intention to make something with the same ‘feel’, that new art builds on old art also adding, twentieth-century recording technology brought this persuasive culture of reuse to a new level (Keller, 2008 p.135).

Therefore, the distinction between directly appropriating fragments of sound into a new work and ‘copying’ the ‘feel’ are similarly growing closer in terms or arguing creative originality if a song exhibits similarities to pre-existing work. The Golden Age drove the development of legal frameworks protecting the authorship and reproduction of musical works, yet copyright law is being argued and extending to forms of similarity as defined as fragmented literal similarity. It is has been proven, copyright in modern day music-making extends beyond the inclusion of fragmented segments of pre-existing music into a work; further extending to the ‘likeness’ or ‘similarity’ of another work where ‘feel’ constitutes a breach of copyright. Harvard Law Professor Benjamin Kaplan spoke of:

the rise of networked computers which would allow cheap and instantaneous distribution of texts, images and sound (Kaplan, 1967). Kaplan further adds, this technology would beget a sea-change in our creative practices and interaction with information, as the distinction between the author or producer of the stored material and the user of the material [becomes] blurred, which is quite fitting considering the title of the song in question. Kaplan closes with, in time, such change, will likely abate feelings of proprietorship and thus modify conceptions of copyright, especially those bearing on plagiarism (Kaplan, 1967 p.117).

In conclusion, without copyright being applied to combinatory rhythmic patterns and considering ‘feel’ could be measured as musical idiosyncrasies heavy influenced by
the music an individual may study over a prolonged amount of time; applying a traditionalist copyright framework to legal cases I believe to hold relevance, as all western music is comprised of the same 12 note system and the same rhythmic note values.
3: A Case Study Analysis of four ‘Classic’ Albums

Arising from the review of the Golden Age of sampling a variety of approaches to music production with samples seem to be apparent. In order to understand this variety in more detail I have purposefully selected four albums, each from artists with distinctive approaches, for deeper investigation. These four well-known albums, released between 1994-2002, will be analysed and act as case studies for my research. They showcase varying techniques of digital sampling and appropriation as compositional approaches for creating electronic music. Albums are assigned to the genres of hip-hop, jazz and electronica (Table 1) In some case studies, the album represents a hybridisation of all four genres. Here, the appropriation of sample material forms a very identifiable foundation and nuance to the work.

<table>
<thead>
<tr>
<th>Title</th>
<th>Artist</th>
<th>Year</th>
<th>Label</th>
<th>Genre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Paul’s Boutique</td>
<td>Beastie Boys</td>
<td>1994</td>
<td>Grand Royal</td>
<td>Hip-Hop</td>
</tr>
<tr>
<td>2 It Takes a Thief</td>
<td>Thievery Corporation</td>
<td>1999</td>
<td>ESL Music</td>
<td>Electronica</td>
</tr>
<tr>
<td>3 Endtroducing, DJ Shadow</td>
<td>1996</td>
<td>Mo’ Wax</td>
<td>Hip-Hop</td>
<td></td>
</tr>
<tr>
<td>4 Shades of Blue</td>
<td>Madlib</td>
<td>2003</td>
<td>Blue Note</td>
<td>Hip-Hop/Jazz</td>
</tr>
</tbody>
</table>

Figure 3. The four case studies displayed by album title, artist name, year of release, label of published work and genre.

3.1 Case Study 1: “Paul’s Boutique” Beastie Boys (1994)

The importance of Paul’s Boutique, is its particular use of digital sampling and appropriation. The album was only recognised as a masterpiece of rhyme and collage approximately 10 years after its initial release. Paul’s Boutique has been referred to as one of the most counter intuitive records ever made, being described as the Sgt. Pepper’s (The Beatles, 1967) of its era, with its psychedelic hip-hop collages earning praise from an unnamed Capitol label executive (LeRoi, 2006 p.2).
The Beastie Boys changed their approach and production team with Paul’s Boutique. LeRoy (2006) stated consumers quickly realised that Paul’s Boutique was in no sense a simple follow-up of their previous album License to Ill that everyone had been expecting. However, within ten years, Paul’s Boutique would be universally recognised as a landmark achievement, a masterpiece of rhyme and collage, that changed the interpretation of copyright law ensuring it never be repeated (LeRoy, 2006 p.2). For Paul’s Boutique, Beastie Boys employed the services of the Dust Brothers a newly formed production team, abandoning their previous producer, record label and creative formula. Instead they smashed apart hundreds of old records and pop culture references then assembled them back together in unexpected combinations (LeRoy, 2006 p.3). Within five years, the Beastie Boys would prove that Capitol Records had made the right decision by allowing the artists, in conjunction with the Dust Brothers, to produce such a risky album. The combination of musical approaches by the Dust Brothers and the lyrical styling of the Beastie Boys made Paul’s Boutique a landmark recording.

It was the style of rhyme incorporating single-hit lyrical samples that created the novel compositional technique that could be described as Lyrical Fragmentation. Lyrical fragmentation allowed the Beastie Boys to develop a highly nuanced and identifiable vocal sound heard in such tracks as Shake Your Rump (Beastie Boys, 1989) at 0:12 seconds and for the remainder of the first verse. The fragmentation of lyrical phrases became inherent of the Beastie Boys vocal style. Each member contributed by either vocalising the same word or using this as a cue point to change vocalists. It can be heard throughout their entire discography featuring on albums such as Paul’s Boutique (Beastie Boys, 1989), Ill Communication, (Beastie Boys, 1994) and more recently Hot Sauce Committee Part Two (Beastie Boys, 2011) and was a technique requiring critical listening and expressive vocal performance. The selection, splicing and integration of musical textures as source materials were primarily retrieved from vinyl records. Therefore, lyrical fragmentation is an art, and talent in itself.

In the case of the Beastie Boys and other prolific rappers such as Chuck D and Flavor Flav heard on Public Enemy’s Bring The Noise (Public Enemy, 1987), also took
on the practice, showcasing their ability to integrated cultural, social and political references into their lyrical content, further engaging with their audiences.

Underscoring the diversity of genres that artists incorporate when appropriating samples into a new work, Mike Diamond from the Beastie Boys states in an interview on Australian television broadcast, the 7:30 Report: *in a lot of ways we were lucky as a group, because, we basically, were just DJs in a way. We were like record collectors using our record collection to influence and make ‘that part’ of what we would make every time. I think we were also very lucky to grow up at a time in New York, where you had, all of this different music happening at the same time. Whether it was hard-core, punk rock or hip-hop, you would then hear Latin music and of course jazz comes from New York, and you would hear everything all at once. It always seem natural to us to put all of those things together, and actually dance hall and reggae too* (Diamond, 2014).

Diamond confirms that listening to multiple genres can significantly influence his creative output, and this has proven to be a successful approach to sample-based composition for the Beastie Boys and Dust Brothers. Furthermore, the success of this approach is evident when analysing the overall aesthetic of *Paul’s Boutique* (Beastie Boys, 1989), where the relentless combination of beautifully rich, diverse and juxtaposed elements from varied genres heard in B-Boy Bouillabaisse (Beastie Boys, 1989) form construction of this historic record.

Although the Dust Brother’s were largely responsible for the collection and arranging of samples on *Paul’s Boutique* (Beastie Boys, 1989), it is the incorporation of additional instrumentation and programming on *Hello Brooklyn* (Beastie Boys, 1989) and *B-Boy Bouillabaisse* (Beastie Boys, 1989) by the core members of the Beastie Boys that further add musical depth and maturity to their sound, further bringing together all of the influencing genres Diamond states.
Not only does this approach to sample-based composition add musical depth and maturity, incorporating such a breadth of influences defined their sound, but none more so than later records such as *Ill Communication* (1994). *Paul’s Boutique* (1989) showcases musical diversity, which is quantified and even more apparent after the interview with Diamond. The musical depth and richness of *Paul’s Boutique* (1989) can be measured by the rate of musical influences and crossing of multiple genres within one bar of music, let alone a song.

3.1.2 Case Study 2: “Endtroducing” - DJ Shadow (1996)

To an extent, *Endtroducing* continued on from where the Beastie Boys, Dust Brothers and *Paul’s Boutique* ended. The main difference is, *Endtroducing* is made up of entirely appropriated samples from a myriad of eclectic records. Eliot Wilder, the author of *Endtroducing*, 33 1/3 eloquently describes, “when it was released in 1996, *Endtroducing*...sounded like nothing before or since- an album of beats, beauty and chaos, a sound that cuts to the very blue flame of the heart” (Wilder, 2005 p.1).

Where *Paul’s Boutique* was constructed with the combination of recorded instruments and lyrical fragmentation, *Endtroducing* was constructed using developed production techniques and technologies that allowed for the heavy editing of appropriated samples. Both *Paul’s Boutique* and *Endtroducing* are landmark records that provide exceptional initial insight into the Golden Age of sampling and beyond.

Wilder further describes Shadow’s compositional style as an approach that I believe my research to encompasses.

Wilder writes, “what resonated about Endtroducing when it was released in 1996, and what makes it resonate today, is the way in which it loosens itself from the mooring of the known and sails off into an uncharted territory that seems to exist both in and out of time” (Wilder, 2005 p.2).
Although groups like *Public Enemy* and *Run DMC* provided a platform and open forum that addressed the political and social landscapes for many communities and their generation in the USA; it was *Endtroducing* that categorically pushed the boundaries of composition through almost total creative appropriation in an approach I will call *Constructionist Collage*.

DJ Shadow’s approach to sample-based composition extends much further than the Beastie Boys and extends further within this study. For example, DJ Shadow’s *Endtroducing* (DJ Shadow, 1996) showcases similar, if not exact, approaches to sample-based composition exhibited by the Beastie Boys and The Dust Brothers, by utilising similar techniques of cutting, splicing and editing multi-layered content of source material driven by musical influences. Shadow states:

“What I used to do was find something I thought had interesting qualities as a loop. It’s pretty rare that they (samples) work instantaneously in pitch and in the right time. I have to sample each word or phrase and pitch it up or squash it down and play with it within the MPC to get it to all line up the way I wanted it” (DJ Shadow, 2012 0:06 seconds).

The differentiation between *Paul’s Boutique* (Beastie Boys, 1989) and *Endtroducing*, is, *Endtroducing* (DJ Shadow, 1996), offers greater musical consistency throughout the duration of its entirety, where by comparison, *Paul’s Boutique* (Beastie Boys, 1989) feels mercurial. Where the Beastie Boys and Dust Brothers combine multiple musical influences, creating array of quick fire juxtaposed textures; it could be argued, Shadow is able to gain greater overall continuity, by purposefully orchestrating each sample and loop to form extended musical phrases by using fewer genres. DJ Shadow’s approach with *Endtroducing* reflects its complex political nature, acting as a vehicle for the continued fight for equality and justice for people of color at the end of a post civil right era and within a nation steeped in history full of segregation and poverty.
This approach reflects an intellectual battle to create a musical collage built on developed critical listening skills through exposure to a myriad of musical influence enabled by electronic media communications that enabled the continuing sourcing and sharing of multiple genres of music from varied sources. “When you’re growing up, you get records almost like toys – just something to entertain you” (Wilder, 2005 p.24).

If anything, Entroducing was born out of a mixture of musical influences handed down and bestowed upon to DJ Shadow by a mother and father in tune with the listening instincts of their child.

Shadow outlines to Wilder that, my dad who I visited every two weeks in San Jose, his musical tastes were pretty eclectic. He had records by Issac Hayes, Three Dog Night, the Doobie Brothers, Asleep at the Wheel and Lou Reed. A lot of Blues like Albert King and a lot of Jazz like Maynard Ferguson. My mom, on the other hand, had more ‘straight up’, adult contemporary rock, like the Eagles (Wilder, 2005 p.25).

One identifying staple inherent of Shadow’s style is his drum loops. Shadow’s drum programming always maintains indistinguishable sonic fluidity. This approach is not only indicative of Shadow’s style, but the construction of complex rhythmic patterns also make his sound identifiable, compared to the Beastie Boys often drum machine driven beats.

Shadow’s experience reflects a genuine point of reoccurrence amongst artists throughout the Golden Age; being exposed to significant amounts of music from varying genres throughout their adolescent years. As artists developed a wider appreciation for music across genres, their critical listening skills inherently develop along side, offering a deeper and in some instances an eclectic approach to creativity in the realms of composition and music production. By exposing such diversity, allows an individual to develop a highly diverse musical palette of color and comprehension of musicianship,
even without the technical understanding applied to specific instrumentation and record production.

At an early age, it is difficult to understand the how the technical approaches to musicianship and record production define the color and feeling experienced from listening to music for the first time or more so, continuously.

As this study is limited to a specific discipline with supporting evidence through literature, I do believe that many of the artists referenced by DJ Shadow, The Beastie Boys, Thievery Corporation and Madlib, all recorded music where musicianship played a pivotal role in the successfully capturing of sound. Thus in turn, presented each of the artists in question optimum listening examples in which later contributed to the quality of record production and arranging outlined by the above artists. I believe artists such as DJ Shadow have paved the way for hybridised styles of music using an approach of constructivist collage, fusing influences together into a new musical genre that has become some of the most sort-after and interesting music to that date. The commentary by Nate Patrin of Pitchfork, outlines the strength and accessibly of Shadow’s new and creative approach to music.

3.1.3 Case Study 3 “It Takes a Thief” The Very Best of Thievery Corporation (1999)

In 1992, French world music/ethno electronic group Deep Forest entered the commercial music world releasing Sweet Lullaby (Deep Forest, 1992). Based on a traditional Beagu lullaby originating from the Solomon Islands, the vocal recording formed the main motif for Sweet Lullaby that was recorded in 1970 by ethnomusicologist Hugo Zemp. During this same time period, there were a number of artists and groups, such as Enigma, Tasim Archer and Londonbeat, displaying similar sample-oriented production techniques to that of Deep Forest.
In 1999, the Thievery Corporation, a music group from the USA, displayed similar compositional techniques to that of Deep Forest. Their 1998 release *Lebanese Blonde* (Thievery Corporation, 1998) was constructed with a simple break beat drum groove that possessed influences and nuances similar to acid jazz artists such as Brand New Heavies and Incognito. It featured a harmonic structure indicative of acid-jazz, a female vocal melody, and the over arching culturally appropriated sitar, which sets the tone of the track.

A noticeable point of differentiation between all four records is, *It Takes A Thief, The Very Best of Thievery Corporation* (Thievery Corporation, 2010) is a compilation record as opposed to a themed recording. The reasoning for case study is the structure of the compilation, which heavily showcases the consistency of the Thievery Corporation’s approaches to composition. Across an extended period of time, the Thievery Corporation’s approach to composition offers continuity by implementing a strict compositional formula of blended break beat patterns, non-western textures and funk/soul bass lines all tied together to create an identifiable sound. In the style of trip-hop, *It Takes A Thief, The Very Best of Thievery Corporation* (2010) allows for broad discussion outlining the incorporation of non-western elements and textures into a new work.

Noted for combining western and non-western musical elements and textures in their compositions, the Thievery Corporation offer a blend of music occasionally dipping its toe in the territory of hip-hop, whilst crossing into the realms of world music. The motivation for choosing *It Takes a Thief, The Very Best of Thievery Corporation* (Thievery Corporation, 2010) for analysis, is the display of *cultural appropriation* exhibited on this album as an approach to sample-base composition. The *Thievery Corporation* utilise sampling technology to assist in the capturing and arranging appropriated cultural textures into their music. However, their usage of samples does not to influence their creativity and stylistic output to the extent seen in the construction of music in *Paul’s Boutique* (Beastie Boys, 1989) and *Entroducing* (DJ Shadow, 1996).
Through analysis, I have identified that the *Thievery Corporation* adopt a specific and unique approach to sample-based composition when combining culturally appropriated textures. Their approach typically incorporates drum programming indicative of 1980s and 1990s hip-hop, combined with Latin percussion and extended harmony such as 9, 11, 13, suspended, diminished and augmented chords, all combined with a culturally appropriated texture.

It would be somewhat elementary to undertake an analysis of generically branded compilations from musical brands such as *Buddah Bar* and *Café del Mar* in a bid to further showcase and analyse examples of culturally appropriated sounds and textures in electronic music production. The majority of compilations are solely built on the compositions of various contributors and are intentionally compiled with direct associations to culture, travel and even exotic locations. Compiling such records is to provide the consumer with a tangible product of nostalgic value in selected environments evoking a specific sonic ambience, as opposed to the genuine intent of deliberately using selected nuanced approaches and textures to create long standing recordings.

It is these production values of the *It Takes a Thief, The Very Best of Thievery Corporation* (Thievery Corporation, 2010) and their approach to composition that is of interest in this project. Even though selected sampled sounds and textures are placed into a new work, the imprint of their source culture and their original context always prevail, thus tending for the music to imply a (multi) cultural journey. The tracks *Lebanese Blonde* and *Amerimacka* (Thievery Corporation, 2005) are two very distinctive examples housing culturally appropriated elements and beautifully outline the *Thievery Corporation’s* use of genre specific and culturally specific textures. They both feature the melodic lines of a sitar, however, showcase very differing rhythmic approaches with *Amerimacka* performed in a Dub Reggae style and *Lebanese Blonde* performed as an ‘up tempo’ break beat style.

The beauty of the *Thievery Corporation’s* approach is that they don’t always utilise digital samples of appropriated sound, however they readily incorporate the
compositional values and theories of multiple genres into one sound as heard in *Facing East* (Thievery Corporation, 2002). *Facing East* (2002), showcases a blend of Indian Tabla and Sitar combined with harmonic minor motifs in the violin and vocal phrases indicative of Arabian harmony, whilst sitting on a bed of break beat drums- a derivative of funk and soul approaches to drumming. We must not forgot that appropriation is not to be limited by the incorporation of digital sampling into a new work, however, remembering that it also exists in the form of subconscious appropriation or the subconscious incorporation of influences that may appear in the form of motifs, technical exercises, or general music that most influence an artist through their developmental stages. Upon reflection, I believe the term subconscious appropriation is also appropriate to describe knowledge developed through the practice of critical listening more generally, which, in turn, can be viewed as the origins of quoting.

As mentioned, cultural appropriation has always been a prominent feature of jazz improvisation, with artists occasionally referencing and quoting a specific phrase or melody into a new work to display harmonic similarity, or as an intellectual or harmonic challenge. Artists such as *John Coltrane* heavily outlined the use of melodic minor scales over minor chords intending to use such harmony to draw parallels between genres and cultures of eastern and western decent, but also endeavoring to guide the listener down a specific path. Whatever the nature of the outcome, the sole intent was to incorporate ethnic and exotic harmonic flavors that can be polar opposites, in order to further glue the universal language together as one.

An exemplary illustration of this approach can be found in *Lebanese Blonde* (Thievery Corporation, 1998), where the use of a sitar has been incorporated to outline melodic shapes indicative of Indian music, yet infused with western rhythmic patterns. Furthermore, they publicly stated their fondness of the Brazilian culture in interview and liner notes of their releases, especially of the 60’s Bossa Nova music movement (Omics International, 2016).
It is through the practice and implementation of compositional techniques such as cultural appropriation, that I believe directly contribute to successful development a creative practices of composers using and exploring digital music sampling and appropriation as a compositional technique. Literature and history support the referencing and incorporation of cultural textures and elements in music to widen the awareness of cultural traditions as well as extending the vocabulary of composers and artist.

3.1.4 Case Study 4: “Shades of Blue” – Madlib (2003)

The forth case study Shades of Blue (Madlib, 2003), offers a combination of varied approaches to sample-based compositions such as sampling, combing juxtaposed textures and culturally appropriated textures to create again, another record of historical significance. Blue Note’s catalogue played a pivotal role in shaping this record, allowing Madlib unrestricted access to their catalogue of music to cut, splice, combine and rearrange, creating a collaged masterpiece driven by interpretation.

Hailing from jazz pedigree as the nephew of legendary trumpeter John Faddis, it’s evident a lineage of undertones from jazz contribute to the success of Madlib’s interpretative journey of Blue Note artists. Madlib is one of the most prolific and dynamic artists to continue to pave inroads within an industry dominated by the use of DAWs. Madlib’s style and approach to improvisation, I believe, is nothing short of revolutionary. It outlines the dynamic way that developing technologies have influenced the creative process and quality of performance output. Madlib’s approach to music production embraces a freedom of experimentation through technology allowing musicians and music producers, to recontextualise appropriated music into other genres. In the case of Madlib, the source material sampled and archived became Madlib’s musical vocabulary. Madlib’s approach to composition by splicing and fragmenting incremental sections of pre recorded sound allows for the constructing of these fragments to form larger sounding phrases. It is reminiscent of hip-hop producers and their history of crate digging. The unrestricted collection of source material gifted to Madlib in this context is idiosyncratic of genres Madlib gravitates towards when sourcing material.
Madlib’s improvised and constructionist approach to sample-based composition houses many, if not all of the techniques employed by case study artists, providing an excellent demonstration of how multiple approaches may be integrated into one work.

The album *Shades of Blue* (Madlib, 2003), was not Madlib’s first attempt at composing and performing using such processes and techniques as the one-man nu-jazz band (Hreha, 2003).

Yesterday’s New Quintet’s an alias group of Madlib’s, released *Angles Without Edges* (Yesterday’s New Quintet, 2001), 2001, that was written and constructed utilising similar techniques, processes and technology before the release of *Shades of Blue* (Madlib, 2003).

YNQ (Yesterdays New Quintet), form a blend and hybridisation of rubbery synthesizer effects, propulsive break beats “*Free Son*” (Yesterday’s New Quintet, 2007c), combined with The Last Electro-Acoustic Space Jazz & Percussion Ensemble who opt for piano based rhythms punctuated by sitar plucks “*Cold Nights and Rainy Days*” (Yesterday’s New Quintet, 2007). Infused with this array of textures are Bossa Nova brass on “*Upa Neguinho*” (Yesterday’s New Quintet, 2007), and again on “*Barumba (L.Eca, Bebeto)*,” (Yesterday’s New Quintet, 2007) a Tropicalia-tinged flight of fancy, describes in detail the composition processes of Madlib. (Marx, 2007). Therefore it is evident through the above that Madlib’s commenced experimenting with this approached to sample-based composition long before *Shades of Blue* (Madlib, 2003) would be conceptualised and developed.

*Shades of Blue* (Madlib, 2003), was constructed entirely of Blue Note archived sessions. It outlines a nuanced and dynamic approach to sample-based composition and construction that is became characteristic of Madlib’s style. Madlib’s interpretation of Blue Note classics such as Wayne Shorter’s *Footprints* (Shorter, 1967), is a fragmented creation of rich colorful textures. It oozes musicianship and interpretive genius built on highly developed critical listening skills.
Seldom does Madlib outline the intricacies of his production techniques, however it’s safe to say that they widely recognised and appreciated; as evident by the artists he has collaborated with and the success of his discography. In reference to his own style whilst outlining his approaches to music and collaboration on Benji B’s Wednesday nights BBC Radio 1 show, (Benji B, n.d.) Madlib articulates his surprise of Erykah Badu’s understanding of his approach to music. “My music is an acquired taste first of all and I am surprised she even understood it.” (“Benji B - Interview with Madlib,” 2014). The success of Madlib’s approach can also be attributed to the outstanding quality of his arranging.

Interviews such as Benji B’s BBC Radio 1 and Laura Leisham’s “Madlib dans Radio Vinyile #32 sur France Inter”, discuss Madlib’s approach to sourcing material to sample, however not many truly discuss Madlib’s purposeful arranging of form and instrumentation. For example in Wayne Shorter’s *Footprints* (Shorter, 1966), the melody is outlined in the tenor saxophone of Shorter, however in Madlib’s rendition, the tenor saxophone is replaced by a fragmented vibraphone line, that is a sporadic phrased approach of the original phrase. His interpretative design and architecture offer a sense of freedom throughout, when the incorporation of spliced, edited and textured sampling usually outlines a sense of structure through static looped sequences heard in the vibraphone of *Footprints* (Madlib, 2003) at 0:32 seconds. Madlib uses the material to his creative advantage using samples as an improvisational voice to assist in the creation and arranging of instruments. Again it is evident throughout the duration of *Shades of Blue* (Madlib, 2003) that Madlib’s approach to composition in this instance is dictated but his improvisational prowess, and the harmonic and rhythmic makeup of each tune can be aligned to an open and free sounding set of recordings, almost as if a small quintet were performing this live.

Madlib uses a constructionist collage approach to composition, which has at times, been scrutinised due to its significant appropriation of intellectual property and copyright considerations. However this approach to hip-hop composition has also been praised as a postmodern successor to jazz music.
Potter writes, if blues is the “classical music of African American culture, and jazz is its “modernism,” then hip-hop has a powerful claim to be regarded as their postmodern successor (Potter, 1995 p.18).

In closing, although Madlib at no time articulates the intricacies of his editing and arranging processes, it is safe to say that his highly developed musicianship and critical listening skills allow for the endless integration of developed creative choices in order to construct a new work. Where other sample-based music showcases drum and harmonic structures constructed and divided into symmetrical 1, 2, 4 or 8 bar loops, Madlib’s preference is to fragmented shapes and introduce nuances that offer a far greater dynamic range and texture.

It is evident that Madlib draws upon sampled source material as a distinct musical vocabulary, creating polyrhythms and crossing beats and bars with melodic, harmonic and rhythmic phrases as opposed to producers and artists would sample static portions of source material to create melodic, harmonic and rhythmic symmetry.

In relation to Madlib’s own compositional journey and development of techniques Marx writes about YNQ, Yesterdays Universe: Prepare for a New Yesterday (Vol.1) that “Even YNQ’s first proper album, Angles Without Edges, seemed too confined by its progenitor’s fascination with the electric piano. Universe, refreshingly displays Madlib’s ear for jazz melodies and the myriad ways hip-hop can deconstruct them. And if this latest incarnation of Yesterday’s New Quintet is any indication, he’s unlikely to run out of either anytime soon” (Marx, 2007 p.1).

In Wolfman’s review of Shades of Blue (found at www.tinymixtapes.com) Wolfman (2015) eloquently and simplistically states, Madlib’s vision is clear throughout Shades of Blue. His boundaries are endless and his musical approach is imaginative, focusing on the marriage of music and the ability of creating something refreshing and contemporary. Overall, Madlib’s visualisation has been achieved on this album. And for Blue Note Records, they could not have picked a better hip-hop producer to market their
newfound jazz interpretations. *Shades of Blue is the perfect example of the asset resulted by fusing the old and the new* (Wolfman, 2015).

Madlib’s compositional processes of splicing, editing and the recontextualisation of samples to create a new work of appropriated material in which form a collage of textures is best represented in *Shades of Blue*. Madlib’s approach to the construction of *Shades of Blue*, has been described as a beautiful reconstruction of many great songs into an amalgamation of jazz-hip-hop (Wolfman, 2015 p.1).

The compositional approach of *Improvised Remix* further supports, that in conjunction with the capabilities of live instrumentation, developed technologies and the carefully chosen spliced, edited and sculpted fragments of appropriated phrasing of pre recorded material, how this compositional approach allows for avenues of limitless creativity.

3.2 Conclusion

As outlined above, my analysis supports the presence of varying compositional approaches of each artist and their recordings. It outlines the use of lyrical fragmentation, improvised remix, cultural appropriation and constructionist collage as defined approaches. Providing this context further the supports the ongoing approaches to composition in electronic music production and indeed sets a premise for further exploration and development. Where artists such as DJ Shadow have produced music with the entire band and production in mind, Madlib and indeed YNQ approach record producing from the perspective of a jazz musician or furthermore and record producer producing jazz music. Although DJ Shadow often alludes to the incorporation of jazz nuances through the use of harmony, it’s Madlib through YNQ that allows the artist to mimic the sound, shape and approach to musicianship through each instrument that affords the outcome of such creative output. I view YNQ as an emotional vehicle or vehicle of context to support Madlib’s vision and ability to create. Although adopting the same processes throughout *Shades of Blue* to recreate the music of Blue Note, I believe
there is a distinct difference in approaches to musicianship from alias to alias. It is not so much the sonic quality of sound that serves as the differentiation between approaches, but it’s the ideas of phrasing through improvisation that allow the fluidity and freedom.

I must make note that arrangements recorded by YNQ differ significantly from those of Madlib, as YNQ offer more variety in extended form changes than the more symmetrical shapes imposed by Madlib. This approach to performance is indicative of jazz musicians and jazz arrangements (freedom, experimenting and quoting) in the sense that approaches to improvisation in a jazz context allow for the building and developing of motifs within a tune in order to allow for a story to be told or a journey to be outlined. Madlib’s eclectic but symmetrical approached to the re creation of Blue Note music is a vast expanse of color, shape and form offering an almost time machine of nostalgic value to build from. However it’s the fragmented use of instrumentation, timing and layering that sets YNQ aside from the rest of the record, offering one man’s insight into their interpretation of what this music encompassed, but performed and re created decades later.

As approaches to composition are changing significantly with the ever-changing landscape of digital interfaces and the usability of developed technologies, I believe new approaches to composition are being developed with the affordances of the technology dictating nuanced outcomes. Although there are currently no specific frameworks supporting the initial steps to utilising sampling and appropriation in the realms of electronic music production, all artists using DAWs and associated plugins use the functionality of the program to gain a result. Each of the four case studies grants the listener opportunity to discover idiosyncrasies inherent of each artists style, however, are not always relatable to any one artist. Approaches to sample-based composition present their own set of compositional idiosyncrasies driven by the outcomes of collaging, lyrical fragmentation, improvised remix and cultural appropriation, which essentially tie all case study artists and records together.
I attribute this to a form of technical proficiency built upon frameworks that will allow artists to create from a solid foundation. A likened to the technical exercises and approach to rhythm and harmony an instrumentalist may adopt when learning an instrument, a form of technical proficiency has to be applied in the realms of electronic music production in order to create an outcome. I feel that music within these genres and sub genres born out of the hybridisation of genres, are continually developing due to the initial practices spoken about in literature by these artists. I also fell their contribution to knowledge supports the current climate of sampling in music and the necessity to further develop and explore.

The analysis indicates that a blend of traditional and advanced techniques contribute to ongoing creative practices, leading to innovation and the acquisition of extended knowledge. If developed and implemented correctly, digital techniques can achieve desired results, similar to the application of traditional methods in traditional compositions. Due to the advancement of technological design, there will be a time in the future where general music production techniques will be referred to as traditionalist methods. Through analysis, reverse engineering and articulation of digital processes, a more comprehensive set of frameworks, techniques and approaches to composition can be developed in this field. Further, these frameworks, techniques and approaches can be implemented into education, commercialisation and commodification of music recording software.

This will create a greater freedom of expression, which in turn, will aid the developmental process of composition in electronic music production throughout the 21st century and beyond. The design and functionality of developed technologies have proven to be a goldmine supporting a new “Golden Age” of musical output, with artists choosing to combine the old and new to create and communicate their ideas. The following narrative from Mark Ronson supports the use of technology in sample-based composition and further outlines its success in hybridising textures and layers to create new works. Ronson outlines in a TED Talk presentation;
through the tools available to me, technology my innate way I approach making music, I can sort of bully our existences into a shared event”, meaning utilising technology to combine live performed musicianship, programming and sampling to creative new works. Albums like Da La Soul’s, 3 Feet and Rising to Beastie Boys, Paul’s Boutique, looted from decades of record music to create these sonic layered master-pieces, which were basically the Sgt. Pepper’s of their day. And they weren’t sampling these records because they were too lazy to write their own music, they weren’t sampling these records to cash in on the familiarity of the original stuff; to be honest, it was really about sampling really obscure things; except for a few obvious exceptions like, Vanilla Ice, that we know about.

But the thing is, they were sampling these records because they heard something in that music that spoke to them. That they instantly wanted to inject themselves into the narrative of that music; hey heard it and wanted to be a part of it and then they suddenly found themselves in the possession of the technology to do so.

Not much unlike the way the delta blues struck a chord with the Stones. The Beatles and Clapton, they all felt the need to co-op that music for the tools of their day. You know in music, we take something that we love and we build on it (Ronson, 2014).

As with the recent resurgence of vinyl, will consumers, traditionalists and audiophiles’ seek to use alternative methods of technological integration in order to reach a hybridised outcome of digital and analogue hardware/software tools.

In all four case study works, each artist outlines in some form the use of sampling, editing, splicing, quoting and other forms of electronic music production techniques to capture and create new music. Although the artists’ I have chosen for this study have been influential in my own compositional endeavours, I believe that each artist implements the use of identifiable techniques, although due to their approach and style offer varied outcomes. It is clear that a structured approach to composition through the
exploration of digital sampling and appropriation is an advanced and unique compositional approach able to deliver specific outcomes.

In this chapter have identified four distinct approaches to sample-based music production that reinforce my hypothesis that lead to the selection of the case study composers. Through reverse engineering, I have developed and implemented specific techniques to support approaches to the four approaches I have outlined. Chapter 4 will describe my development of techniques and compositional explorations of the four approaches identified here. Finally, based on the case studies used in this research, I am more convinced than ever that the artists in question are the pioneers of practices within their respective genres.

3.3 Analysis of Case Studies

An analysis of case studies to provides an understanding of compositional process through digital sampling and appropriation. To obtain a greater understanding of varied compositional approaches and techniques, four artists are chosen as the case studies and include:

1. Beastie Boys,
2. DJ Shadow,
3. The Thievery Corporation, and
4. Madlib.

To unpack the complexities of constructionist collage as a compositional process, where artists source and edit their material, two albums are analysed:

a. Beastie Boys, *Paul’s Boutique* (Beastie Boys, 1989), and

b. DJ Shadow’s *Endtroducing* (DJ Shadow, 1996).
These albums demonstrate how Hip-Hop and Electronic Dance Music (respectively) have incorporated the use of appropriated samples in order to create a new work.

<table>
<thead>
<tr>
<th>Title</th>
<th>Artist</th>
<th>Year</th>
<th>Label</th>
<th>Genre</th>
<th>Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Paul’s Boutique</td>
<td>Beastie Boys</td>
<td>1994</td>
<td>Grand Royal</td>
<td>Hip Hop</td>
<td>450+ unknown</td>
</tr>
<tr>
<td>2 Endtroducing</td>
<td>DJ Shadow</td>
<td>1996</td>
<td>Mo’ Wax</td>
<td>Hip Hop</td>
<td>250-300</td>
</tr>
</tbody>
</table>

To unpack the complexities of Cultural appropriation and improvised remix as a compositional process, where artists source and edit their material, two albums are analysed:

c. Thievery Corporation, It Takes A Thief (Thievery Corporation, 2010) and
d. Madlib’s, Shades of Blue (Madlib, 2003).

These albums demonstrate how hip-hop and electronic dance music (respectively) have incorporated the use of appropriated samples in order to create a new work.

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</tr>
</thead>
<tbody>
<tr>
<td>3 It Takes a Thief</td>
<td>Thievery Corporation</td>
<td>1999</td>
<td>ESL Music</td>
<td>Electronica</td>
<td>Minimal</td>
</tr>
<tr>
<td>4 Shades of Blue</td>
<td>Madlib</td>
<td>2003</td>
<td>Blue Note</td>
<td>Hip Hop/Jazz</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Providing further context the diversity of genres artists incorporate when appropriating samples into a new work, Mike Diamond from the Beastie Boys states in an interview on Australian television broadcast, the 7:30 Report:

In a lot of ways we were lucky as a group, because, we basically, were just DJs in a way. We were like record collectors using our record collection to influence and make ‘that part’ of what we would make every time. I think we were also very lucky to grow up at a time in New York, where you had, all of this different music
happening at the same time. Whether it was hardcore, punk rock or hip-hop, you would then hear Latin music and of course jazz comes from New York, and you would hear everything all at once. It always seem natural to us to put all of those things together, and actually dance hall and reggae too (Diamond, 2014).

Diamond confirms listening to multiple genres can significantly influence and shape creative output, which has been an ongoing successful approach to sample-based composition for the Beastie Boys and Dust Brothers. Furthermore, the success of this approach is aurally evident when analysing the overall aesthetic of *Paul’s Boutique* (Beastie Boys, 1989), where the relentless combination of beautifully rich, diverse and juxtaposed elements from varied genres form construction of this historic record.

Although the Dust Brother’s we responsible for the collection and arranging of samples on *Paul’s Boutique* (Beastie Boys, 1989), it is the incorporation of additional instrumentation and programming on *Hello Brooklyn* (Beastie Boys, 1989) and *B-Boy Bouillabaisse* (Beastie Boys, 1989) by the core members of the Beastie Boys that further add musical depth and maturity to their sound, bringing together all of the influencing genres Diamond outlines above.

Not only does this approach to sample-based composition add musical depth and maturity, incorporating such a breadth of influences defined their sound, but none more so than later records such as *Ill Communication* (Beastie Boys, 1994).

*Paul’s Boutique* (1989) showcases musical diversity, which is quantified and even more apparent after the interview with Diamond. The musical depth and richness of *Paul’s Boutique* (1989) can be measured by the rate of musical influences and crossing of multiple genres within one bar of music, let alone a song. This approach to sample-based composition extends much further than the Beastie Boys and extends further within this study. For example, DJ Shadow’s *Endtroducing* (DJ Shadow, 1996), showcases similar, if not exact approaches to sample-based composition exhibited by the Beastie Boys and
The Dust Brothers, by utilising similar techniques of cutting, splicing and editing multi-layered content of source material driven by musical influences.

Shadow states: *What I used to do was find something I thought had interesting qualities as a loop. It’s pretty rare that they (samples) work instantaneously in pitch and in the right time. I have to sample each word or phrase and pitch it up or squash it down and play with it within the MPC to get it to all line up the way I wanted it* (DJ Shadow, 2012).

The differentiation between *Paul’s Boutique* (Beastie Boys, 1989) and *Endtroducing* (DJ Shadow, 1996), is, *Endtroducing* (DJ Shadow, 1996), offers greater musical consistency throughout the duration of its entirety, where by comparison, *Paul’s Boutique* (Beastie Boys, 1989) feels mercurial. Where the Beastie Boys and Dust Brothers combine multiple musical influences, creating array of quick fire juxtaposed textures; it could be argued, Shadow is able to gain greater overall continuity, by purposefully orchestrating each sample and loop to form extended musical phrases by using fewer genres. One identifying staple inherent of Shadow’s style is his drum loops. Shadow’s drum programming always maintains indistinguishable sonic fluidity. This approach is not only indicative of Shadow’s style, but the construction of complex rhythmic patterns also make his sound identifiable, compared to the Beastie Boys often drum machine driven beats.

As outlined, comparisons in approaches to composition are easily located between *Paul’s Boutique* (1989) and *Endtroducing* (1996), especially in terms of sampling. Given well documented literature surrounding both *Paul’s Boutique* (1989) and *Endtroducing* (1996), from a constructionist approach to composition, these two historical records provide significant comparative depth when analysing for case studies. Providing another two additional records of historical value in support of this study *It Takes A Thief*, *The Very Best of Thievery Corporation* and *Shades of Blue* by Madlib, again add comparative depth to the study, further aligning the discussion of approaches to sample-based composition.
One point of differentiation between all four records is, *It Takes A Thief, The Very Best of Thievery Corporation* (2010) is a compilation record as opposed to a themed recording. The reasoning for the incorporation of this as a case study is the structure of the compilation, heavily showcases the how consistent the Thievery Corporation’s approaches to composition are. Across an extended period of time, the Thievery Corporation’s approach to composition offers continuity by implementing a strict compositional formula of blended break beat patterns, non-western textures and funk/soul bass lines all tied together to create an identifiable sound. In the style of trip-hop, *It Takes A Thief, The Very Best of Thievery Corporation* (2010) allows for broad discussion outlining the incorporation of non-western elements and textures into a new work. Noted for combining western and non-western musical elements and textures in their compositions, the Thievery Corporation offer a blend of music occasionally dipping its toe in the territory of hip-hop, whilst crossing into the realms of world music.

The forth case study *Shades of Blue* (Madlib, 2003), offers a combination of varied approaches to sample-based compositions such as sampling, combing juxtaposed textures and non-western textures to create again, another record of historical significance. Blue Notes records played a pivotal role in shaping this record, allowing Madlib unrestricted access to their catalogue of music to cut, splice, combine and re arrange, creating a collaged masterpiece driven by interpretation.

Each of the four case studies grants the listener opportunity to discover idiosyncrasies inherent of each artists’ style, however, are not always relatable to any one artist. Approaches to sample-based composition present their own set of compositional idiosyncrasies driven by the outcomes of collaging, lyrical fragmentation, improvised remix and Cultural appropriation, which essentially tie all case study artists and records together. However, the unrestricted collection of source material gifted to Madlib in this context is idiosyncratic of genres Madlib gravitates towards when sourcing material. Madlib’s improvised and constructionist approach to sample-based composition houses
many, if not all of the techniques employed by case study artists, providing an excellent demonstration of how multiple approaches may be integrated into one work.

Further literature supports a constructionist collage approach to composition and has at times been scrutinised due to intellectual property and copyright considerations, however this approach to hip-hop composition has been outlined as a postmodern successor to jazz music. Potter writes, *if blues is the “classical music of African American culture, and jazz is its “modernism,” then hip-hop has a powerful claim to be regarded as their postmodern successor* (Potter, 1995 p.18).

Similar could be said for the progression of pop music, tracing back to rock and roll, in which early forms of this genre also encompassed elements of blues. However as literate supports the constructionist nature of composition in this genre and it is safe to say, the affordance of technology played an integral role in the capturing of textures and sociological elements into new works, where quoting became a staple in early hip-hop production. The only way to legitimately quote another’s work was by sampling the original source and recontextualising into a new work. I attribute this to a form of technical proficiency built upon frameworks that will allow artists to create from a solid foundation. A likened to the technical exercises and approach to rhythm and harmony an instrumentalist may adopt when learning an instrument, a form of technical proficiency has to be applied in the realms of electronic music production in order to create an outcome. Although there are currently no specific frameworks supporting the initial steps to utilising sampling and appropriation in the realms of electronic music production, all artists using DAW’s and associated plugins use the functionality of the program to gain a result.

In all four case study works, each artist outlines in some form the use of sampling, editing, splicing, quoting and other forms of electronic music production techniques to capture and create new music. Although the artists’ I have chosen for this study have been influential in my own compositional endeavours, I believe that each artist implements the use of identifiable techniques, although due to their approach and style
offer varied outcomes. Therefore, through reverse engineering I have developed and implemented specific techniques to support approaches to the four approaches I have outlined. Again and based on the case studies used in this research, I believe the artists in question, are the pioneers of practices within their respective genres. I feel that music within these genres and sub genres born out of the hybridisation of genres, are continually developing due to the initial practices spoken about in literature by these artists. I also fell their contribution to knowledge supports the current climate of sampling in music and the necessity to further develop and explore.

The above analysis indicates that a blend of traditional and advance techniques contribute to ongoing creative practices, leading to innovation and the acquisition of extended knowledge. If developed and implemented correctly, digital techniques can achieve desired results, similar to the application of traditional methods in traditional compositions. Due to the advancement of technological design, there will be a time in the future where general music production techniques will be referred to as traditionalist methods. Through the understanding, reverse engineering and articulation of digital processes, a more comprehensive set of frameworks, techniques and approaches to composition can be developed in this field. Further, these frameworks, techniques and approaches can be implemented into education, commercialisation and commodification of music recording software. This will create a greater freedom of expression, which in turn, will translate into further developmental process of composition in electronic music production throughout the 21st century and beyond. Through analysis, I have identified four distinct approaches that support my argument; that a structured approach to composition through the exploration of digital sampling and appropriation is an advanced and unique compositional approach able to deliver specific outcomes.
4: Approaches to the use of Sampling in Music Production

The analysis provided in Chapters 3 of the Golden Age of digital sampling and appropriation, define the elements that contribute to the fundamental basis of sample-based composition. A specific combination of these elements create four distinctive approaches to the use of sampling in music production and include:

1. Lyrical Fragmentation
2. Cultural appropriation
3. Constructionist Collage
4. Improvised Remix

These four approaches will be defined and explored in detail below including how they may be applied to new works. These definitions will go on to describe how each approach plays a significant role in extending creativity, the development of critical listening skills and aiding the further development of musical ideas.

Important music production techniques that were introduced and/or developed during the golden age were: sampling individual sounds from records rather than looping a whole portion, layering sampled loops on top of each other, chopping up samples to further manipulate them into new patterns, filtering samples to remove certain elements such as the bass or higher pitched, instruments, programming drums machines and sequencers and creating collages of many samples (Edwards, 2015 p.153).

As previously described in Chapter 3, during the mid to late 1980s the use of appropriated samples in commercial sample-based composition and music production rose to prominence due to the lack legal frameworks protecting the intellectual property and authorship of artists’ master recordings. A substantial number of the most creative and intricate hip-hop records ever released were recorded throughout this period. The editing and music production techniques developed during this period have dictated
future recording technology and the versatility of digital audio workstations to accommodate and encourage these techniques.

The use of sampling and appropriation influenced not only the development of further technologies, it has also encouraged artists to hybridise varying sounds and genres contributing to the development of new subgenres. Adopting the creativity and complexity of the Golden Age and applying it within more articulated intellectual property boundaries will allow for the freedom and creativeness once witnessed within this celebrated era.

*When I sample something, it’s because there’s something ingenious about it. And if it isn’t the group as a whole, it’s that song. Or, even if it isn’t the song as a whole, it’s a genius moment or an accident or something that makes it just utterly unique to the other trillions of hours of records that I’ve ploughed through* (Wilder, 2005 p.72).

In the pursuit to locate source material acting as musical vocabulary to build upon, the art of crate digging became a very common social undertaking. Nowadays they are doing that, it’s crazy, little kids making dope beats (Torres, 2015). Vinyl records became the primary source of content, with independent record stores and major retail chains such as Tower Records, the only place of distribution. Record stores stocked a myriad of artists and genres from funk, soul, jazz, blues and reggae to classical, instrumental, rock and roll, Latin and gospel. All genres offer an endless supply of single shot sounds and short phrases all rich in flavor that could act as the fundamental motif of a new work, thus attributing to the notion of Cultural appropriation. Sources for sampling broadened to include an ever wider range of genres than previously used, including rock, heavy metal, funk, soul, R&B, jazz, blues, reggae/raga, electronic music/dance, country, film dialogue and film sound tracks (Edwards, 2015 p.153).

As evidenced during the Golden Age, extended musicianship and critical listening skills play a vital role in choosing applicable material for a new work. The successful
integration of samples and textures into a new work is dependent on the musical, technical, performance and expressive limitations of the instrument being sampled and what the primary function of this instrument plays within a recorded or live context. Once sampled, this sound source serves as a fixed texture and is bound by the musical expression captured in the original recording. The success of fashioning where and how to place sampled instrumentation within a new work directly relates to the fundamental understanding of how a genre has been originally produced and the producer’s ability to extract nuances. This combination offers identifiable intricacies inherent of the appropriated sampled genre. Assisting in the trailing of different appropriated sounds into a new work, companies such as EastWest and Native Instruments have developed collections of sound fonts assisting and encouraging creativity and expressiveness. Sound fonts are designed for Native Instrument’s Kontakt player and work on the premise of MIDI. Sound fonts consist of loops and samples developed with various cultures and genres in mind, further encouraging the use of hybridised textures within new music. For example, non-western sounds, such as West African Drums, can be found within the drums and percussion section of the player.

The affordance of Kontakt allows the luxury of trialling sounds within new music, further allowing artists to combine sounds without committing but by encouraging experimentation with creative freedom. Where once the notion of incorporating colors and textures into new music was limited by the artists range of listening choices or the ability to identify applicable source material, Native Instruments have placed complete sound fonts in one location. This player further serves as an educational device, developing and extending the critical listening scope and comprehension skills of artists not familiar with music outside of their chosen fields. Although artists may not use the selected samples in their work, it does provide a greater scope to understand what options become available when combing textures and colors from non-western sources.

Not only are samples being used in everyday music production to gain the desired color and shape through fragmentation, they are also being used in the context of Native Instruments players to add compositional values and expressiveness often not considered
due to lack of musicianship, resources and general lack musical appreciation. The following section discusses the origin of each approach and provides context for application.

Additionally, each approach offers an album of significance for discussion, substantiating the scope of each approach to sample-based composition.

4.1 Approach 1: Lyrical Fragmentation

*Lyrical Fragmentation* is the use of selected fragments or the "division" of lyrical ideas to form organised segments. Such divisions may be contained within multiple sections within an arrangement and not limited to any set duration.

Lyrical fragmentation rose to prominence throughout the late 1980s, with the development of hip-hop and later rap groups showcasing the vocal styling’s of multiple members at one time. Tim Dalton former tour manger and front of house engineer of the Beastie Boys, describes the use of lyrical fragmentation to showcase the locality of a show by making reference to local culture in lyrical content, substituting original lyrics for those that are show location specific (Dalton *pers. comm.*, 2015). Differing to the conventional methods of bands showcasing a single vocalist, hip-hop and rap afforded at times, two, three or even more vocalists fronting the group all contributing to the lyrical content within the music. Although the approach of lyrical fragmentation in a broader sense can be attributed to the vocal styling of groups such as the Rat Pack, this approach to composition led to greater fragmented and specific uses as heard on *Paul’s Boutique* (Beastie Boys, 1989). The Beastie Boys’ use of lyrical fragmentation was not limited to their approach to lyricism. In conjunction with the Dust Brothers, they also adopted a fragmented approach to their compositional process, often constructing their accompanying music in the same manner.

Their thirst for sourcing eclectic sounds to piece together in multi-layered sequences is apparent in songs such as “Shake Your Rump” (Beastie Boys, 1989), which comprised of four different sampled motifs and is one of the most complex songs on
Paul’s Boutique (Beastie Boys, 1989). The album’s best track reflects the Beastie Boys’ painstakingly matched rhythms and riffs to create the illusion that this is all one solid slice of vintage soul (LeRoy, 2006 p.77).

This process of splicing, editing and fragmenting samples to create the illusion of one slice of ‘vintage soul’ (LeRoy, 2006 p.77), was a successful formula that the Beastie Boys and the Dust Brothers continued to use and build upon in future albums. Although it is was the affordance of the technology and production techniques that contributed to their overall sound, the approach served as a fundamental platform to build on. This combination of lyrical and compositional fragmentation approaches allowed for adaptability during live performance, where the Dust Brothers and Beastie Boys could add or subtract instrumentation to each track (Dalton, 2015 p.1).

In order to replocate an instrumental recording in a live context, the Beastie Boys could use certain elements of the studio recording as layers, pressing each sound to vinyl or sampled into a piece of hardware such as an Akai MPC 60. This would allow any DJ unrestricted autonomy to perform layers by triggering at will. Dalton (2015, p.1) specifies, that the majority of tracks used live throughout the Licensed to Ill tour were run via a DAT machine, cued via the front of house engineer. Dalton (2015, p.2) further outlines that the Beastie Boys approach to lyrical fragmentation began making its way into their musicianship in a live context, once chosen layers and songs were assigned to the DJ for performance. The artists’ interaction changed with greater creative freedom. Just like jazz musicians, the Beastie Boys would learn 8 to 16 bar phrases cued and performed by the DJ and could be changed at a moments notice to suit the environment (Dalton, 2015 p.2).
4.2 Approach 2: Cultural appropriation

Cultural appropriation (Cultural appropriation) is defined as, "the taking-from a culture that is not one's own-of intellectual property, cultural expressions or artifacts, history and ways of knowledge" (Merry, 2013 p.12).

The concept of cultural appropriation has been developed in the field of intellectual property to refer to processes by which dominant groups take, and often profit from, the artistic, musical and knowledge productions of subordinate groups. (Merry, 2013 p.12). A culturally provocative group in contemporary music is Thievery Corporation, comprised of Eric Hilton and Rob Garza.

Thievery Corporation’s style has been defined as a blend of funky break-beat layers, with sleek pastiche multicultural samples (Hutchinson 2003). At times infused with Indian raga and Afro Brazilian polyrhythms, Thievery Corporation’s blend of hybridised multicultural textures provides a discussion point for Cultural appropriation and it’s relevance in westernised music.

The Thievery Corporation’s 1998 single release *Lebanese Blonde* (Thievery Corporation, 1998), was met with a varied response with many criticising their approach, composition techniques and values as post modernistic exercise that runs the risk of taking all the fun out of the genres they abuse (Scaruffi, 1999). In response to such critical rhetoric, Eric Hilton articulated that very few 20th century musicians grew up in truly isolated homogenous cultures; appropriation and cross pollination are the building blocks of all contemporary music, from rock and roll to hip hop and pop (Boles, 2002). *Lebanese Blonde* (Thievery Corporation, 1998), is a fuse of delicately crafted break beat drums, Indian sitar, polyrhythmic afro-cuban percussion, Fender Rhodes and Whirliaudio effectster keyboards, jazz influenced vocals, with a horn section arrangement that are indicative of Latin American harmony. With influences of jazz, Indian, hip-hop and Latin, *Lebanese Blonde* (Thievery Corporation, 1998), is a balanced blend of Cultural appropriation born out of the influences who have influenced the creators. The Thievery
Corporation viewed themselves as an authentic multi-cultural extension, which they interact with on a day to day basis.

In response to this single’s release, Eric Hilton described that as a composer and music producer he is not influenced by much contemporary music and mainly listens to old reggae, bossa nova and jazz (Boles, 2002 p.1). With the continual development and technological advances of hardware assisting in the sampling of music, Cultural appropriation is becoming increasingly prevalent in many styles and genres of music. Jazz of the 1950s and early 1960s, explored the implementation of cultural sonic properties. Artists such as John Coltrane constantly explored such avenues in his endeavours to expand the processes behind his own creativity (Slonimsky, 1947).

From the late 1950s, Coltrane increasingly employed a modal approach, releasing his music from the confines of jazz chord changes. While this loosening of harmonic boundaries may have provided him with a greater sense of freedom, it also seems to have prompted him to explore other forms of structure (Clements, 2009 p.156). Without the concerns of harmonic modulation, the improvisers in the North Indian classical tradition must exhibit melodic inventiveness, rhythmic flexibility and stamina, which were exactly the attributes that marked Coltrane’s solo with the Classic Quartet (Clements, 2009 p.156). Human culture is always derivative, and music especially so. New art builds on old art. We hear music, process it, reconfigure it, and create something derivative but new- folk music becomes Liszt’s Hungarian Rhapsodies; Roy Acuff’s “The Great Speckled Bird” (Acuff, 1936) becomes Hank William’s “Wild Side of Life”; (Williams, 1998) and Rogers and Hammerstien’s “My Favorite Things” (Rodgers & Hammerstein, 1959) becomes a John Coltrane Classic (Keller, 2008).
4.3 Approach 3: Constructionist Collage

“DJ Shadow is like a junkyard artist, one who finds the most obscure, forgotten and sometimes, undesirable sounds and manipulates and arranges them into something totally new and beautiful” (Swenson, 2002). DJ Shadow’s debut studio solo album *Endtroducing* (DJ Shadow, 1996), was released on Mo Wax records in November 1996. Shadow’s sampling techniques and displays of collage in a commercial setting have been regarded as a landmark album within the genre of instrumental hip-hop. Keyboard Magazine referred to this album as “a sampling landmark – a stunning collage comprised entirely of sliced samples and turntable overdubs” (Magazine, 1997).

“In the creative act, the artist goes from intention to realisation through a chain of totally subjective reactions. His struggle toward the realisation is a series of efforts, pains, satisfaction, refusals, decisions, which also cannot and must not be fully self-conscious, at least on the aesthetic plane. The creative act is not performed by the artist alone; the spectator brings the work in contact with the external world by deciphering and interpreting its inner qualification and thus adds his contribution to the creative act” (Duchamp, 1957).

It is both the subjectivity and its interpolation to its inner qualification where there is a correlation between Duchamp’s philosophy and DJ Shadow’s approaches to composition and recorded outcomes. Considered a ‘Collage Constructionist’ (Swenson, 2002 p.1), Shadow’s processes whether intentional or unintentional allow for subjectivity, judgement and the interpretation of quality of musical choices through critical listening, to determine the foundations of composition. Marcel Duchamp, a 20th century French naturalised American painter and sculptor of the *Dada* movement, was considered to be a main influencer in a network of artists, composers and designers noted for blending different artistic media and disciplines. This artistic movement was titled *Fluxus*. Often referred to as *intermedia*, the term *Fluxus*, which is Latin for fluid or flow, is also closely tied to the notion of indeterminacy developed by American modernist
composer Charles Ives and later further developed by 20th century composer John Cage. While Duchamp was well known for work within the Dada movement and influence on Fluxus, but it was Kurt Schwitter and his Mertz style that perhaps contributed to the wider notion of collage. DJ Shadow’s approach to composition can be closely linked to notions of Fluxus and indeterminacy. His practice of create digging to uncover a recorded source material for mass media and consumer society to sample, splice and appropriate into a new work, is in essence, the process of blending different artistic media. Endtroducing (DJ Shadow, 1996), was crafted and produced using limited external hardware and software recording equipment, yet reached number 97 on Rolling Stone’s Top 100 Debut Albums of All Time (Rolling Stone, 2013). It is through developed techniques, that sampling and appropriation allowed DJ Shadow to construct such an innovative record.

Showcasing an approach to composition in such detail and intricacy had yet been entertained, but furthermore, the hybridisation of multiple genres exposed Endtroducing (DJ Shadow, 1996) to audiences of hip-hop, trip-hop, instrumental and down tempo music chill-out music. The album reached number 46 on Billboard’s Top Heatseeker song charts on the 22nd March 1997 (Billboard Magazine, 1997 p.22). DJ Shadow’s aim was to create an album that was made entirely of samples taken from music genres such as jazz, funk, hip hop, heavy metal, psychedelica, interviews and film. The technique applied to the sourcing and choosing of source material was determined by its obscurity and to what extent the sound would be utilised.

DJ Shadow stated, “I’ve always pushed myself to use obscure things, and if I use something obvious, it’s usually only to break my own rules. But I don’t think I’ve ever used anything that’s so obvious, or devious in that sense. I figure the bigger my library is, the better I’m going to be able to tap into the exact sound that I want” (Magazine, 1997 p.1).

Applying the constructionist collage approach highlights the DJ Shadow’s subjectivity and genuine intent to create layered sounds as opposed to directly
appropriating well known phrases in which to base motifs. DJ Shadow’s ability to work in the context as record producer, replacing live programming and musicians with samples collected for various sources, is uncanny and one attributed by the development of critical listening skills. In 1997, DJ Shadow describes his processes of cutting and splicing with regard to the content for *Entroducing* (Solesides, 1997). This description is a comprehensive insight into the approach of constructionist collage and basic transformation of sound and appropriation into another context. DJ Shadow highlights that an additional attributing factor to the transformation of sound is the functionality of hardware and software technologies contributing to creative practices.

“For me, generally the breaks on the album would be about nine chops [sampled slices], sometimes more. So, in other words, if the break goes [sings ‘boom, boom, gat…gat, da-boom, gat’] it would sound primitive and old-fashioned for me just to loop that.

I’d rather sample the bass hit [sings ‘boom’], and then the next bass hit [sings ‘boom’], then the snare, then the hi-hat, and then the other snare, et cetera That way I can reconstruct the beat from the record for some bars, but then I can create new beats for others.

The big tip I learned on the MPC is about the fade function. I never like my chops to sound really choppy, unless they’re intentionally supposed to be choppy, if you get my drift, like in a jungly kind of way.

If I’m doing a loop – and I learned this from people like Large Professor and Pete Rock, and Premier, I’ll always credit those people – it’s much more difficult to make it sound like it’s a loop from pieces or a non-existing loop.

So let’s say you’ve sampled little pieces of a loop, and you don’t want to make it sound choppy. You don’t want to hear the decay cut off on the snare or whatever, or no ambience on the kick. So I like to give it that ambience if it’s not already there.
Sometimes I’ll just sample air off the record and lay that in. And that’s where the fade comes in. If I sample air, and it’s like [sings ‘tshhhhhhh’], if you fade it in, it’s like [sings ‘wwhhshhhh’], and then if you repeat it over and over, it creates a softness that blends in, and essentially there isn’t ever any empty space; and only if it’s necessary.

Maybe you might have to put that sound in only one step on a two-bar loop. Or maybe the drummer does something you don’t like or there’s a pop in the record, and that forces you to truncate before you really want, so you can just fly that air in there to fill that space. If it [the drum pattern] sounds complex, it’s supposed to. I want people to get the impression that I spent a lot of time on every detail of the samples. I treat the sampler the way some people treat the electric guitar or a drum kit. I want to be the best at it.” DJ Shadow (Solesides, 1997 p.1).

Through repetition, randomisation and the process of elimination, DJ Shadow developed the constructionist collage approach to composition, which allowed for the successful integration of juxtaposed outlined throughout the entirety of Entroducing (1996). The constructionist collage approach formed the basis of his compositions and allow for the collection and archiving of sound.

As with any musical discipline there must be a technical aspect that allows for further development, creative freedom and expression. DJ Shadow articulates this in the above quote with regard to the fade function on the Akai MPC 60. This function allows for an artist to articulate their intent with regard to the phrasing of a note or series of notes. In essence, technical functions, such as the fade function, allow artists to obtain dynamic range thus contributing to their overall sound. DJ Shadow outlines how to achieve a certain sound using the technology, however such sounds must be already present and developed in the mind before endeavoring to source and manipulate them. As DJ Shadow states, “I treat the sampler the way some people treat the electric guitar or a drum kit. I want to be the best at it” (Future Producers, 2005).
This quote suggests his intent to achieve mastery of an instrument. In this case his instrument is the Akai MPC 60. It is the technological design that allows for such affordance. Yet, the initial, direct and instantaneous act of making music with samplers such as Akai MPC models, becomes less immediate and somewhat delayed with the importing of sounds being necessary before being able to generate and manipulate your creativity. Therefore the design of all sampling platforms must allow artists to interoperate and write music in the way in which they hear it.

4.4 Approach 4: Improvised Remix

The fundamental premise of improvised remix, is utilising pre-developed stems as tools for improvisation in live performance. Through re-arranging, splicing and re-sampling the content in a live context, artists re create variants on the composition to which stems belong. Improvised remix in a live context allows artist to develop iterations of a composition based upon the original source material. The dynamic and structure of an arrangement in this context can also be driven by audience participation. Improvised remix as an approach to composition is heavily dependent on the affordances of technology that allow each stem to be performed in a live setting.

“Controllerism is simple. It’s about making music with new technology. Right now controllers are where it’s at, and so that’s the name of the movement. Button-pushers, finger drummer, digital DJ’s, live loopers, augmented instrumentalists; we’re all controllerists. The beautiful thing is it’s still new, it’s still-raw and it’s not about their or that style. It’s about musical freedom” (D’Errico, 2014 p.1).

The improvisational aspect of improvised remix stems from the producers/artist’s ability to trigger and incorporate any nuance of the original track, at any time within the arrangement.
The design of interactive technology is critical in this context to allow for the execution with ease. Improvised remix allows the producer/artist to rearrange and manipulate stems in a real time setting, constituting a form of remix and requires a real time environment in which to arrange and manipulate. To successfully implement and execute improvised remix in a live context, the artist must have previously constructed a new work. Following this process, the producer/artist then must load all (individual or consolidated) stems into their chosen DAW and associated hardware technologies such as Ableton or an MPC, to be later triggered and performed. It is feasible to implement aspects of lyrical fragmentation, constructionist collage and non-western appropriated vocabularies into improvised remix by preloading single shot sounds or incremental samples to trigger in conjunction with a track. Artists fragment and trigger content available at any point, which in turn, can be viewed as a form of constructionist collage, however, the differentiation is, the outcome of an improvised remix is the immediacy of real time performance. Spliced and fragmented portions form the structure of a new work, opposed to traditionalist methods such as the inclusion of pre-determined and deliberately performed materials of selected time values or notated scores.

The features of DAW and hardware technologies such as sample splicing, sample warping, beat alignment, clip triggering, time and pitch stretching influence the extent to which a work can be remixed in a live context. Some artists may combine the elements of a rhythm section by consolidating them into one stem allowing for a continuous and repetitious motif to loop throughout the life cycle of the performance. This approach allows for the foundation and presence of a constant and often static rhythm section in which to perform additional stems and textures. An extended improvised remix approach allows the artist to perform with live instrumentation, allowing more freedom and improvisational opportunities whilst continuing to outline the fundamentals of the work via a consolidated medium. Artists may choose to exhibit every nuance within their arrangement, which would be typically assigned to individual tracks. The reasoning for the assigning of stems to individual tracks is to allow the performer more autonomy throughout the delivery of performance, further allowing for the integration, variety and
complexity of colors via audio effects and live sampling techniques to engage with their audience.

Another variant on improvised remix that is becoming more prevalent in live contexts is the incorporation of consolidated groups of audio segments. Consolidated groups or “groups”, are often assimilated to the grouping of drum and percussion regions within a DAW or live a context. Groups are often individual stems mixed and merged together to create the overall aural depiction of a full drum kit, percussion or rhythm section motif. For example, if a producer/artist is happy with the compositional and production value of their percussive sounds, it is common practice to render, bounce or print sounds collectively in order to create one new stem. Consolidated groups can be imported into a DAW for manipulation, whilst also allowing for consolidated groups and sub-groups to be imported into individual tracks.

Approaches to improvised remix are complex and require developed critical listening skills combined with a developed sense of musicianship and arranging. The producer/artist can take a pre-existing work, reshape it and deliver to audiences in varying combinations whilst still maintaining the overall aesthetic overtone of the original work. In a live context, implementing improvised remix is best suited to an electronic music artist performing multiple shows in one location. Improvised remix is less susceptible to criticism from an audience engagement and experience perspective after each performance. A nuanced approach to musicianship utilising technology allows for varied performance results over the course of several shows, thus further outlining an artist’s compositional/musicianship prowess, which is not solely dictated by the basic parameters of performance technology. In essence this further articulates an artist’s musicianship and the scope and diversity in which their music can be performed.

Improvised Remix engages audiences by allowing them to assist in the shaping of a song or set. This is often experienced by DJs building a set based around crowd participation and interaction. Improvised remix takes the notion of audience engagement to the next level as opposed to a DJ using often generic and predictable audio effects and
transitions to build emotion based on the reaction and dynamic of a crowd; providing more information through musical excerpts as a tangible medium, further integrates the audiences and provides a sense of authorship in a live context.

Improvised Remix takes audience engagement one step further by allowing an artist to communicate and expose individual elements of music in order to construct a song or set. This approach allows for greater autonomy in the architecture of the piece and can be influenced via gauging an audience’s reaction when trialling ideas.

Acknowledging the culture of digital sampling and the various approaches in creating new sound, the Blue Note brand approached American hip-hop producer Madlib to produce a reinterpretation record made entirely of Blue Note samples (Murph, 2003). Blue Note provided permission for Madlib to search through their archives to sample original recordings in what would become one of the most prolific remixed records, *Shades of Blue*, to date. Murph (2003) stated in his review of this album that, *Shades of Blue* is colorful, perplexing and showcases the multiple personalities that inhabit the wild imagination of Madlib.

Madlib is Otis Jackson Jr, a prolific artist that has released numerous albums under many guises over the past two decades. Albums by Lootpack, Madvillian, Quasimoto, The Medicane Show, Dudley Perkins and Yesterday’s New Quintet, are all recorded by the reclusive Madlib (Louisell, 2013 p.1). The overarching beauty of *Shades Of Blue* is founded on Madlib’s creative license to intentionally construct an interpretive record using fragments of the Blue Note catalogue. Recontextualised, these fragments were used as textural components combined with live instrumentation, to creates a hybridisation between hip-hop and jazz. *Shades Of Blue*, provides a significant insight into the processes of digital sampling and appropriation as a compositional technique, highlighting the creative freedom of improvised remix.

*Crisp improvisations never emerge out of Shades of Blue, though. There’s a blunted, unsettling, almost menacing quality, thanks to the combination of Madlib’s*
inchoate instrument playing and his eccentric production style of rugged beats, murky grooves and vertigo-inducing sound effects. Indeed, Shades of Blue’s virtuosity lies within Madlib’s fecund imagination” (Murph, 2003 p.1). Signed to USA based label Stones Throw Records, Madlib’s prolific output is an eccentric mix of hip-hop, rap, jazz and weird vocal samples picked from old records and VHS tapes. (Louisell, 2013 p.1) The nephew of jazz trumpeter Jon Faddis, Madlib states in an interview, “I knew jazz before I knew any type of music” (Leishman, 2013).

Madlib defines himself as a hip hop/jazz artist, however, he doesn’t refer to his talent as being as developed as the jazz artists that he is sampling. Yet, the time spent developing the craft of sampling then using a sense of musicianship to implement the such samples into an arrangement is indeed a highly developed craft in itself, worthy of jazz musician status. Madlib’s technical proficiency and musicianship are defined and measured by the success of his previous collaborations and Shades of Blue. Blue Note recruits some of the finest jazz musicians from around the world to join their world-renowned label. To be invited by Blue Note to choose samples and stems from its archives of some of the greatest jazz musicians and jazz recordings of all time, is in itself an indication of acknowledgment of how unique and successful Madlib’s approach is to sample-based composition.

In a 2003 interview with Madlib, John Murph discusses the progression of sampling and the constant quest to fill the void of articulating internal sounds that can’t found in samples or constructed with significant amounts of editing (Murph, 2003 p.2). Although there is no doubt that crate digging leads to extended creativity through sampling, there is also the human element to the artistry, where through years of listening and sampling, subconscious appropriation assists in the need to produce bespoke sound and sonic art forms. They form the basis of compositions with sampling becoming what could be described as a textural component. As Murph outlines, Madlib quickly grew tired of sampling and in the quest to replicate sound and harmony, purchased a Fender Rhodes to see if he could construct the melodies swarming through his head. Madlib
states, “In about a week, I started making my own songs. After that, I bought a drum set and then an upright bass. I also rented a vibraphone for a month” (Murph, 2003 p.1).

After fleshing out his musical arsenal with guitar and miscellaneous percussion, Madlib conceived Yesterday’s New Quartet, a one-man soul-jazz ensemble comprised of fictional characters, Malik Flavors, Monk, Hughes, Ahamed Miller and Joe McDuffery (Murph, 2003 p.1). This creative experimentation highlights that the nuances created out of individual interpretation, are what make an artist’s sound recognisable.

The sampling of records lends itself to extended creativity through developing a motif, however in Madlib’s case, there becomes a point where individual musicianship enters the creative space and contributes to the compositional values of a new work. Described as a retro-futuristic jazz combo (Murph, 2003 p.1), Yesterdays New Quintet has become Madlib’s vehicle to outline to the world his virtuosity when outlining Improvised Remix as an approach to composition. This further allowed Madlib to display the link between traditional methods of composition through developed musicianship on an instrument to the developed craft of crate digging and sampling.

Yesterday’s New Quintet’s first album *Angels Without Edges* (Yesterday’s New Quintet, 2001), released on the unfortunate date of September 11th, 2001, that set the precedent for a string of records that ultimately lead to the creation of *Shades of Blue* (Madlib, 2003) by implementing the compositional approach of Improvised Remix. As Yesterday’s New Quintet progressed, a plan was developed for each of the ‘band members’ to release ‘solo’ records and to introduce new members and groups into what would be called Yesterdays Universe. These planned phases include:

- Phase 1: *Yesterdays New Quintet* - 2000
- Phase 2: *Joe McDuphrey Experience* - 2002
- Phase 3: *Ahmad Miller* - 2003
- Phase 4: *Monk Hughes & the Outer Realm* - 2004
- Phase 5: *Malik Flavors* - 2005
Towards the end of this cycle, several new Yesterday New Quintet spinoffs were announced on the compilation album Yesterdays Universe - Sound Directions, The Last Electro-Acoustic Space Jazz & Percussion Ensemble, Young Jazz Rebels, and others (Records, 2014). It was the continual development of incorporating juxtaposed samples that had been heavily edited and this process that has allowed Madlib to allow a seamless fluidity to his music, but more so, *Shades of Blue*. Madlib had been experimenting with the hybridisation of jazz and hip-hop long before *Shades of Blue* and even Yesterdy New Quintet, under the name of Quasimoto.

It was Madlib’s 2000 release *The Unseen* (Quasimoto, 2000) on Stones Throw Records, where Madlib’s innovative improvised remix style was first recognised. Conflicting reports suggest *The Unseen* (Quasimoto, 2000) was recorded in a single week while on a psilocybin mushroom binge, where the album showcases the blending of juxtaposed samples to create texture and depth. It was the development of Yesterday New Quintet that eventually led to Madlib being given the opportunity by Blue Note to record a new record comprising of Blue Note stems.

Yesterday New Quintet has allowed Madlib the affordance to approach his record production and composition from multiple angles. Madlib’s approach to the development of *Shades of Blue*, is his ability to outline his musical thoughts using not only hardware, but using a developed and nuanced approach to musicianship and technologies in order to capture ideas and approaches to phrasing. Madlib’s approach to improvisation is purely about rhythmic and melodic construction of phrases and building each instrument and section accordingly. Madlib may be one of the first artists in musical history to implement improvised remix approach to sample-based composition, specifically in relation to Blue Note. In a traditional setting, the most common instruments aligned with jazz music are drums, bass, piano, guitar, saxophones and trumpets. As with all instrumentation, the technical and physical limitations of an instrument’s design will limit a performers scope both harmonically and rhythmically. In this context, Madlib performs
and writes using specific technology that will encounter the same emotional limitations as, for example, a jazz performer using one of the above listed instruments.

Yesterday New Quintet serves as a vehicle in which Madlib experiment’s using differing musical vocabularies through the affordance of technology. It is this context that removes Madlib’s approach from a traditionalist sense of improvisational outcomes throwing them into a technologically developed space and allowing for purposeful output, recognised by Blue Note records.

**4.5 Conclusion**

This chapter describes the four distinctive approaches to the use of sampling in music production, which include:

1. Lyrical Fragmentation
2. Cultural appropriation
3. Constructionist Collage
4. Improvised Remix

Each approach plays a significant role in extending an artist’s creativity, the development of their critical listening skills and aiding the further development of musical ideas; and is further highlighted in work by artists such as The Dust Brothers, The Beastie Boys, DJ Shadow and Madlib. Each artist has added additional instrumentation in the form of harmony and rhythm to extend creativity of their production quality and compositions. Albums released by each artist, for example *Ill Communication* by Beastie Boys (1994), hybridise samples and steps. Using the example of *Ill Communication*, this album combines hip-hop tunes influenced by funk and soul, to full instrumental creations, displaying the developed musicianship that the Beastie Boys had progressively introduced over the years of recording. Although each approach provides its own set of outcomes and offers specific approaches composition, it is evident that all approaches may be used in conjunction with each other, presenting as
fundamental approaches to sample-based composition. The affordances of technology contributed to the success of each approach, however, it is also evident that without developed critical listening and thinking skills, that technology cannot alone be solely relied upon to purposeful recorded works, therefore outlining the importance of such develop approaches to sample-based composition.

5: Exploration Through Composition

When it comes to the various forms of sampling, there are both qualitative and quantitative considerations. Thus the art of sampling can be broken into three general forms: (1) simple or “piggy-back” sampling; (2) break-beat or “mix” sampling; and (3) intricate sampling. Simple (imitative) or “piggy-back” sampling is the form of sampling in which a substantial portion of a pre-existing is sampled them “imitated” with little or no significant transformation of the sample use. Break-beat or mix sampling is the form of sampling in which breaks or patches of recorded works are woven together in a fashion more akin to a DJ blending and matching multiple segments of records. Finally intricate sampling is the most sophisticated (complex) form of sampling. It involves the deconstruction of the sampled work in an intricate manner. Followed by a unique arrangement of the now substantially transformed sample (Said, 2015 p.160-161).

It is through developing these approach to composition that artists such as DJ Shadow have inspired other artists such as Flying Lotus, Knxwledge, Freddie Joachim, Kaytranda and Oddisee to implement this approach to composition, leading to the development of the sub genre chilled/experimental hip-hop, which are the hybridisation of elements from hip-hop, r’n’b, jazz, funk, soul and gospel music. My interests and experiences are within jazz, acid jazz, trip-hop, hip-hop, funk, soul and rock, finding myself producing work that houses many of the genres outlined above.
There are elements that work together, and elements that don’t. However, there are elements trialed through the experimentation with infused textures that in many cases offer a new and unique texture to a new work. In previous chapters I have identified and defined four approaches to sample-based composition. I will further interrogate these approaches and their significance to extended creativity expression and compositional techniques, by creating four original compositions based upon these approaches. Implementing these approaches allows an artist to outline specific techniques, which in turn, assist in articulating methods of integrating sampled source material in ways that provided a nuanced and dynamic approach to composition.

The approaches I have identified are, *Lyrical Fragmentation, Cultural appropriation, Constructionist Collage* and *Improvised Remix*. For each of these I will demonstrate how samples are collected, manipulated, combined and imported into a work. For each approach, I have developed (or appropriated) techniques that allowed me to demonstrate the how the manipulation, sculpting and arranging of sampled material contributes to overall sound of a piece and how each sample is representative of instrumentation found in the original live instrumental recordings.

Through the description of these compositional explorations, I outline my processes of sound transformation, and how I capture and manipulate each sound using developed approaches including the utilisation of selected software and hardware technologies. In order to obtain a high fidelity sound, I sonically sculpt each sample with selected software and hardware technologies, endeavouring to create as much isolation between each sound as possible before the mixing phase. Sculpting samples offers the opportunity to eradicate any spectral complexities within a sample that may interfere once they are integrated with other sounds. This process also allows for the re appropriation of my own work, hopefully inspiring others to utilise textural elements through sampling techniques in which to create.
Combinations of the following pieces of software and hardware technologies were used to sonically sculpt each sample.

- Universal Audio Apollo Twin
- Neve 1073 Preamp and EQ
- UA 610 - A Tube Preamp and EQ
- Studer A800
- Ampex ATR-102
- Pultec EQ
- Teletronics Limiter
- Shadow Hills dual vandergraph compressor

An analysis of the case study practices (see chapter 3) uncovered processes through which source material was collected. Hardware technologies such as Technics 1200 turntables, Akai MPC 60s and E-mu SP-1200s were used to capture and manipulate samples throughout the Golden Age. Due to the scarcity and inflated prices of such equipment—as a result of their notoriety and success throughout the Golden Age—I will be sourcing my samples from .WAV and .MP3 files, utilising newer and more affordable software to collect and edit samples. Where possible, I used pre-recorded samples sold in sample packs to outline the same functionality. Source material collected from vinyl is incorporated into a new work.

A combination of Native Instruments Maschine, Ableton Live 9 and Logic Pro X was used to capture, manipulate, compose and create a final set of works in support of my research. The reason for utilising the Native Instruments Maschine for sampling in this context is because, Native Instruments modelled the internal engine source of both the Akai MPC 60 and the E-mu SP-1200, allowing users to develop and manipulate samples in a way that utilises the technological design of the original pieces of hardware and achieving their documented sonic outcomes. Maschine allows a user to switch between sampler engines, either choosing the Akai MPC 60 or E-mu SP-1200 source to achieve results.
This has distinct sonic implications. For example, I discovered in my own research, that if pitching a sample up by 7 semitones whilst in Maschine’s default mode, and then pitching down by 7 semitones in the E-mu SP-1200 mode, the different modelling takes affect, offering the user more spectral complexity and character to work with. I have discovered that pitching up, resampling and then pitching down does, in fact, offer a greater variance in sound. Combined with software and hardware technologies previously outlined above, I believe this to be a comprehensive approach to sampling, allowing a user to achieve sonic characteristics that differ from Maschine’s standardised engine source. When describing my compositional techniques based on these four approaches I will outline the utilisation of samples and their functionality through a series of graphical representations taken in the form of screen shots. Screen shots will offer a demonstration of choices in arrangement as well as outlining creative objectives. In support of developed techniques for sampling Amir Said (2015) provides a technical definition the following approaches, which are pertinent to this study.

There are two broad forms of chopping: basic and complex. Basic chopping describes a simple, minimal form of truncation of a sample/sound and its start and end points. The most notable form of chopping with the basic chopping form is loop chopping. Loop-chopping describes the basic chopping form that is used for chopping loops. Complex chopping describes the more extended form of chopping. It includes the process of cutting sounds down to “tonal chops”, that is chopping samples/sounds down to individual notes for the purpose of being played (often in some chromatic manner) over drum pads, or keys or, drawn into a beat sequence through the use of a mouse. Within the complex form of chopping, there are two sub-forms: stab-chopping and phrase-chopping. Stab-chopping describes the complex chopping form that is used for chopping sound-stabs, e.g., drum-hits, key-stabs, and tones. Phrase-chopping describes the complex chopping form used for chopping phrases (Said, 2015 p.127).
Similar to the way in which Navas provides technical definitions for remixing, Said’s definitions are comprehensive and provide further insight into the complex technical approaches to sampling. Although Said’s definitions also assist in with the comprehension of introductory approaches to sampling, they support the scope of my approaches, focusing on the layering and arranging of sound.

To further substantiate the above approaches and rationale to sample-based composition, Edwards (2015) states, “as with all genres, the notable, innovative, ground-breaking, carefully crafted work stays relevant and is constantly referenced, while more faddish and formulaic music, if it popular at the time, often fades from memory” (Edwards, 2015).

5.1 Discussion of Original Works

The motivating factor to compose a series of original works as part of this research project was to gain practical insight into approaches and techniques observed and identified during analysis. This undertaking provides exemplars of how each identified approach, when applied to the creation of a new work, offers insight into how different approaches can be utilised to successfully compose highly nuanced creative work in the realms of electronic music production.

Each work was designed and constructed by implementing identified approaches as previously outlined (see chapter 4). Within each approach exists a set of techniques that significantly contribute to the overall aesthetic outcome of each new work. The term “techniques” is defined in this study as relating to the editing, splicing, manipulation, construction and recontextualisation of samples, and how they are integrated into a new work once processed. When I refer to the term approach, I am referring to the implementation of each identified approach to sample-based music composition and production, including techniques within the approach. All four approaches allow for combined integration, which in turn, achieves specific nuanced outcomes. Once
combined, multiple approaches allow for greater expansion of creative outcomes, offering integrated bi-products of each approach.

I have developed and implemented a new work using each of the four approaches and found that they assisted in the development of differentiated creative output and desired aesthetic outcomes. The approaches can be applied to the construction of composition whether collecting and appropriating fragments of pre-recorded works, creating multilayered timbres through reconstitution and recycling, or simply by choosing samples from selected sample packs. Through this process I have expanded my compositional practice utilising the approaches of Lyrical Fragmentation, Constructionist Collage, Cultural appropriation, and Improvised Remix. Each showcases processes of consolidating and manipulating multilayered sound. The following exposition of processes outlines the integral role these approaches play when creating a foundation from which to work.

Given the nature of past and present recording practices and various techniques applied to source material, one fundamental objective of sample-based composition is creating continuity and consistency in the quality of sound throughout the editing stage, in order to achieve a comprehensive and homogenous sounding work. Throughout the process of constructing sample-based work using these approaches, a heavy emphasis is placed on the editing and recontextualisation of samples. The spectral complexity (know from here on in as the either hi-fidelity or lo-fidelity quality) of samples, can contribute to the success of recontextualised and juxtaposed sounds; however, such complexity can also be of significant detriment. The success of hi fidelity recontextualised samples, can be ascertained by the degree of harmonic, rhythmic and textural clarity they contribute to the overall composition. Samples of poor harmonic, rhythmic and textural clarity—either due to the initial recording of the original source, or introduced throughout the sample editing phase—will be detrimental, as they will not offer appropriate spectral depth, sonic value or sufficient complimentary creative value. I consider the combinatorial practice of sampled sounds as one of adding “sonic value” to the musical whole. When I refer to ‘samples’, I am referring specifically to appropriated digital samples. Typically in these
works I only use samples ranging between .05 of a second to a maximum of 5.0 seconds in duration.

Across all of the approaches I consider the adding of sonic value through sampling to be a successful method of micro-composition, which is closely aligned to Gerard Pape’s temporal concepts of timbre he outlined in an interview with Paul Doornbusch. Pape suggests, “there is an aspect of timbre, which is “in” time, and there is an aspect, which “is” time. Just changing the sample duration by either extending or reducing it into varied lengths of a sound through splicing changes its timbre” (Doornbusch, 2005). Therefore, the other main technique of timbral control is layering and multi-layering. In some instances, the sonic value and spectral complexity of a sample may encompass multiple overtones due to the depth of recorded and combined instrumentation within; or more so, the complexity of multi-phonic characteristics of instruments indicative of reed and stringed instruments.

If Pape’s insights about the relationship about time and timbre can be applied to samples, then the length of samples that one chooses to appropriate and recontextualise becomes increasingly critical. In essence, once a sample has been recontxtualised and rendered with additional sonic material, the duration of sound influences its overall sonic value and intended use. Selected features of contemporary music technologies support and encourage the use of incremental editing techniques, many of which, were not available with sampling technologies such as the Akai MPC 60 and E-mu SP-1200. Contemporary music technologies allow for the inclusion of fragmented and juxtaposed sounds to be incorporated into a new work without the limitations of previously designed hardware with immediacy.

In this chapter, I will outline my processes of composition following each approach, with particular reference to technical aspects of the works, the use of appropriated samples, and the methods I adopt when collating and archiving source material. Throughout the compositional process I used Logic Pro X and Ableton Live 9 as primary Digital Audio Workstations (DAWs) and Native Instruments Maschine as a modern day
replacement for the Akai MPC 60 and E-mu SP 1200. In conjunction with these tools, I used a number of Universal Audio plugins to allow for certain timbral liberties, and for emulating and modelling hardware recording technologies when editing, mixing and mastering a track.

Throughout my descriptions I will recapitulate the common links between each work and discuss specific limitations with regard to software, hardware and the use of pre recorded samples within the works.

5.2 A Demonstration of Lyrical Fragmentation

Let Me Love You

To demonstrate Lyrical Fragmentation, I remixed Mario’s – *Let Me Love You* (Mario, 2004). The premise of this undertaking was to explore Lyrical Fragmentation from a reconstructive approach; but to also demonstrate the compositional technique employed when editing rhythms. This has been outlined by providing a comprehensive insight into the accentuation and differentiation between reconstructed straight 16th rhythm to a swung 16th rhythm.

A straight 16th approach to rhythmic value can be heard in the drums of Jeff Buckley’s *Everybody Here Wants You* (Jeff Buckley, 1998) and a swung 16th approach can be heard in Toto’s *Rosanna* (Toto, 1982). Implementing Lyrical Fragmentation as an approach to sample-based composition, is best approached by dividing the process into two distinct allotments. The first involves choosing suitable acappella material from which to cut, splice, edit and develop vocal content. I have discovered that a vocal recording that encompasses silence in between recorded phrases and notes, offers a better foundation from which to sample and recontextualise. Silence in between recorded phrases and notes allows greater opportunity to shape melodic and harmonic approaches to the composition once the musical structure has been constructed. Conversely, a vocal recording exhibiting complex rhythmic and vocal phrasing, presents less opportunity to edit and fragment selected phrases for reconstructive purposes. The second phase of this
process, involves gathering additional samples and textural elements for the construction of the arrangement. Again, the harmonic, rhythmic and textural quality of source material is solely dependent on the initial shape and pitch of the recorded vocal. Keeping in mind that only a limited number of harmonic combinations will suit the vocal, and that further complexity may be added due to the inclusion of backing vocals within the original source vocal.

For more flexibility the producer/composer does have the option to pitch-shift the vocal sample up or down in order to better suit the harmonic nature of pre-collected source material. Vocals can be manipulated within the majority of DAW software, including by changing additional elements such as tempo.

However this can, in some instances, adversely affect the dynamic range (volume), spectral complexity, and overall ‘feel’ of the vocal. As Garner (2014) states, *almost everything can be fixed (through editing) but the issues is, how much musical integrity does one want to maintain in creating their art* (Garner, 2014).

I experimented with changing the tempo and pitch within both Ableton Live 9 and Logic Pro X and found that in both instances, the overall quality of the vocal was compromised, and in this particular instance making the adjusted vocal unusable due to the degradation in sound quality. In fact, at times, I found the process of rendering (bouncing) the vocal to be semi inaudible. The vocal became too fragmented in quality to properly showcase this technique with success. I discovered that to successfully outline the approach of Lyrical Fragmentation, I must present myself every chance of working with the best quality material I have at my disposal. To minimise pitch shifting I chose to keep the vocal in the original key of G minor whilst re-harmonising the musical structure.

I chose to program the music geared toward a swung 16ths rhythmic feel as opposed to the straight 16ths feel of the original vocal recording. This further led to the implementation of extended editing, critical listening, developed harmonic, rhythmic and textural musicianship skills, in order to successfully integrate each developed vocal phrase into a new work with rhythmic complexity. A highly developed and nuanced
approach to the performing and recording of rhythmic sub-divisions, requiring highly developed technical proficiency using DAWs, allowed for the successful integration of juxtaposed rhythmic displacement, hence in this instance showcasing the differentiation between straight and swung rhythms. I programmed a 4 bar drum phrase, showcasing a swung 16ths feel from which to build. Another variant to consider was the direction of the remix, which was decided by reviewing genres such as experimental hip-hop, neo soul and soul pop, which are all, associated the genre of r’n’b of which the original song belongs to.

A remix, is highly dependent on the abundance of cultural production and access to media objects by a large community (Sonvilla-Weiss, 2015). It also relies on the inclusion of specific textures indicative of specific genres and subgenres, but more importantly, a remix must showcase musical elements and textures derived from the original source. In this instance, a swung 16th feel (which are traditionally not inherent of rhythmic approaches to r’n’b) significantly changed the overall semblance of the remix, altering the interpretation of the vocal by offering greater emphasis on lyrical content placed on beats two and four of each bar. Once fragmented, the reconstructed vocal changed the feel of the song offering another approach to interpreting the song. Altering certain nuances dictating where the vocal is placed and how much is used, also determines the context in which it can be interpreted. The original mix is rhythmically and harmonically simplistic providing textured layers throughout the recording, further allowing the listener greater engagement with lyrical content whilst being supported by a semi-static music structure. Changing the phrasing of the vocal to suit a swung 16th feel, allowed the vocal to exhibit a progressive skipping sensation, as opposed to the straight rhythm of the original recording. An identifiable example can be heard from 0:45 seconds.

Figure 5: Differentiation between Mario’s original and the new fragmented vocal line.
Moving onto the drum parts, I sampled a singular snare drum hit from the introduction of Maceo Parker’s version of Pee Wee Ellis’s *Chicken* (*Parker, 1991*) and combined it with a snare drum sourced from a sample pack. I combined these samples by loading each into Native Instruments Maschine and proceeded to manipulate each single shot sample with Maschine’s SP-1200 sound engine. Once happy with the dynamic range and clarity of each sound, I proceeded to program the drum phrase into a MIDI map before rendering the output to a .WAV file.

This developmental technique allowed me to incrementally change the nature of the phrase through note velocities and rhythmic displacement before committing to the consolidated properties of a .WAV file. Upon completion, this phrase was imported into Logic Pro X, further utilising the Universal Audio *Studer A800* and the *Pultec EQP-1A Legacy* to sonically treat the phrase. Allowing for greater character and potential isolation in final mixing, using the abovementioned techniques to sculpt sound, allows for greater characterisation of developed sounds, thus further contributing to identifiable production nuances attributed to individual producers/composers. Norèn (2011) defines the A800’s capacity to produce varying sonic characteristics of sound in Sound On Sound’s 2011 March issue stating, *the Sync and Repro EQs can add a solid low end and a very sweet high end, but the real fun begins when raising the input level to hit the 'tape' hard* (Norèn, 2011). Norèn’s description is in reference to the amount of ‘tape saturation’ (sonic characteristics) added to sound by increasing the input level. Figure 5.1 outlines the drum phrase in red, with the *Studer A800* and the *Pultec EQP-1A Legacy* allocated to the channel strip insert of the drums.

Throughout this process, I chose to splice, edit and reconfigure the drums allowing for a greater variance of space within the arrangement. The original programming of the drums presented as too busy and too “straight” for what I was endeavoring to achieve, therefore chose to reconfigure. A differing approach is reconfiguring MIDI information to achieve the desired outcome; however, I felt
employing selected editing techniques presented an exhibition of authenticity attributing
to similar practices employed using an Akai MPC 60 or SP 1200 when editing sampled
content in this context. I began to re arrange the drum pattern adding single shot kick
drums as seen on beats 3 & 4 of bar 12. The overall feeling of the drums dictated how the
bass would eventually be placed within the arrangement; therefore the objective was to
create aural cohesion through balancing combined textures.

The next logical approach in the construction of this remix was defining the
harmonic structure. I explored varying approaches to harmony including the
implementation of pre-sourced keyboard samples from various sample packs, finally
arriving at a harmonic adaptation of the original. The placement of chords was heavily
dictated by the rhythmic displacement of a newer iteration of the original drum phrase.
Trialling a combination of pre-sourced samples with new harmonic and rhythmic choices
offered significant textural colour, yet, I felt the best approach was to program additional
harmonic phrases based around semibreves, allowing for more freedom when
incrementally splicing and editing the vocal. This would again allow the drums to influence where certain instrumentation and textures could be placed, with a view to having the vocal line glide over the top of the arrangement. Aiming for a sense of cohesiveness, I chose to program a keyboard sound using a Fender Rhodes patch, which offered warmth and clarity to the arrangement. This provided a textural bed for the additional integration of synthesizer and guitar lines, whilst providing spectral depth through the mid range frequency band of the work.

After incorporating a synthesizer line doubling the Fender Rhodes, it became apparent that the use of single-shot samples initially incorporated did not provide sufficient textural depth throughout the arrangement. Although spliced and fragmented throughout the arrangement, I felt the spectral complexity between samples was too different, thus not allowing for the shape and continuity I had initially intended. The purpose of adding these instrumental textures was to create timbral colour through the use of strategically placed harmonic and rhythmic samples. However, an issue that constantly presented was the differentiation in sound between sample bank manufacturers and producer techniques on the source materials. Because of these inconsistencies between single shot samples I had collected, I had to envisage how I would re arrange the remix to achieve a sufficiently integrated timbral outcome.

Although these textures remained within the mix, the harmonic bed needed further development to ensure that the samples were not the sole contributor to the harmonic progression. A plausible solution to achieve consistency and clarity throughout the arrangement was to rerecord the Fender Rhodes harmony parts with a session musician to later splice, edit and shape whilst maintaining the textural integrity of the sampled textures I had incorporated. It was imperative to choose the right musician to rerecord the additional keyboard harmony, with considerations extending to choosing a musician with experience to execute a recording in a style that would compliment the track. I chose a session musician with a background in r’n’b, neo soul, jazz, funk and pop, who would naturally gravitate towards providing enough character and appropriate harmonic content to splice, edit and consolidate into new samples. After securing the
services of a very prominent Australian session musician by the name of Mark Amato, I was able to capture a number of recordings, all varying in shape, feel, rhythm and harmonic approach. Additional recordings later allowed for the inclusion of carefully crafted nuances in the form of newly generated samples to work in conjunction with the harmony and single shot textures.

5.2.1 Details of Editing Decisions

The technical details of this composition involve the splicing, editing and integration of vocal motifs and phrases. Due to the nature of the original recording and the newly designed arrangement, much care and detail was required when crafting and shaping each vocal phrase for inclusion. Not only did I have to chose what sections of the vocal a cappella to edit and splice, but it was imperative these sections continue to tell a complete story, whether through lyric organisation or through a combination of the lyrical and harmonic content. As seen in the figure 5.2 (throughout the chorus section) I only used the very first section of the phrase – Track 13. This is a creative choice made due to the texture of the single shot sample providing an interesting background, allowing the newly recorded keyboard line to remain featured along with the lyrical content.
To optimise my workflow and have full control over the chorus and vocal, I spliced and placed them into separate tracks. This was done in order to allow further manipulation of each phrase without affecting the spectral complexity of the other. If I were to combine both layers and render into a new sample, the re-appropriation may have worked by itself, however it may have presented sonic issues should I later decide the two layers needed separating in the mix.

Figure 2.2: Graphical representation of splicing audio to fit to the sequence grid.

The original splicing of the straight 16ths vocal a cappella was an arduous undertaking and one that could not be successfully executed without critical listening and technical skills, which Draper (2013) states as an investigation of sound engineering decision-making processes (Draper, 2013). Before importing the edits into the final arrangement, I incrementally spliced the vocal a cappella one word and one phrase at a time to ensure the best possible result when aiming to rearrange the chosen elements into swung 16ths. In the final arrangement, further splicing and editing was required in order to achieve what I believe to be a well-executed recontextualisation of juxtaposed phrases. One of the reasons for further splicing and editing was due to the nature of Mark Amato’s performance. Mark’s performance offers more freedom and space in between the movement of harmony, thus allowing the arrangement to ‘float’ harmonically, rather than
being a ridged set of programmed chords. This allowed for further displacement of vocal phrasing and allowed for a more varied and liberal approach to phrasing.

As Mark’s performance directly contributed to the overall cohesion and consolidation of textures, I didn’t feel the need to further use the vocal a cappella material in its originally recorded format. Although the lyrical message throughout the original tune is one of love and the offering of security, I felt that with the textures I had created, I could still tell the story, albeit in less words, with just as much feeling. The original song does have a bridge written into the middle of the arrangement after the second chorus, which I removed altogether. My approach was to utilise the textures to create a more interesting and nuanced approach, making for an even balance of vocals and instrumental material. Both played fundamental roles within the remix. I didn’t want the harmonic movement of the original bridge disrupting the overall cohesion I was endeavouring to create. It is a feature of Constructionist Collage to exhibit selected phrases that showcase both vocal phrasing and harmonic textures, as there is more than enough information in sourced material to interpret the meaning of a composition, especially if using samples with defined nuances. In this work, I spliced and edited the verse phrasing and pre-chorus material to form the foundation of the remixed lyrical content; as opposed to employing the traditional method of using a hook or chorus to underpin the overall composition. I felt that the lyric, “You Should Let Me Love You”, was enough of a statement to draw upon, hence why I have only used roughly 25% of the overall chorus lyric in the remix.

There is further scope to develop this process by choosing selected words and reconstructing them in order to develop a bespoke phrase. When implementing this approach, the original harmony of the tune will dictate the shape of a melody, however, there is the chance to reshape a melody idea given a select amount of notes and lyrical content. This is a possible approach, however it makes for a difficult undertaking. That is to combine notes and lyrical content in one recorded phrase. Lyrically, this approach could make sense by rearranging the words to make for a different message, however the harmonic outcome may seem angular or slightly fragmented. A possible solution would be to pitch shift words/notes up or down within the phrase to endeavor to create a more
diatonic tonality to the new phrase. However, as stated before, there is always the chance that each note and lyric can lose clarity throughout the resampling phase. Utilising Lyrical Fragmentation as an approach to sample-based composition is very plausible as outlined and showcased in this example composition. Again the level of a producer’s critical listening and developed musicianship skills in harmonic and rhythmic approaches are paramount to achieve a well-developed and thought-out composition. When implementing a set of pre-existing information to construct and build and new work, the new work can be heavily influenced by the nature and feel of additional harmonic material (either newly performed or remixed).

Although the work is based around the splicing and fragmentation of lyrical information, it is the combination of old and new information in the form of reconstituted sampled source material and live instrumentation that glue the new work together. Implementing fragments of selected lyrical content from the original a cappella does allow the track take on a new meaning. The use of selected phrasing that is spliced and edited allows this approach to composition to achieve accuracy in expression. Technically this approach also allows for individual development in the form of extended editing and arranging skills, however, technical limitations do exist in the form of the construction of the original vocal recording, due to the nature of vocal phrasing. Source material for Lyrical Fragmentation can be sourced from multiple locations, including online stores that package vocal sample libraries for DJ’ing and remix purposes.

A number of companies such as Samplephonics, Beatport and Producer Loops, do supply a cappella vocal samples for purchase, encouraging DJ and remix artists to splice and fragment portions of these into pre-existing works, further allowing artists to exploit interpretive repertoire spanning tempos, beats, samples, a cappella vocals and more (Church, 2015). This approach to composition is supported commercially by artists offering their work for sale in this context in the hope that they are able to create more exposure through the abovementioned platforms and online mediums for their brand or music.
5.2.2 Summary

The utilisation of Lyrical Fragmentation is becoming more prevalent in commercial electronic dance music due to the fact artists are able to clear licenses and obtain small portions of lyrical content with pre-existing artists from publishers and sample library companies such as Samplephonics. Lyrical Fragmentation in the form of remixing also allows composers and producers to showcase their music production, critical listening, and arranging skills, often leading to the creation of extended portfolios and catalogues of music in which to showcase their talents across varying genres. The recontextualisation and hybridisation of genres in remixing is also very prominent and further allows artists the opportunity to showcase their ideas using pre-existing material. This process often allows the listener to experience the new content whilst already having an idea of the song’s original context, therefore providing the basic foundation for informal comparative analysis.

Furthermore it must be noted that this process is being extended into genres such as pop music. The producers of artists such as Justin Bieber and Katy Perry utilise this approach incrementally to record single words and multiple takes of individual phrases that are then reconstructed in the DAW and sculpted into seamless phrases despite being original material. Therefore it takes the notion of Lyrical Fragmentation and applies it to achieve very purposefully constructed phrases that become inherent of the artists vocal identity.
5.3 A Demonstration of Cultural Appropriation

You Are The One

In this composition, I limited the use of appropriated sounds to 15, mimicking a large ensemble format across 15 individual tracks. My rationale was to adopt a “less is more” rule, to achieve more spectral space within the arrangement. In this demonstration of Cultural appropriation I chose to focus on incorporating the use of Latin influences. This decision was driven by consciously incorporating the Latin influences heard in *Time* (The Realm & Tony Momrelle, 2009) by The Realm featuring Tony Momrelle, offering identifiable aspects of Latin percussion such as the use of triangle, congas, bongos and timbales to outline rhythmic patterns. In order to offer greater understanding of scope in the realms of electronic music production, it was important to identify genres and styles outside of case studies to provide a greater context. Motivation of this particular undertaking was to continue drawing upon my influences as a record producer and musician where I continue to include many varied cultural influences in my work. I find continued solace in Williams’ writing on the topic of borrowing and sampling, finding the following statement one of truth and great wisdom.

_Borrowing and sampling solidify communities in a number of ways: creating history and lineage, immortalising icons, creating links with other genres, forging links with an African American musical past (as in the case of jazz), solidifying subgenres (such as gangsta rap), and updating older sounds for newer playback technology (such as car sound systems) (Williams 2013 p.171)._ 

Although this statement is directed to hip-hop music and culture, many, if not, all of the above points outlined can be attributed to music from all cultures. Whether there is a definite process to follow has yet to be outlined; however, I believe the fundamental premise of this practice should not be viewed and defined as a disingenuous act to deliberately steal and mock cultures rich with musical substance, but an
acknowledgement for what has come before and directly influences an individual’s development.

Creating history, lineage, immortalising icons, whilst creating links with other genres and forging links with past cultures, continue to solidify the essence of subgenres. This practice also allows individuals to celebrate their individualised journey into composition, whilst developing a nuanced vocabulary without musical prejudice. To showcase this approach I have appropriated several Latin music influences within a western electronic break beat genre, which can be first heard at 0:08 seconds. I have written a new work by utilising non-western appropriated single shot, saxophone, trumpet, trombone, piano, bass guitar sample pack phrases. The chosen genre for this demonstration is “break-beat”, drawing upon influences from DJ Shadow compositions, *Best Foot Forward* (1996) and *Building Steam With A Grain of Salt* (1996). I have adopted the approach of utilising specific elements indicative of break-beat, chill-out and house production to build a drumbeat. Traditionally, a break-beat styled composition features looped drums that have been sampled from sources such an original James Brown recording, then spliced and edited to form a new drum motif. To provide further context for this approach, I have located and incorporated an a cappella vocal sample in order to assist with the overall balance of the work.

I set the tempo of the arrangement to 130 beats per minute and focused on a solid harmonic and rhythmic foundation on which to build on, diving samples into 1 and 2 bar lengths. This allowed for the integration of specific appropriated samples, in the form of saxophones, trumpets and trombones to drive the overall tone and concept of the composition. The harmonic and rhythmic foundation was made up of a drum kit, bass, piano, guitar and Latin percussion. All sampled material was selected from sample packs, aside from the guitar sample that I composed and performed myself. In addition, I also composed and performed the synthesizer solo utilising Ableton’s Push technology. I approached the construction of this work by employing a hybridisation of live instrumentation, electronic focused drum programming, and the integration of Latin rhythmic and harmonic influences. Multiple cross-cultural considerations of non-western sample integration posed significant obstacles. Cultural characteristics such as non-metric
timing, non-western scales, and non-western tuning—including the use of quarter tone and microtonal tunings—served as significant challenges when being integrating into the new work, compounded by western musical assumptions in the DAWs, such as set metric timing and quantisation parameters.

In conjunction with the collection of samples and managing live instrumentation, the cross-cultural considerations of this approach required precise and exact technical editing outcomes to ensure the successful integration of chosen material. The fundamental premise of incorporating and combining source material from differing cultures is to achieve a predetermined and desired effect. Where two or more musical cultures collide, the approach to composition offers an aural kaleidoscope of musical textures. In composing this work, my objective was to create a layered foundation that would serve as a platform to showcase the chosen samples, with the objective to successfully hybridise culturally appropriated textures into a cohesive sounding work. As previously outlined, achieving cohesion when utilising non-western appropriated samples is a challenging undertaking, especially when endeavouring to integrate non-metric timing and harmony from non-western tuning.

To explore the approach of Cultural appropriation, I have made a conscious decision to compose and construct a new work mimicking the sound of a full band/ensemble and utilising digital technology in the form of Ableton Lives’ instrument rack and samplers to create electronic break beats.
To compliment the appropriated Latin music samples I selected a tempo not too dissimilar to the tempos (130-200bpm) heard in styles of Latin music such as merengue. Although samples have been recontextualised, I have found the best results occur when appropriated samples are directly imbedded into a new work of a similar tempo or timbral quality. As outlined earlier, new technologies allow samples including those possessing qualities of non-metric timing and non-western tuning, to be manipulated in both pitch and speed, allowing samples to be placed into any work of any key and tempo. Studying Latin rhythm and harmony from Chucho Valdez and being attracted to Latin influences exhibited in Chick Corea’s 1973 release *Light as a Feather* (*Corea, 1973*) contributed to the purposeful integration of instrumentation to offer elements of authenticity. Although Latin percussion can (as with all instrumentation) be performed at any tempo, samples with a tempo used in more traditional approaches present an immediate sense of sonic authenticity when recontextualising into a new work of a similar tempo. Furthermore, a sample collected and appropriated from source material such as jazz or jazz-fusion, which has influenced many other genres, is capable of being integrating into a genre such as experimental hip-hop because several fundamental elements found in experimental hip-hop are derived from jazz influences. However, the recontextualisation of samples
into a new work are not limited to their aural or perceived value. A guiding compositional principle in this work was the effectiveness of complimenting integrated sonically authentic textures and elements in a new work. Throughout the compositional processes, I remained mindful of the overall sound I was intending to capture which was a blend of Latin influences combined with break-beat elements.

I have discovered that it is important for a composer/producer to possess a fundamental understanding of the depth of sonic ‘value’ in a sample, as this will aid in the successful arranging and implementation of specific musical instrument combinations indicative of original source material. In addition, possessing an understanding of the role traditional instruments play within original contexts, will further allow for a further developed and comprehensive overall sound when appropriating non-western textures.

![Figure 5.4: Graphical representation of mixed percussion lines in audio file format within the DAW.](image)

The merit in this exploration of Cultural Appropriation is the implementation of cross-cultural critical listening skills and developed musicianship required to create a blend of hybridised sounds into a coherent new work that is indicative of the original source material, which in this instance is Latin music.

Warner writes, *the sampling composer need not be a physical virtuoso, only a virtuoso of the imagination with an expertise in the manipulation and organisation of sound* (Warner, T 2003 p.96-7).

I find this statement to be encouraging and accurate. Artists employing skills to locate source material are utilising heightened critical and analytical listening skills in order to not only define suitable source material for their compositions, but to develop
virtual and archived catalogues for future reference. I employed these skills when beginning to choose samples for this arrangement. I have listened to thousands of samples over many years, and in most instances I catalogue sections of sample packs in my memory for future use. Like a road map when sourcing directions for a specific destination, I collect and mentally store the whereabouts of locations where specific folders of drum, percussion, bass and keyboard samples are located. It will often be months, sometimes years before I may require a specific texture for a project, however I am able to draw upon this information at will, locating the specific sound/texture I require for a project. This was the case for the majority of brass and woodwind samples for this arrangement. I recall purchasing a World Music folder on a sample CD in Japan during 2006, which I had been wishing to utilise ever since. Within the CD were numerous folders broken into genres and instrumentation indicative of cultures such as Latin, South American, African and Asian influences.

Again I recalled that one of these folders was called *Latin* and, based upon previous searching, I recalled this housed many percussion, bass, piano and brass section samples. I resumed my search locating what I thought would be suitable brass section samples that, when edited, could fit together as a call and response styled approach. My selection of samples was based on their overall timbral quality and how closely they aligned in sonic clarity and performance style. All samples used in this work have been performed and recorded by live musicians, thus contributing to the overall high standard of performance and musicianship heard throughout this work. Conversely, the appropriation of poorly performed source material can lead to a work with a lack of continuity throughout, resulting in sonic deviation and a sense of fragmentation. Appropriated samples lacking hi-fidelity sonic quality, unfortunately become heavily exposed in a new work and lead to inconsistent nuance; therefore when choosing a sample for appropriation, the quality of its production and performance are of paramount importance. After editing and consolidating samples into rendered stems, I utilised *Big Bad Horns*, by Big Fish Audio (a brass section plugin) in conjunction with my samples,
adding additional single-note and small two and three-note runs for added musical interest.

It was apparent that the majority of samples from the Latin folder had been collected and complied from either the same recording session, due to the consistency in recording, production and performance values, or had been mixed to create a cohesive sounding set of samples, again showcasing masterful production qualities. This expedited the locating, editing and implementing of the samples in this arrangement, thus allowing me to produce a sonically consistent musical arrangement.

As outlined in the description of explorations into Lyrical Fragmentation, source materials change dramatically in sonic value dependent on the origins of vinyl pressing and recording techniques used in the initial capturing of sound. When combining juxtaposed samples with the intent to create multi-layered harmonic foundations, it is important to create individual samples of equivalent sonic value, as disproportionate samples often lead to inconsistency in sound quality. To combat this, I use spectral analysis to understand the nuances and sonic nature of each sample, which allow for informed decisions contributing to the amount of manipulation required in order to integrate such a sample into a new work.

I aim to locate samples that possess a neutral frequency band when applying my analyser, because it’s much easier to manage neutralised samples compared to those possessing significant amounts of bass, mid or top range frequencies. Endeavouring to neutralise samples through the means of applying EQ can result in significant discrepancies in sonic character, therefore making for a difficult undertaking when wanting to blend multiple textures together. I apply an EQ channel strip, slightly adjusting a sample’s sonic value in order to align the timbre of each sample for a more cohesive sound. Depending on the number of samples being layer together, this process can expand the sonic options exponentially, creating a number of outcomes and nuances, (some positive, some negative) that need to be addressed if intending to combine samples to create a foundation texture.
In order to achieve the best results throughout the developmental stage, I found combining three or more samples was a detriment when endeavouring to build cohesion. Combinations of two or more keyboard samples, or two/three guitar sounds grouped together, may offer large variances of sonic quality, as initial approaches to engineering and recording differ too much. Differences can be a result of recording environments, techniques and the original context of the recording. This is especially problematic when using Cultural appropriation as an approach to composition.

In one section I experimented with combining six single-hit guitar notes, all of the same pitch but from various sources including my recorded guitar, into the one arrangement. The aim was to achieve as much depth, fullness and dynamic range as possible. Even though these are single-shot samples, there is sometimes enough variance to disrupt the sonic quality, further necessitating analysis and EQ as describe above. Ultimately this approach proved unsuccessful because even though the overall combination of six single notes blended together offered a pleasurable sounding single hit, it was too dense and complex for integration into the track, hence utilising my original guitar recording. As outlined, over combining multi-layered samples and
integrating into one sound, allows for more complex sound. Therefore, this approach may not allow for the desired result. Less is more.

This approach to guitar sample editing and programming is somewhat far fetched in the sense of mimicking live performance, as typically a guitarist only performs a 4 note voicing at any one time, unless using their thumb to outline a lower harmonic choice or bass note. In order to employ more traditional approaches to live guitar performance, I decided against the integration of all 6 notes as a blended texture opting for the inclusion of my own edited recordings. Although the blending of multiple sounds can sonically be a fruitful undertaking, I would also like to be consistent via the means of traditionalist approaches to technique and harmonic choices in my programming within the hybridisation of these genres. I feel it’s important for a producer to refrain from what could be viewed as far-fetched programming where the outcomes are not necessary or out of context. However, genres such as contemporary pop music and EDM (electronic dance music) may be more susceptible and rhythmically forgiving than break-beat to blending multiple juxtaposed textures in order to create a “new sound”. As always, the quality of recorded output is dependent on the brand and quality of instrumentation. In this instance, the brand of guitar, gauge of strings, pickups, amplification, microphone placement, environment, amplification modelling, recording techniques, including the mixing and mastering of the original source material contribute to consistency and cohesiveness. All of these variables, in turn, contribute to the overall sound of blended samples. It is then the final mixing of blended sounds in a digital audio workstation, which will allow a blended sample to flourish in its intended context.

In some instances, it is easier to record instrumentation to match the sonic value of source material than locate suitable material to incorporate into a new work. However, it is understandable that not every artist or producer possesses the skill and ability to record instrumentation to match sonic characteristics. Unlike guitar, monophonic instrumentation such as woodwind and brass instrumentation offer greater dynamic scope both in volume and clarity of sound, often heard in 18 piece big band arranging. A similar approach to the arranging of monophonic instrumentation can be heard in the brass
sections of this work at roughly 0:15 seconds, which have been combined with the sequencing of the *Big Bad Horns* plugin developed by Big Fish Audio. The combined layers offer sonic depth to the brass section sound, which is a generalised objective in live and studio recording contexts. Given the nature and differentiation in clarity individual performers exhibit when recording, it is a difficult undertaking to blend multiple brass instrumentation to create a consistent sound. As each individual’s sound varies so dramatically, it is very difficult from a producers’ perspective to capture a good sound. The variables in this approach are significant, as produced sound is dependent of the technique and embouchure of a woodwind or brass musician, combined with their individual understating of genre, as well as the quality of instrument. For an example specific musical combinations such as a *Gibson, Les Paul* combined with *Marshall* amplification will always present a specific sound inherit of this combination; where brass and woodwind combinations of instrument, mouthpiece and reed choice are more difficult to manipulate due to the air flow across an individuals pallet. Therefore groups of musicians recording and performing within genres of Latin origin, inherently offer a sense of cultural authenticity through the articulation and rhythmic placement of phrasing. This is due to specific rhythmic and harmonic phrases being attributed to traditional activities such as dance and movement orientated practices through community and cultural engagement.

However, as Morales (2003) states, *the unavailability of music from Castro’s Cuba, had two effects on Latin music. There was not longer an experimental Latin music to drive tropical dance music, and Miami had a wide-open field for establishing a new aesthetic. Miami Sound Machine made itself central to the idea of what Latin music was becoming, and its use of Afro-Cuban percussion* (Morales, 2003 p.152).

Therefore, it is plausible the ‘idea’ of Afro-Cuban percussion appropriated into western music via sampled textures may only serve as a fragmented representation to true Latin rhythmic values due to the centralising of percussive ideas from influential groups such as the Miami Sound Machine. Nevertheless, the technique implemented in achieving specific textural, rhythmic or harmonic purposes in the face of production
variables in sampled material is firstly to identify any distinguishing feature that will contribute to the overall integration and quality of a new work, including the application of exact and precise editing of each sample. This is a fundamental technique employed to ensure the success and shaping of integrated textures being used. In some instances non-metric timing offers its own set of challenges when endeavouring to combine multiple textures from multiple sources into one consolidated phrase. Applying precise and exact editing of selected textures must be undertaken and aligned in the arrangement window of the DAW. The editing and arranging window of the DAW outlines the exact time and spacing required in order to capture the initial timing of built phrases. Editing windows can be set incrementally with divisions of up to 64\textsuperscript{th} note grids being used for the finer sculpting of phrases; such as the combination and inclusion of non-metric timing recordings.

Precision editing was extended to the length of a sample, the overall sonic value of a sample and quality of combined textures and the blending of pre existing samples with newly recorded material to be used together. Precision and exact editing also extends to the cutting and splicing of transients; the cutting and splicing of phrases to collage and construct new phrases, and the cutting and splicing of samples in order to achieve fluidity. When editing, I always endeavour to create as much isolation as possible to eventually “glue” each sound and track together. In the past, this has posed an issue when combining textures and sounds exhibiting non-western tuning or endeavouring to utilise selected phrases from a source where much more emphasis is placed on the performance of a recording and not the intonation. The sound of the original source material as heard in the recording of the brass section and Latin percussion, contributes to the overall sonic value of the piece, and this is dependent on the recording techniques employed and variables previously discussed. Loops and phrases programmed in DAWs seldom provide as much legitimacy and cultural relevance, due to operational parameters and lack of humanised programmable functionality.

Operational parameters do not allow for the fluidity and variance of rhythmic displacement experienced in live recordings appropriated and recontextualised from
specific sources. Programmed loops and phrases will always house only single shot samples leaving little room for timbral variance and nuances created by the likes of a human hand hitting hand percussion. If a sample pack does not include such variations, it is up to the producer to cut, splice and edit new recordings together with the provided samples, which takes time and requires a comprehensive understand of rhythmic and timing values in order to successfully integrate developed loops and phrases. The appropriation and recontextualisation of samples make for a challenging undertaking, however, like other aspects of a developed musicianship, I believe the required analysis and sonic familiarity contribute to a deeper understanding of production techniques, but identifying the sonic value of recorded instrumentation. This approach would allow me to choose samples and program additional instrumentation that would replicate the recording of live instrumentation. In essence this undertaking outlines how nominated hybridised textures give the impression that a number producers and even musicians have all recorded and been present in the same session. This is as much an interpretative undertaking as a display of Cultural appropriation. As Chapman writes: “When the music of two or more cultures is merged, the outcomes can range from simple borrowings to the development of new forms of music” (Chapman, 2007).

### 5.3.1 Details of Editing Texture

The next example of editing within the style of Cultural appropriation, that I wish to outline is one of texture. Setting my digital audio workstation’s beats per minute to the desired tempo, allows me to implement design features like the arrangement zoom function to edit selected samples with precision. I lock all drum and bass lines to the grid, however, leaving textural elements such as pad sounds, keyboard sounds and any solo melodic lines either side of the grid parameters gives a more humanised feel to the music.

Williams outlines, “African-based and European-based musics yet is also a product of its socio-historical and technological situation. Hip-hop, like blues and jazz, is an “open source” culture, and this particular character of these musical cultures is crucial to their aesthetics” (Williams 2013 p.167). Williams follows
on to add that “there are specific “vantage points” throughout the borrowing and quoting of cultural influences, thus also providing linage to further contextualise a work as, cultural memory, or myth, helps to bind a community together, additionally providing a sense of continuity in a fragmented, disjointed world” (Williams, 2013 p. 170).

The interplay between intra- and extra-musical discourses has highlighted and developed themes that reflect wider cultural processes than simply those within hip-hop culture. Therefore this approach to production referencing and indeed composition, I believe to present as an approach of significance when endeavouring to mix cultures. The ultimate goal is to achieve as much authenticity as possible when paying a sense of homage to those who have influenced the shaping of musicianship and cultural understanding through music. For example, Figure 5.6 outlines the use of the of a particular saxophone line that is made up of a baritone and tenor saxophone. This sample was already pre recorded and one that I feel would work within the new work, as the phrasing is indicative of a Latin saxophone phrase. Typically woodwind and brass lines within this genre are built on the use of dominant 7th and minor 3rd shapes. They are often combined with the use of arpeggios in order to offer rich harmonic shapes whilst still offering harmonic and rhythmic space for other instrumentation to function. Located in the sample pack where I sourced this phrase were a number of combined instrumental samples all possessing suitable harmonic elements.

My approach was to choose several samples to implement a traditional call and response passage by the brass and woodwind section. As I began to edit and splice the samples into fragments, it became apparent that the call and response brass and woodwind lines would form a fundamental motive and one that could be identified within the tune. This can be heard from 0:15 seconds.
As the saxophone, trumpets and trombones all differed in timbral quality, it was imperative to align the tone of each line as closely as possible as each line is clearly from a different recording session using different technologies and approaches to engineering. The source material of the samples including the *Big Fat Horns*, provided great harmonic richness, however it lacked the timbral quality often associated with Latin horns. This made it difficult for the fragmented samples to take shape and form within the tune. I implemented the Universal Audio *Studer A800* for the tape emulation and EQ in order to sculpt and layer the brass and woodwind instrumentation as a cohesive unit. As opposed to setting up a channel bus, which would allow me to have the same effect over all instruments, I isolated and coloured each sound with an independent *Studer A800* plugin.
Applying this approach to each channel strip first allows me to isolate each track allowing the use of a spectral analyser to provide a graphical representation of the frequency bands. The spectral analyser allows a better understanding of the characteristics of frequency of each track (sample) assisting the combinatorial processes. When happy with the blend of brass and woodwind instrumentation, I bounced each phrase into the arrangement allowing for the characteristics of the Studer A800 to provide sonic value. This allowed me to use the warmth of tape emulation and EQ to consolidate all phrases into one new section. Because each line has again been manipulated and rendered, I consider this to be a re-sampled phrase with my sonic signature applied through the implementation of the Studer A800 now presenting as a fundamental characteristic in shaping the timbre and dynamic of lines. My next approach was to ensure that each brass and woodwind phrase was integrated into the arrangement, linking all lines to a common section. I then added a channel bus send, linking all brass and woodwind instrumentation, adding a new Studer A800 and including a Pultec Legacy EQ.
This allowed for further refine the manipulation of each sampled section by gluing the sounds together with tape compression and EQ.

Once happy with the overall direction of the sound of the brass and woodwinds instrumentation, I proceeded to focus on the rhythm section. My next step was to design a drum pattern that I felt was i) a representation of break-beat drums with an electronic sound infused with acoustic elements and ii) something that would compliment the already discovered rhythmic values of bass guitar and piano samples. I had chosen a number of drum kit sounds, which I loaded into Addictive Drums 2, an XLN Audio product, to help program and refine the drum sound. Once I designed the fundamental rhythmic idea, I mixed the kick drum, snare and hi-hats together, rendered the file and incorporated this motif into my arrangement to hear how it would integrate into this environment. Once I incorporated the drum pattern into the arrangement and played it along with brass and woodwind instrumentation, it was evident that there was too much space; with the drums not supporting the instrumentation within the arrangement. I decided to compose a separate hi-hat line made up of additional ghost notes to assisting the hi-hat pattern, further affording the drum pattern more fluidity and crispness in the higher spectral range of the mix.

When I chose the bass guitar and piano samples to complete the rhythm section, I ensured that they worked harmonically and culturally; offering an even balance of traditional Latin flavours fused with electronic influences. This would further set the premise for the inclusion of additional instrumentation indicative of Latin flavours to bind all textures together. The characteristics of source material in the style I am composing, contribute also to the harmonic structure of the piece, for example; if I chose a bass sample from a sample pack, I tend to allow the harmony of the sample dictate the motif. However, in the case of Cultural appropriation, I ground the work around any motif or sample that I find most appealing or that best suits re-contextualisation as heard in the bass guitar also heard at 0:15 seconds. I often allow this motif to dictate how I best arrange a work in order to showcase the appropriated sample; just as a bass guitar rhythm and harmony serves as the backbone of many other genres of music. The harmonic
progression arrived at through this process cycles from and E minor chord to a D minor chord. The original bass and piano sample phrases were in D minor and one bar in duration.

Once incorporated into the arrangement, I doubled the length of each sample (bass and piano) and pitch shifted up one tone to an E minor shape. This would allow for small harmonic movement within the tune, which supports the brass and woodwind instrumentation. When combined with the brass and woodwind section phrases, the aural perception of harmony could appear far more complex than it actually is, due to how I have placed the horn section harmony over the bass and piano harmony. From approximately 0:20 - 0:23 seconds within the introduction of the work, the trumpet harmony offers what appears to be a sustained harmonic approach, however, the trumpets are merely playing the V (5) chord in which I have placed over the II (2) chord of the harmonic structure. If applying traditional diatonic harmony to this work, the V chord in D minor is A7. Therefore the trumpets (in concert pitch) would be playing an A7 dominant shape made up of A, C#, E and a G. If this shape is played over the E minor chord, we then hear the IV (4), VI (6), I (1) and III (3) notes combined with E, G and B, as the D minor and E minor chords are not 7th chords. This combination of notes theoretically outlines an E minor chord with the inclusion of 7th, 11th and 13th note choices, essentially making for combined harmonic shape of Emin7 with the 11th and 13th or E minor 13th, with the inclusion of the 11th.

I combined the bass and piano harmonic parts with drums, brass and woodwind instrumentation, then set another channel strip bus allocated specifically for the bass and piano. In order to create a consistent sound throughout the arrangement, I again used the Studer A800 and Pultec EQ to combine the two sounds, adding additional timbral quality as previously used for the brass and woodwind instrumentation. The channel bus is independent, which allowed me to assign as much or as little signal from the Studer A800 and Pultec EQ as required, therefore presenting more autonomy within the process to further refine sounds. As the bass and piano samples were already of a Latin flavour, the
focus of editing and sound transformation was directed at the quality and sonic value of the sound to ensure a cohesive sounding work. Once I aligned the sound of the bass and piano with the drums, my next undertaking was to find, splice and edit a number of Latin percussion samples to compliment the already existing Latin infused rhythmic foundation. As my interest was to capture and display the technique of Cultural appropriation, my approach to sourcing Latin percussion samples was purely through sample packs and not searching through pre-recorded music.

The majority of commercial sample packs have an abundance of Latin and World percussion samples for incorporation into new works. It is a producers’ discretion as to how they define their interpretation of tastefully and legitimate sounding Latin percussion and the role it plays within music.

![Figure 5.8: A representation of additional percussion.](image)

To provide context for the new work and broaden the scope of how differing elements from varying cultures and genres can be fused together to create a new tune, I began the search for an acappella vocal to incorporate into this tune. Choosing an a cappella that would be i); suitable for the track and ii); one of the same or similar harmonic movement to the rhythm section, would always present a challenge. When choosing the a cappella, a number of harmonic combinations will work, however, some better than others for the diatonic structure of the original a cappella source may differ to samples already chosen to outline the harmony in a new work. The design of the melody also dictates what harmonic combinations will work. This is similar in approach to Lyrical Fragmentation.
Theoretically, for this exploration, any a cappella recorded in D minor should work, however it depends on whether the a cappella is in a harmonic, melodic or natural minor. It is also dependent on the harmonic structure of the original tune from which the a cappella sample was taken, and if there are any backing vocals incorporated into the track. Another variance that may present hurdles is the use of melodic approaches incorporating blues styled intervals such as the use of a flat 5; flat 7 and flat 3rd note approaches. In some instances melodic approaches based around the relative major structure of F major may even work, however this again is dependent of the use of such notes like B flat in an F major scale and the relationship of B flat in a D harmonic, melodic or natural minor scale.

After hours of searching for an a cappella recorded in E minor, D minor, F major and in some instanced G minor and B flat major, I found one from a group called the Reel People, who have influenced my style for the last 2 -3 years. It was comforting to find an a cappella that, with precision editing, I felt could be recontextualised and incorporated into the new work assisting in outlining the compositional approach to Cultural appropriation. An issue with utilising an a cappella in a remix situation is the amount of selected phrase one chooses to use. As noted when discussing Mario’s *Let Me Love You* (Mario, 2004), I felt that only a certain portion of the vocal would allow for editing in order to make for a consistent vocal contribution to the new work. This becomes an identifiable choice with the inclusion of a synthesizer solo after the 1st chorus, in place of what would be the second verse. I decided to add a jazz/fusion styled guitar solo with a slight amount of overdrive to contribute to the smoothness of the track as well as adding a little bit of grittiness to the overall feel; unconventionally, I decided to use Ableton’s Push as an approach to constructing a synthesizer solo. As I do not possess the technical ability on keyboard the Push controller would allow me to perform the melodic and harmonic shape I was imagining. Within Ableton, I refined the synthesizer sound, including the programming of velocities, to give the solo a more humanised feel as opposed to the generic MIDI mapping of programmed instrumentation. This approach to the construction of a solo in this context was very successful and one, which further added another layer to an already full and rich sounding composition.
In crafting the solo, heavy emphasis was placed on detailing the volume of note velocities in order to offer further spectral nuances throughout. Given the nature of the soft synth, when a note presents significantly louder in volume to another, the quality of the signal begins to fragment, thus offering a semi distorted sounding note. This provided significant colour to the over sound of the solo and also presented greater variance in the individual “voice” of the chosen sound. Achieving varied nuances through this approach I believe can be attributed to the same nuances exhibited by a vocalist or instrumentalists in order to capture and articulate emotion in a performance. By increasing and pushing the boundaries of velocities within MIDI instrumentation, I believe this approach (in the right context) can offer aesthetically interesting and dynamic outcomes not widely experimented outside of the physical instrumentation domain in popular approaches to composition.

Throughout both the mixing stages of this new work, I used a reference track to reverse engineer and replicate the desired sound. For this track I referenced *America Latin* (Brasil Bam Bam Bam, Marcos Vale, & Patrician Alvi, 2014) to extended the influence the culture into the production techniques and musicianship across all instruments, and to ensure that I am able to best champion the use of the samples I have incorporated. This was done in an attempt to better ensure the hybridisation of cultures.

### 5.3.2 Summary

Obtaining sonic authenticity can pose a significant challenge when implementing non-western sample integration. Challenges extend to the ‘sonic quality’ of recorded source material and whether source material is suitable for re-appropriation. Furthermore, if multi-layering samples to form a ‘new sound’, each sample must exhibit relatively even amounts of sonic quality to ensure the best spectral outcome possible. If an individual sample is too spectrally complex, sculpting the sample utilising equalisation to match can polarise the sonic quality of existing samples. This in turn leads to an overall juxtaposition in sonic quality in the ‘new sound’. Although in some contexts this may be
a desirable outcome, however, this outcome does not suffice when aiming to achieve sonic authenticity. Therefore, utilising single shot sounds to sequence offers a solution to capturing sonic authenticity as well as sourcing loops recorded by specific manufactures’ who offer catalogues of material recorded by specific producers. It is becoming common to find sample packs filled with varied flavours of cultural or world music elements. This is due to manufactures commissioning session musicians and producers from wider cultural diversity and backgrounds to design and record sample packs for their catalogues. I’ve drawn on all of my knowledge over 30 years of saxophone study and experience to achieve sonic authenticity within this recording. Recorded samples exhibit approaches to Latin, jazz, funk, soul, neo soul and blues, with the utilisation of pentatonic shapes found in approaches to Asian harmony and rhythmic and melodic approaches that can be attributed to baroque music.

In some instances it is the shape and feel of non-metric timing and non-western tuning that allow for significant points of differentiation between musical output and creativity. I believe this is also due to producers being able to create revenue streams from this undertaking, but more importantly the constant search for new and unheard textures to be used in new musical works. This approach to composition is one of my favoured approaches to the construction of a new work, as my core harmonic and rhythmic foundation has been developed from studying and performing varying genres of music from around the world. As technology further develops, so does the ability of sharing new music. Therefore, I believe this approach to composition when using technology to construct a new work will soon become a conventional and dynamic approach to composition.

With the continued inclusion of non-western appropriated textures and sounds into new music, I believe cultural barriers are slowly dissolving due to the collaborative efforts of musicians and music producers throughout the world. Throughout my research and professional experience, musicians and music producers have always borrowed from the past in order to build on the future, but also offer those from differing cultures further understanding of communities, cultural practices and socio-historical events, whilst
developing individualised musicianship and appreciation of our human race. I find great excitement in the construction of ‘new sounds’ and ‘new textures’, however, find more excitement in the appropriating of non-western textures and sounds within a new work. This presents an endless path of self-discovery and education a liking to the unpacking and implementation of extended harmony in jazz music. This allows for the greater accumulation of knowledge and appreciation of original source material, whilst providing opportunity to develop musicality and extend on intellect.
5.4 A Demonstration of Constructionist Collage

5 Hours In Brooklyn

As previously discussed, each approach to composition requires the implementation and use of developed techniques combined with critical listening and thinking skills to achieve purposefully conceptualised results. Throughout this study, I have outlined a narrow margin limited to four approaches in which all showcase the techniques outlined. Each approach presents hurdles when utilising techniques to achieve a selected outcome, but none more so, than Constructionist Collage. The success of this approach is based on the timbral quality of source material and how it’s edited, manipulated and recontextualised into a new work. Compositions implementing this approach are usually solely constructed of samples collected from multiple sources. Rather than using a few drum sounds or just a sampled riff from a record as the basis of a song, they often used many small pieces intricately placed together to create a dense soundscape. A recent article in the South China Morning Post stated,

“Endtroducing (DJ Shadow, 1996) and the Avalanches’ Since I Left You (Avalanches, 2000), were landmarks in the art – and science – of sampling. Both debuts made new music almost exclusively out of old sounds: riffs and grooves and snippets of speech harvested from forgotten vinyl records and carefully assembled into original songs. The works felt modern and ancient at the same time. Neither act invented the method, but each expanded its potential for emotion, humour and technical finesse” (South China Morning Post, 2016).

The continual development of recording technologies and accessibility to smaller and more affordable hardware units (and even plugins), allow individuals to capture and craft an elevated quality of sound. Standardisation in the quality of sounds is becoming more apparent upon each release, further contributing to the growing culture of sampling, editing and recontextualisation of sounds and textures into a new work. Due to the quality of sounds being distributed in sample packs, it is common practice among producers
across the globe to implement constructionist collage as an approach to composition.

The quality of samples allow for a more consistent work flow throughout the treatment phase, however, seldom allow for the widely discussed characteristics often found in the quality of samples appropriated from more traditional (vinyl) sources combined with the processing of certain samplers. As Bartmanski and Woodward state, *there is a phenomenology to every technology and mythology to every medium. While deeply intertwined, these spheres also respond to different sets of social imperatives and individual desires, so that what may be an improvement regarding the user’s convenience does not necessarily mean the same regarding the user's experience* (Bartmanski and Woodward 2015 p.35).

Within my own compositional process, I have experience the convenience of “*crate digging*”, especially in scenarios where I have been unable to locate relevant source material, and have turned sample packs for inspiration. This process at times results in music that has a limited shelf life depending on what is utilised from within a sample pack. Most sample packs house several folders entitled, bass, drums, loops, single shot and construction kits, all offering a number of possibilities for any producer. If utilising fragments of loops to construct a new work, at some point these fragments will become very identifiable with a new work, making them very difficult to reuse in a later context without significant manipulation. Furthermore, there is always a distinct possibility the same fragments can be found in works from producers who also purchased the sample pack.

Nowadays, a blend of samples collected from crate digging and sample packs is a more common approach to Constructionist Collage, however, there is also scope to recycle entire sections of original, further accumulating a catalogue of bespoke source material. Essentially the appropriating and re-contextualisation of samples become “*re-appropriated*”, and if they continue being added to, the recycled source material could be viewed as exponential re-appropriations of an original source.
5.4.1 Details of Editing Decisions

The inspiration behind *5 Hours in Brooklyn* was to utilise the Constructionist Collage compositional styling’s of DJ Shadow. In showcasing such a traditionalist approach to Constructionist Collage, all textures and musical ideas needed be sourced from vinyl. In this particular instance, due to the limitations of access to technology, I used a combination of vinyl along with a number of vinyl sample packs I purchased from varying websites. I have chosen to explore the approach of Constructionist Collage in the style of chilled hip-hop. As mentioned earlier chilled hip-hop is primarily a hybridisation of jazz and hip-hop. Chilled hip-hop can be closely aligned to the style of experimental hip-hop, outlining harmonic and textural choices considered more experimental than those of traditional block harmonic approaches. As a starting point I chose individual drum kit sounds for this work, which were all sourced from various locations. Given my experience as a studio musician and record producer, I developed a very specific drum kit sound that as a collective piece of instrumentation would showcase recorded sounds indicative of genres including, hip-hop, jazz, funk and soul. For example, I employed a kick drum sample collected from a sample pack offering a ‘warmth’ in samples indicative of 1960s Motown drum kit production when recording to tape. The focus point of this sample pack was based on the replication of Motown drum kit sounds, so once integrated into my drum kit sound, the location of this sample allowed me to achieve a warmth and roundness in the low harmonic end of my drum kit sound, further allowing isolation and differentiation between individual sounds when adding a bass guitar to the mix.

Heavily influenced by jazz, I have always enjoyed the warmth and non-invasiveness of recorded hi-hats sounds attributed to records produced roughly of the same era and extending into the early and mid 1970s. With the warmth and roundness of my kick drum sound, I located two single shot hi-hat sounds (one open and one closed), from a live jazz recording which I sampled from and added these to the overall kit construction.
As the initial capturing of the hi-hats was bright and relatively thin in spectral depth (due to the live environment in which it was recorded in), I made a creative decision to add a Latin percussion shaker to the construction of the drum kit. Adding this characteristic of sound would eventually allow layers to take on a bespoke quality, that becomes its own identifiable sound within the construction of the already conceptualised drum kit sound. My intent was to keep the combination of the drum kit sources to a minimum as often displayed throughout *Endtroducing*, therefore only choosing to utilise a kick drum, hi-hats, snare drum and cymbal configuration within this composition.

Following the collection of the kick drum and hi-hats was the locating of a snare drum sound. Again, the premise of this search was guided by the notion of locating a sample that when added to the construction of the drum kit would offer an individualised, yet purposeful contribution to the blanket of sound. Thinking about what would be an appropriate snare sound to integrate into the above configuration, I located two very distinct sounding snare drums within a Samplephonics sample pack that blended well. Both of these snare drum sounds had been recorded with varying production techniques therefore making for a very unique sounding blend of snare drum sounds if properly pitched. Once combined, I felt the clarity of sound would present as a blended snare drum indicative of late 1990s and early 2000s neo soul and hip-hop record production, namely heard throughout D’Angelo’s *Voodoo* (D’Angelo, 2000) album of 2000.

Furthermore, I avoided incorporating any snare drum sample pitched too low, as the incorporation of samples too juxtaposed to each other in pitch only complicate the tuning process when consolidating the overall drum kit sound. Tuning each singular sound within a sampler, allowed me to generate a consolidated sounding drum kit, which in turn, provides continuity and familiarity, to what is otherwise is a drum kit constructed of contrasting sounds. Hence the terminology within sample packs – Construction Kits.
After the consolidation of drum kit sounds, I turned my attention to sourcing harmonic material for the piece.

In keeping with a ‘hybridisation’ of jazz and hip-hop, my aim was to incorporate harmonic shapes indicative of albums such as Herbie Hancock’s *Head Hunters* (Hancock, 1973), or more recently Robert Glasper’s *Black Radio* (Glasper, 2012). I was looking to capture and source a semi-elongated phrase on electric piano (namely a Fender Rhodes), in addition to create a warm and spectrally rich harmonic flavor to this work. Again, I did not have to look far, as the pack of vinyl record samples I had recently purchased contained a number of Fender Rhodes phrases of varying lengths that I identified as possible harmonic material for this composition. The quality of harmonic material influenced the key chord progression due to its simple modular change. However it also offered rhythm within a rhythm, in which further influenced the placement of additional instrumentation and textures. I incorporated a single arpeggiated synthesizer line to accompany harmonic material, offering multiple polyrhythmic nuances to the now consolidated phrase.

I have chosen a sample phrases modulating from the, I (G minor) chord to a VI (D) chord in G minor. The rhythmic placement of each transition allows for the harmony to glide gently across the rhythm of the drum without any interference. The initial sound of the electric piano was rich in overall timbral complexity and density, therefore once imported and arranged I applied incremental EQ to further balance and even out the sound. This practice would allow for the successful inclusion of additional layers of similar spectral integrity, adding more variance in harmonic richness. Not choosing to modulate the harmony throughout the arrangement, allows for greater emphasis to be placed on the use of samples and how each choice has been incorporated into a new work. To coincide with the electric piano, I have also chosen to use an arpeggiated synthesizer line, that synchronises with the bpm (beats per minute) of the arrangement. I have placed the arpeggiated line over the top of the electric piano as it houses similar spectral characteristics and in addition, offers depth of field whilst providing variance in
quality of sound due to the original recording. Within the overall arrangement, this combination of sound is only showcased within certain sections, namely the introductory section and interlude sections of the arrangement.

It became apparent that by implementing Constructionist Collage as an approach to sample-based composition, multiple variables such as the quality of recorded source material contribute both positively and negatively to the overall compositional outcome.

It is plausible (and I have even experienced this myself), that if only sourcing material from vinyl and sample packs, an individual’s workflow can become fragmented due to the nature of not always being able to source suitable material for a new work. However, if a composer/music producer has performance ability across one or more instruments, it is again plausible that throughout the ‘crate digging’ journey, one may draw upon identifiable influences that could be reproduced through imitative performance and integrated as new elements to the work. Therefore, it may not always be necessary to sample content to produce additional content for the new work. A traditional Constructionist Collage approach may imply, that spending a prolonged amount of time sourcing material may in itself be a part of the compositional process. However, I also believe this approach is subject to writers block, as fragmented workflow combined with lack of source material can attribute to inconsistency and lack of continuity in the creative process. A solution was the inclusion of sample packs of loops and single shots sounds in conjunction with live-recorded content to create an outcome. Not limiting one’s self to a singular sampling process in this context seemed to lend itself to a more timely approach to compositional outcomes.

After identifying and choosing the relevant harmony for the work, identifying a suitable bass line and accompanying guitar line was the focus of my next task. As previously stated, whilst I have selected harmonic phrases on loop, I often utilise a guitar or keyboard to play along with the chosen source material in order to gain a better understanding of what may suit the composition, incorporating additional harmony and in this instance, developing potential bass lines. Once the harmonic movement have been
ascertained, my focus turned towards the development and recording of my bass line. The design and construction of this line was based around listening to bass lines often heard in D’Angelo recordings that are motif and cyclic based, yet still follow the harmony of the tune.

This approach is indicative of r’n’b and neo soul, where the bass line (like in Motown recordings) act as a stand-alone motif. The bass line was developed around the harmony of a Dorian scale approach, but namely using my minor 3rd intervals to show case the minor harmony, with extended ascending lines to further outline modal harmony. Given the design and overall functionality of the bass line, I felt it was fitting to double track the guitars and mimic the bass line. As a production approach, I hard panned one guitar left and one guitar right in their respective channels (octaves apart) to gain a more dynamic spread in sound across electric piano, synthesizer and guitars.

Utilising the approach of ‘crate digging’ to locate bass guitar source material I was unable to source any relevant bass lines and guitars lines for the work therefore; I adopted a similar approach to the recording of guitar in Cultural appropriation recording a number of live instrumental phrases in order to complete the work. Utilising the approach of crate digging to source material can be a very fruitful undertaking, as observed in the design and construction of DJ Shadow’s Endtroducing, however, a possible negative factor to this approach is in the amount of time spent locating source material which become fundamental motifs within a new work. The multi-sourcing approach I took is an adaptation of the original Constructivist Remix practice.

I believe that identifying possible hurdles when employing the above approach will only further aid the compositional practice of those wishing to adopt elements of this approach into their own practice. My vision for this composition was to include a vocal melody. The design of the melody, both lyrically and melodically, would be developed after the initial construction of all other musical elements, including the incorporation of any additional instrumentation that may contribute as a referencing point for vocal sample selection and development. After sourcing material and developing bass/guitar lines for this work, I began collating all source material into my DAW to commence the
construction and arranging of the work. Another important technical consideration is to ensure the all-material exhibit equal sample rates.

This is not only with reference to each other, but also, with reference to the internal clock source and sample rate of your DAW. A trap can be importing samples into Ableton Live but not turning off the warp function that will allow the program to re-calculate the clip length as it deems suitable which, in some instances, dictates a change in speed, timbre and perhaps pitch, making the arrangement fragmented and vocal material inconsistent with other source material. For example, it is possible to end up with some samples a semitone or tone away from the original source. Another trap is to the import samples with sample rates different to the clock source, resulting in samples being shortened or extended in length.

A priority throughout my production process is to tune each individual drum kit sound to the harmonic context of the work. I always tune my kick drum to the tonic of the arrangement, so that the kick drum coincides with tonic of harmony being played by instrumentation. I also apply the same approach to hi-hats and snare drums (even if they are blended in multiples), to ensure harmonic continuity through the drum kit. One issue that was prevalent on this occasion is the incorporation of multiple snare drum samples to create one overall tone. In this instance it was imperative to treat each sound independently by assigning an EQ and spectral analyser in order to gain a better understanding of the frequency bands of individual sounds, avoiding greater spectral complexity. By implementing this approach I cancel out any overtones, phasing or other characteristics that will impact negatively on the overall blended sound. The same approach can be adopted for tom-tom drums, however more limited the to timbral quality of samples. The re-tuning of each sound through can result in a significant amount of variation through pitch and sample length, thus either making the natural origins of the sound inaudible. Great emphasis is placed on the continual tuning and manipulation of drums sounds throughout the remixing process. Although a subjective practice, I find that having more control of the characteristics of each sound throughout the compositional
process allows me to fine tune any nuance impacting positively or negatively within the arrangement.

Having spent significant amounts of time developing my drum kit sounds I did not see any need to further manipulate them to suit the other instrumentation, therefore I consolidated these sounds into one sample/loop that will be used throughout the rest of the compositional process. After incorporating the design and construction of this loop into the arrangement, I turned my attention the use of harmony within the work. The only sculpting of sound added to the drum track was the Universal Audio Neve 1073 pre amp and the Studer A800 tape emulation plugins to provide additional cohesion and warmth to the kit timbre. The Studer A800 tape emulation plugin emulates the timbral qualities of recording to analogue tape. There are varying philosophies on the characteristic of sound with regard to tape and the emulation of tape, but for this study, I will refrain from such discussion.

Throughout this study I have chosen a select few plugins that I continually used throughout each demonstration. Variants in characteristics of plugins have been incremental, nevertheless a production technique in which I have developed contributing to my identifiable production sound. Therefore, although speaking of specific characteristics, this study is not about philosophical approaches to incrementally adjusting sound for the purposed of sublime clarity, but more about how such techniques allow for artists using sample based music further avenues to process and manipulate sound accordingly to suit a new work, as the source material often differs. Once the arrangement had been mapped out, I was then able to further identify musical phrases that could be further developed with additional instrumentation and textural ideas. The first texture was the use of cymbals to further identify and outline the beginning, the end and accents of specific sections and phrases. Therefore it became important to locate and identify singularly recorded cymbals samples.

Endeavouring to capture a single cymbal sound from a vinyl source is a difficult undertaking due to the overall mixing of a record, but more to the point, finding an
isolated cymbal hit that hasn’t been blended together with a kick drum or any other instrumentation. Therefore, I believe it’s very important to have a comprehensive source of single shot cymbals that can be purchased and collected from sample pack distributors. Not forgetting the multitude of resources available to clients from major DAW manufacturers. There is also the possibility of recording cymbals given one has the necessary resources. After the incorporation of the cymbals, there were still a number of sections within the arrangement that I felt could do with adding textures, namely throughout the harmony. I decided to record a grand piano in the style of jazz to fill out the harmony, whilst adding additional rhythmic value to the overall sound. After sampling the piano and splicing the sound into portions of rhythmic value, I applied additional amounts of plugin processing to assist with the blending of sounds once incorporated into the overall arrangement of the work. Because the newly incorporated piano recording was juxtaposed in timbral quality to those of samples found, it was imperative to gain continuity of piano harmony before the inclusion of the vocal harmony.

Unable to locate fragments of suitable source material, writing and recording the vocal harmony presented as a total juxtaposition in compositional process. The vocal was written and performed by vocalist Liam Allan, being recorded and integrated as a traditionalist approach to record production by myself. Therefore, outlining the parameters of recording and the inclusion of the vocal into this work, deviates form the Constructionist Collage approach to composition. Although similar techniques of splicing, editing and arranging are used in the construction of vocal melody and harmony as outlined in Constructionist Collage, the focus of this approach is the emphasis placed on combining source material collected from vinyl or sample packs. Therefore, outlining the processes of recording the vocals for this work irrelevant to a Constructionist Collage approach to composition.
5.4.2 Summary

Although there is significant merit in the utilisation of this approach, I feel that in some instances, this approach to composition can become semi-redundant, especially when the artist relies too heavily on the juxtaposition and fragmentation of collected samples to form the foundation of leading motifs within a new work. Applying critical listening skills to this approach are in fact some of the most comprehensive in order to achieve specific results; however, I believe using entirely appropriated and sampled textures to creative an entire new work may indeed limit the quality of overall sound. Although an artist may present compositional merit in their ideas and thinking, the question begging to be answered is; will the technical idiosyncrasies attributed to this approach become prevalent within the music when sculpting and manipulating sound sampled sound in order to bind samples together.

Alongside of highly developed critical listening and DAW editing skills, I believe artists using constructionist collage to create new works for sourced material will need to add to their artillery of skills, a highly developed and comprehensive understanding of signal flow and sound sculpting techniques. The trade off is, if an artist can create a series of new work using Constructionist Collage as an approach to composition, I believe the rewards and over all output of music allows those listening a deeper understanding and tangibility of process. I believe it is easier for a listener to envision the constructionist nature of sound and how its constructed, thus being similar the construction of a dwelling using entirely recycled and re constituted materials.
5.5 A Demonstration of Improvised Remix

Covent Garden

I have chosen to write and showcase an Improvised Remix work constructed of smaller motifs and textural ideas. In the event of live performance (a critical feature of improvised remixes), this will allow for differing strategies during performance, further demonstrating the greater scope of small samples for triggering a variety of musical combinations. This work was developed with both studio and live performance approaches in mind. I have chosen to incorporate a vocal that in live versions often defines the start, ending and transitioning of phrases throughout the work. Another option is to utilise a vocalist in a live context, allowing for a more open and dynamic musical performance. In composing this work I allowed for smaller percussive and rhythmic consolidated stems to play an integral role in the construction of this piece; with the majority of elements cycling within 4 bar phrases. This allows for more autonomy of instrumentation when triggering and looping in live contexts. This is especially true for drums and bass that define rhythmic and harmonic foundation. Building this foundation allows time for an artist to fragment, manipulate and perform textures over the top, whilst having a solid harmonic and rhythmic base.

5.5.1 Constructing the work

The inspiration for this piece was to replicate the ambient sonic textures and aural dynamics of riding the Tube in London, England. I was interested in the rhythmic phrasing of the train creates when in motion and felt I could sequence a rhythmic phrase to replicate these rhythms. By constructing rhythmic phrases utilising single shot samples and smaller looped percussive textures, I was able to provide an industrial and mechanical sounding shape to the rhythm of the track. I feel the outcome of this work replicates nuances I experienced when the train is travelling at high velocity, passing
exposed steel beams and the effects of the reflection of sound off the brick tunnel. Combined with the steel wheels of the carriage, the expansion and contraction of the rail lines offers their own set of rhythmic variance as the carriages pass over the distance between each section.

The design of the harmony of this work was equally important because the mood needed to reflect the experienced of riding the tube, an enjoyable aspect of this city. Trains in the tube often roll from side to side and the sound of air passing through carriage doors, add aural characteristics to the overall experience. The harmony is designed so it can be perceived in two modulations. The first is from the II (2) chord to the, I (1) chord, and the second is the IV (4) chord to the, I (1) chord. Both perceptions are actually correct, and this sense of ambiguity was deliberate in order to toy with the listeners’ perception of harmonic movement. The result is a blended series of harmonic shapes not defined by any particular form of symmetry. The modulation of the harmony allowed for the integration of a smooth but angular synthesizer line first heard at 1:29-1:49. The utilisation of a modulation wheel on a MIDI controller allowed for slight pitch shift and minimal glissandi to give this featured synthesizer a representative character of forward motion.

Once the harmonic and rhythmic foundations were consolidated, I turned my attention to sourcing vocal material. The inclusion of a vocal part for this work not only needed to support harmonic choices but allow for symmetrical fragmentation. Too much rhythmical variance in a vocal part would interfere with the rhythmic bed of the percussion exhibiting a potential juxtaposition in conflicting poly-rhythms.

Therefore, sourcing smaller fragmented vocal parts would provide suitable vocal content for improvised remix. Sourcing a specifically shaped vocal was of paramount importance. The vocal needed to offer a rhythmic character comprising shorter lyrical phrases. Shorter phrases would allow for its successful fragmentation, splicing and triggering in live contexts. I commenced searching for vocal samples on Traxsource within the genres of dance/electronic.
I soon discovered a vocal called *Setting Sun (Dirty Vegas, 2013)* by a group called Dirty Vegas, with whom I was already familiar. I located Dirty Vegas’s original recording and discovered there were a number of approaches I could take to its segmentation due to the initial rhythmic displacement of the vocal. This vocal recording offered an array of textures that, if carefully spliced, edited and fragmented, could be successfully integrated into this work. When I purchased the vocal recording the liner notes confirmed it had been sung in B minor. The focus of my search was towards any chord progression either in B minor, or a semitone either side, as an incrementally shifting the pitch shift would not significantly change the quality or degradation of vocal quality. I limited my search to a semitone, as I have found that pitch shifting and resampling a vocal works best in increments no larger than a tone. However more recently, new pitch shifting technologies have been developed that allow for more seamless re-pitching of vocals over a wider range.

5.5.2 Details of the editing decisions

I had originally designed and constructed portions of *Covent Garden* to showcase this approach to composition, however discarded the arrangement in the early stages of the research to substitute with a drum and bass styled work set at 175 beats per minute. The substituted work offered the same approach to composition but with the integration of vocal material I had previously recorded in another work. Nevertheless, I found reverting back to the original arrangement of *Covent Garden* and further extending on my ideas, allowed me to contextualise the work by associating it to a well-know piece of London infrastructure, making for an interesting approach to composition. I imported the vocal into Abelton and I chose the Corpus plugin to further manipulate the tonal quality the then re-imported it into Logic.

It was the programmable parameters of the Corpus plugin in combination with some equalisation that contributed to the overall quality of the final motif that I found would suit the work. Another issue encountered throughout the process of editing was a reverb tail printed to the vocal. When played by itself or within isolation, its presence glued the arrangement together and takes on its own sonic value.
This contributes to the dynamic range and depth of the tune, however could be perceived as a negative aspect, as the reverb tail creates a specific overtone very difficult to remove when combined with multiple textures. This further outlines the complexities of combining multiple sounds in order to consolidate a sound as a fundamental motif. After much confusion and further editing of the vocal material, I realised the vocal purchased from Traxsource was not in B minor but was in fact recorded in D minor. A clash of minor and major 3\textsuperscript{rd} harmony including dominant and major 7 harmony would not allow for the harmonic fluidity I had envisioned, instead offering a mix of minor 2\textsuperscript{nd} dissonance. Not only did the tonal quality of the vocal not suit the harmonic bed, the lyrical content lacked sufficient enunciation of words to coincide and compliment the construction and design of the percussive samples. Although the vocal motif does serve as a feature and this approach to sample-based composition is about the splicing and fragmenting of musical material, I felt significantly fragmenting this particular vocal to place throughout the arrangement posed too difficult, therefore decided to look for additional vocal and instrumental material to incorporate.

I sourced a generic vocal sample located in the Logic Pro X sample library, which was in B minor and shorter in length than Setting Sun (Dirty Vegas, 2013). Instead of experimenting with pitch shift, I opted to utilise a vocal motif in the same key as the arrangement in order to spend more time on constructing an arrangement for improvised remix purposes. After further rhythmic manipulation again utilising Ableton’s Corpus plugin, I consolidated the vocal motif into a small percussive phrase. In order to lengthen the phrase, I found a single-note trumpet line that, if edited and manipulated, I believed would complete a purposefully created vocal and instrumental phrase that provided a call and response approach to melodic development. The recording of the trumpet sample uses a ‘jazz’ approach and has indicative bebop undertones.

I spliced and repositioned each note in order to create a more ‘humanised’ feel to compliment the rhythmic values of the vocal motif. Once consolidated, I rendered each sample and re imported them into Logic Pro X. The focus of the harmonic structure surrounds the bass guitar and Fender Rhodes piano, which sit deep within the
arrangement. As previously stated the architecture and construction of developed smaller phrases allow for greater re-workability in a live context when triggering with samples.

After importing all of the remaining samples and loops into Logic Pro X, the next phase was to begin organising and arranging the sounds into specific sections. In keeping with the notion of Improvised Remix, the premise of this composition would be to perform it live. I felt it was important from a performance perspective to construct two very distinct sections, section A and section B, otherwise known as a verse and chorus. As with the creation of You’re The One, Covent Garden, was also developed using Ableton Push 2 technology. After consolidating stems into sections, I mapped selected control parameters to trigger and perform different textures. Assignable parameters were allocated to stems, sounds and audio effects control. Stems were variously grouped onto selected pads allowing almost any configurable combination desirable. Using the clip mode in Ableton Live allowed me to reconfigure the tracks into what could be viewed as sub groups. For example, if running eight tracks, the first four could all be percussive elements that are assignable to channels 1-4. These channels can be assigned to the Push control surface with clips being triggered across X & Y, axis, allowing the performer the opportunity to configure pads to cater for individual technique.
In order to perform this work in the style of Improvised Remix, it is imperative that a considerable amount of time is allocated to the configuration of stems onto groups and assignable parameters. The ‘light blue’ highlighted pads represent the percussion samples which have been assigned across the ‘X’ axis from channels 1-4 and the white pad indicates the triggering of a sound. Highlighted pads also represent the configuration of single shot samples loaded into a sampler or the order of samples in ‘clip mode’. As the material acts as the voice of the artist, the success of the performance is driven by the configuration of tracks and the layout accessible to the artist. The features of Ableton Live and Push 2 controller technologies allowed me to loop, extended, splice and re-arrange the sections on the fly including assigning audio effects to each channel. The purposeful combination of Push’s configurable settings, allows an artist to map, arrange and perform the song supporting approaches to Improvised Remix performance. It is plausible to create countless versions of a new work utilising this Improvised Remix approach due to i); the affordance of the technology and ii); the treatment of pre
developed content as individual motifs and parts as opposed to longer consolidated phrases of music. Both strategies allow for the varying of outcomes during performance.

5.5.3 Summary

I believe, after having created this work, that the arrangement of a new work is just as important as the construction of textures and sounds when approaching the composition as an Improvised Remix. Where traditional approaches to form, such as binary and ternary frameworks, still exist in this context, there are arrangements within arrangements and structure within sections, and it is the extrapolation of these that becomes the reference point for the changing of emotion, in the Improvised Remix approach. As I have outlined, control surfaces allow for easy triggering and manipulation, enabling improvised remixes to access many re-combinatorial possibilities. In a live context, control surfaces such as Push, allows for immediacy in adjusting configurable sounds. As the controller acts as a performance tools for immediate expression, a performer may use the immediacy of the technology to their advantage to gain a deeper sense of engagement with the audience.

Even though an Improvised Remix artist may be able to perform their music in a live context, its not always clear the audience can ascertain whether he or she is not playing Pac-Man instead while supposedly DJ’ing. This is a point of some academic consternation (e.g. Montano, 2010). This approach to live performance allows a performer to prove to the audience that he or she is in fact in control of creative choices being performed, and allows them to demonstrate the depth and musical scope of their musicianship. An Improvised Remix approach allows the work to be performed in varying contexts with the assistance of technology. It can offer a greater insight into both the compositional and thought process of a work, and work to counter the generalised perception of DJ’s and electronic artists as only capable of pressing the play button. As (Butler 2014) states;
when we imagine repetition as musical technology, one with particular affordances for the musicians and dancers who engage in it, we can begin to see it as opening up possibilities other than closing them off. It emerges as something other than a side of effective industrialisation and as more than an aspect of musical design. As a core musical technology, it is also crucial to the ways in which performances a fashioned (Butler, 2014 p.177).

Therefore this approach to sample-based composition further supports the integrated use of technology and repetition in the construction composition, blurring the lines between it and performance.
6: Interviews

I designed a series of questions that were distributed to a handful of select individuals around the globe who are composing, producing and performing within the upper echelons of the discipline of electronic music production. All respondents were composers, artists and producers who utilise, or at some point have utilised, the appropriation through digital music sampling as a compositional technique, and/or they continue to actively use live sampling as a performance application.

Interviewing these composers, artists and producers, has enabled me to collect and collate a series of data in support of my hypothesis that there are identifiable approaches to sample-based electronic music production. Their input has allowed me to gain a greater understanding of the varied philosophies and individual approaches to sample-based composition, enriching my research and triangulating data and insights from my own analysis and creative practice. All responses have been extracted from respondents’ answers with full transcripts available in the appendix of this study.

The selection criteria for respondents has been specifically designed to allow for gathering of information from many of the most innovative and influential artists discovered through my research, and ones who have been particularly influenced by technology. In order to seek to better understand of techniques within these approaches to support my research, the interviews aim to provide a greater context for this investigation, and I have encouraged interviewees to beyond comments about the approaches I have identified and to outline their personal thoughts on developing technologies and individual approaches to digital sampling and appropriation as a compositional technique. Each question and indeed the sequence of questions have been designed to allow respondents the opportunity to reflect on previous questions and the answer given to those individual questions. Each question relates to all four frameworks providing an overview of what each term encompasses, however it is also important to outline that all four frameworks can be used as a single compositional technique or in combinations. The following selection criteria I believed allowed me to identify a broad
spectrum of composers, artists and producers across multiple genres, thus allowing the results to reflect a broader range of genres.

This approach avoids limitations that might arise by isolating respondents to those from just one or two genres.

6.1 Selection Criteria

- Artists must have and continue to use Digital Sampling and Appropriation in the form of Constructionist Collage, Lyrical Fragmentation, Improvised Remix and Cultural appropriation as a compositional approach to their work and this must be evident over a consistent period of time or throughout the duration of a specific releases and performances.

- Artists must have an international following and have publicly discussed their compositional and music productions skills and values in the form of social media, print media or recorded content.

- Artists must have not used the technique of Extended Phrase Extraction to consciously build the foundation of composition. Extended Phrase Extraction is the extraction of full-length vocal phrases or an a cappella without the purposeful fragmentation to construct and new work. The premise of this selection criteria was to ensure all respondents purposefully fragment source material to construct a new work and NOT extract a vocal to serve as the ‘hero’ of the new work.

Given the nature of the field, the majority of respondents reside outside Australia and are on tour throughout the year, therefore making the collection of data a difficult undertaking. My aim was to obtain a gender balance between respondents with an age range 25-55 years of age from various locations around the globe. The scope of this study was limited to producers/artists producing music with an emphasis electronic music that lends itself digital sampling and appropriation. Creating a gender balance between
respondents posed difficult due to two contributing factors. The first factor was an absence of female producers/artists exhibiting a commercial identity producing music driven by digital sampling and appropriation within the scope of this study.

If the scope of this study extended its focus to genres such Electro Pop, Techno and Trance, then I feel achieving a greater gender balance would have been a more plausible outcome. After significant amount of research monitoring Spotify and iTunes charts, the majority of commercially recognisable female producers/artists utilising digital sampling and appropriation in their work, are focussing their skills and talent into the Electronic Dance Music (EDM) scene. The second factor was being able to contact the few notably successful artists and receive responses from management. Artists such as TOKiMONSTA, WondaGurl, Fatima Al Qadiri, Crystal Caines and Syd tha Kid are pushing the boundaries of electronic music production and are responsible for some of the most innovative sounds to date; however, as with most respondents, it was extremely difficult to secure correspondence. Therefore, it must be noted on the point of gender representation, that the lack of female respondents provided an unintended weakness.

I have collected, collated and analysed the data, documenting a collection of responses in light of my hypothesis. Comparing these artists’ theories and practices to my own, has achieved significant insights supporting my hypothesis, and also offered further scope and considerations for additional research within this field. As previously documented in this chapter, research supports the widespread use of sample-based approaches to composition. However, the collection, collation and documentation of individual approaches, including the extent that such approaches have influenced individual practices, has previously been limited; therefore this chapter offers significant insight into individuals approaches to composition arising through the collection of the interview data.
6.2 Responses to Questions

Question 1 asks respondents, *do you use digital sampling and appropriation as a compositional technique? If so, what initiated the sourcing and implementation of samples in your work?*

The premise of this question was to confirm that the respondents implement this approach to composition and how this approach to composition was originally initiated.

In response to the first question, multi-platinum award winning record producer Tim Dalton outlines,

> *Initially I was extremely sceptical of sampling, appropriation and re-appropriation of 'other people's material' as I did not consider it to be authentic. While working with US rap group The Beastie Boys in the mid 1980s I did a complete 180-degree on this view. I now sample because I am interested in how existing sounds can be used to create new works that refer back to the original work while producing a new cultural artifact. The process of appropriation is actually a way to pay homage to past and often long forgotten heroes and influencers* (Dalton, 2016 p.1).

Providing further context, Peter Keppler, a world renowned, record producer, mix engineer and front of house mix engineer for the likes of the late David Bowie, Nine Inch Nails, Patti Smith and Katy Perry comments, *I do use digital sampling and appropriation. It allows me to start composing from a new perspective, often using rhythms and sounds I could not have easily created on my own or perhaps even conceived of in the first place. Within an existing work, I use it to add elements not otherwise available to me to create unique moods and textures* (Keppler, 2015 p.1). Keppler follows on to say, *the digital medium is exceptionally malleable, so it is possible to make entirely new sounds not found in nature or with any past or present form of*
synthesizer or instrument, be it electric, electronic or acoustic. This opens up sonic and rhythmic possibilities previously unavailable to any composer (Keppler, 2015 p.1).

It is clear from the data above, that a strong motivation for those implementing digital sampling and appropriation is to discover and develop new sounds. This approach adds harmonic and rhythmic value to compositions, further adding a greater colour to a new work.

The 2nd question was, as a compositional process, do you feel the technique of sampling allows individuals the chance to further develop their creativity? If so, how?

Dalton eloquently outlines his ideas about this, yes sampling and appropriation re-positions the composer and arranger into a curator of other people's material. If you go beyond contemporary art and look at music from the last 20 years you will find that most popular music relies heavily on appropriation and sampling, often with great effect. Hip-hop culture arose from the practice of sampling existing music to painstakingly assemble new compositions without the use of live musicians. Rather than be defined by a specific instrument’s sonic range a sample can be stretched, shortened, pulled and generally manipulated for the original semiotic 'meaning' to be lost or distorted and new more culturally appropriate meaning to be forged. This is NOT disrespectful to the original artifact. Cultural borrowing and cross-fertilisation is a positive thing, and as something which is usually done out of admiration of (and with no intent to harm) the cultures being imitated (Dalton, 2016 p.1).

Dalton’s reference to cultural borrowing and cross-fertilisation outlines the existence of Non-Western Appropriation as an approach to composition albeit utilising differing terms. Cultural borrowing and cross-fertilisation in the form or appropriating source material from a recording and placing into a new recording, borrows specific elements to pay homage or reignite narratives via a post memory process. Therefore, it is plausible to define this approach to composition as one of ‘Cultural appropriation’,
combing the idea of cultural borrowing and cross-fertilisation to define this approach, without directly appropriating ‘cultural, ‘borrowing’, ‘cross’ or fertilisation.

Ben Grayson speaks in support of digital sampling and appropriation as tools for composition and outlines the following with regard to creativity. Most definitely. Like transcription, sampling can be a jumping board to new directions or ideas that may have previously been obscured. A 'drum break' featuring 'live' drumming can breath life into a feel or groove due to its 'human' or un-metronomic playing. This often leads to unconscious creative outcomes like a sparse harmonic rhythm part or less clutter in the arrangement (Grayson, 2016 p.1).

Grayson’s response offers insight into the scope of how creativity can be developed and implemented in this context, further outlining the significance of how unintentional nuances can add value to the aesthetic of a new work. Lindsay further adds, I do feel that it creates such a wide array of sounds that can't be derived from the usual 'musician's' way of writing music. This allows people who are not musically trained to express their creativity without having to learn how to play an instrument or write music using knowledge of music theory (Lindsay, 2016 p.1). Critical listening skills play a momentous role in the success of utilising this approach however, the quality of critical listening skills one exhibits, I believe is not limited and defined by the amounts of musicianship an individual possess.

Lindsay’s response also supports individuals who are not musically trained to enter the realms of electronic music production. They are able, through the use of technology, to capture their ideas and develop their creativity. Therefore, where a piano or guitar has historically served as an instrument of choice as a vehicle for creative expression, selected software and hardware like Native Instrument’s Maschine, now act as a vehicle for expression for those who express interests in fundamentally non-traditional genres of music, with repertoire often defined by traditional instrumentation. It offers those interested and inspired by electronic music production to create and build
upon the past, but it also allows those ‘non-musician’s’ to create without prejudice from learned musical communities.

Such technology and approaches to composition also allow both musicians and ‘non-musicians’ the opportunity to create music by collaging from their own musical interests. Sampling technologies also allow ‘non-musicians’ to develop musicianship on a non-traditional instrument. Users utilising sampling technology make the sonic choices and, in most instances, implement developed techniques and exhibit technical proficiency in order to perform, capture and create sound. The first two questions within the survey helped identify who uses digital sampling and appropriation as a compositional tool and to what extent they implement this approach into their own work. They also elicited discussions surrounding creativity and how sampling can enhance creative musical output, but more so, how appropriation contributes to the overall compositional process. In order to collect and collate a set of purposeful data about the four approaches, it is paramount for respondents to also outline what their individual interpretations are of all four approaches, by providing not only their comprehension of frameworks, but if and how they would utilise each framework in their own work.

Questions 3-6, were designed to have respondents provide feedback on my terms; lyrical fragmentation, constructionist collage, Cultural appropriation and improvised remix. What was their comprehension of these developed terms? Do they too consider these terms legitimate within their own practice?

Question 3 concerned Lyrical Fragmentation: the use of segmented lyrical content to construct a new phrase within a new work. With regard to individual compositional processes, how best would you define or even implement the term “Lyrical Fragmentation”, as a sampling and creative practice based technique?

Dalton outlines, referring back to the early and mid 1980s Hip Hop I witnessed first hand how lyrical fragmentation was a valid tool with the creative process of popular music composition. Take a phrase, line or even a single word and then
manipulate it with, sampler, or otherwise add it to a beat (take from somewhere else) and overlay it with a obscure melody or hook from somewhere else and the creative possibilities open up. The most famous early example of this, of course, is the “Diamond Dogs” album, in which UK artist David Bowie employed the cut-up method developed by William Burroughs and Brion Gysin. Scissors were taken to a text. Slips of paper were drawn at random and laid out to create new meanings. In a sense lyrical fragmentation is evidence of Jacque Lacan’s theory that language does indeed speak us and we don’t not speak it. As a creative tool I love the idea that lyrical fragmentation can spread confusion and be the source of enigma, something that Susan Sontag termed ‘against interpretation’ (Dalton, 2016 p.2).

In further support of this approach, Keppler adds, with proper licensing and authorisation, this approach allows individuals to construct new words, phrases and lyrics with a voice or voices that you may find desirable for a specific purpose, without sourcing an entirely new recording of said voice or voices (Keppler, 2015 p.1). Lyrical fragmentation exists, in both live contexts and in studio recording environments. My conclusion is supported by the above respondents providing commentary regarding their individualised approaches in studio recording contexts; combined with statements such as the following made by Tim Dalton regarding the Beastie Boys use of lyrical fragmentation in live performance contexts and the transliteration of social surroundings within specific jurisdictions to further engage in audiences (Dalton, 2015 p.2).

Question 4 asks about Non Western Appropriation: The use of culturally identifiable sounds in a new context. With regard to individual compositional processes, how best would you define or even implement “Cultural appropriation, as a sampling and creative practice based technique? Grayson outlines, I guess there is an important subconscious recognition process associated with listening to sample based music. Especially when the sample based material is either recognisable or from a well-known
genre of recorded music, or is culturally significant to the listener. I believe this deep connection places the sampled based music in a social and often political context (Grayson, 2016 p.1). Joshua Lindsay furthers adds to the legitimate use of this technique by outlining;

*This is an incredibly creative tool when used with precision and direction as it can deliver a truly unique sound to compositions. It can be quite difficult also, as some notes and scales used in 'Non Western' music can clash with regular scales, but when done tastefully it can add a truly stand-out element to compositions* (Lindsay, 2016 p.2).

Lindsay makes a very valid and real point about whether the integration of ‘Non-Western Appropriated material is done tastefully and subtly implies the quality of outcomes if not done so. As discovered in my own work, appropriating material is not as straight forward as cutting and pasting sounds together. Dalton adds, *sampling is a newish form of musicianship that requires many years of training and practice to become a professional in the same way as learning any 'traditional' instrument. Sampling is a way of applying a form of pathology to music and sound* (Dalton, 2016 p.4). As opposed to being a novelty, I believe there is enough evidence to substantiate the legitimacy of this approach, as respondents have again outlined the use of this approach to add colour and texture. Whether through harmonic or rhythmic ideas, the fundamental premise of this approach is to enhance the composition by offering elements not readily available or in fact conceived by and artist.

The 5th question in the survey, like all previous questions follows on from the previous and is linked to the four frameworks. Respondents were asked to provide individual commentary regarding the term Constructionist Collage. Constructionist Collage: The use of entirely appropriated single shot and minimal sampled textures to construct a new work. With regard to individual compositional processes, how best would you define or even implement “Constructionist Collage”, as a sampling and creative practice based technique? In response to the above question, Keppler states,
I would use this Constructionist Collage technique to compose a sound collage whether considered musical or otherwise. He further leads on to say, the use of any (whether appropriated or self-generated, short-duration samples (single-shot" percussive elements and aspects, and short complete or incomplete musical phrases) to create small musical 'pictures' and 'words' (not necessarily verbal), and combining them to create an entire work (Keppler, 2015 p.2).

In further support of this technique, Lindsay contextualises this approach by stating, I would use an undefined technique resembling 'Constructionist Collage' when producing something that needs to sound quite 'modern' and even something that is something towards the hip-hop genre as this is what the genre is mostly based on (Lindsay, 2016 p.2).

Lindsay offers an example by defining a specific genre or scenario where this approach to composition lends itself to specific outcomes. He adds, to do a piece of work that is mostly single shot based, it would be for something that would need to sound quite modern and also quite unique for an application like a short film, TV/Internet ad or any other application that requires a modern/almost futuristic image/vibe (Lindsay, 2016 p.2). Although each respondent answered the question, I’m not entirely sure each respondent fully subscribes to this approach and feel this is evident in the scope of answers provided. Unless a producer/artist exclusively implements this approach such as DJ Shadow, offering personal insight to this approach may pose difficult due to pre developed instrumental skills.

The sixth question in the survey relates to Improvised Remix and again asks respondents to provide commentary on their comprehension of this definition and whether they, as artists, have ever implemented this and, if so, whether they continue to use this approach.
Question 6 reads, *Improvised Remix: The interactive rearrangement of samples, often the artists’ own musical material, to construct a new work. With regard to individual compositional processes, how best would you define “Improvised Remix, as a sampling and creative practice based technique?*

Keppler reinforces the point that, *this can be done offline,” by utilising a Digital Audio Workstation (DAW) and other various software; or even *on-the-fly” in a live performance situation using more advanced digital audio hardware and software.* (Keppler, 2015 p.2) This statement aligns with approaches to ‘Improvised Remix’ further supporting this approach by utilising “offline” mediums. ‘Offline’ implies not connected to internet sources, therefore relaying on the information recorded and stored in a DAW for musical performance. Dalton further adds,

*I view this in a similar way as I do jazz music. Jazz relies upon a number of pre-learnt set pieces that could be played in any order, at different tempos and in a random order as dictated by the circumstance. In a similar way improvised remix is about the curation of a number of sonic artefacts, storing them in a way that allows for near instantaneous retrieval as dictated by the circumstance.*

*In effect there is never the same performance twice even though the component parts are always identical. The creative skill is in the selection, retrieval and reconstitution of pre-selected components to create a unique one-off performance* (Dalton, 2016 p.2).

*“Never the same performance twice”, supports my own theories surrounding the scope of this approach and justifies in my own mind how ‘Improvised Remix’ allows for variance in arrangement and the fragmentation of sonic artefacts too ‘mash-up’ into a new collage of sound. This further quantifies my thoughts of utilising this approach as a set of live sonic palates of colour.*

Lindsay states, *many artists do this with their work and often I have noticed that*
these ‘edits’ have become more popular than the original work. It’s a great technique because it allows the producer to use a multitude of skills with the one piece of music. Often pieces of music have to go through a number of processes until it gets to a finished product that is truly unique. I would highly recommend producers doing this with their music as it can evolve your compositions above and beyond what you set out to do. It targets a different part of the creative area in the brain that doesn't focus as much on the intricacies of the melodies/tones/textures but more so divides the compositions into blocks that can moved around with often big sudden changes that really adds a different feel to the track (Lindsay, 2016 p.3).

Keppler and Dalton offer perspectives on the scope and affordances of DAWs and their ability to work offline, create one-off arrangements from pre-recorded material and the curation of sonic artefacts, while Lindsay adds this approach to composition significantly develops compositions. Where responses to Constructionist College were addressed with a general idea of the concept, each respondent offers greater insight into Improvised Remix as an approach to composition, expanding on their own practices and theories. But more so, offer advice on how this approach to composition allows for the identification of tools for compositional development and varied performance outcomes.

Question 7 allows respondents to outline individual technological preferences and further consolidates the intentional use of technology in this context. It seeks to provide some insight into possible future techniques, or a hybridisation of techniques, that utilise technology to achieve an outcome. It reads, what technologies do you use to create music and does the affordance of any one particular piece of software allow for greater create freedom than others? If so, how and why? Keppler provides significant insight into his process with technology;

I use several technologies: If not using a sample library, often there is initially a need for an analog-to-digital converter, to get the audio signal into the digital realm where it can be more easily manipulated (although I do often also use
analog signal processing technology, compression, equalisation, etc., at this stage to pre-enhance the sound as I capture it digitally).

Once in the digital realm, I use a variety of software (DAWs, signal processing plugins such as reverberation and echo, compression and equalisation) and hardware (computers, mixing consoles, etc.) to assemble and enhance the work. Finally, in order to hear the work I will need, conversely, a digital-to-analogue converter to play the work through an amplifier and speakers or headphones (Keppler, 2015 p.2).

Further adding to the use of technology pursuant of compositional outcomes is Tommy Rando, who speaks about the extent he implements technology in order to achieve outcomes. DAW technologies and loop stations have given me an expansion of production and ideas in a live environment. Creating in a studio environment is exciting with DSP (Digital Signal Processing) and VST (Virtual Studio Technology) plugins, processing in real-time with the addition of amplifier simulation, pitch and time correction such as Melodyne, Vocalign and other third party plugins.) I use high analogue emulation plugins that create algorithms of vintage analogue hardware. I also use physical outboard hardware, as the combination of circuitry, transformers, tube and tape offer colors sometime inconceivable to human aural spectrums (Rando, 2016).

Further adding historical and transitional detail to this question Grayson adds, I began my music production journey with ‘Mastertracks’ on an old Apple Macintosh in 1992, then an Atari running ‘Notator’ (which was to become Logic). Both were midi only setups which seriously restricted the quality of the productions possible. The release of Cubase’s audio capabilities was a real game changer, and made it possible for young artists to produce tones and sounds similar to professional recorded material. This was my software of choice throughout my early professional career and enabled my to produce professional quality music and sound design from home. This was greatly facilitated by high quality plugins and large sample based virtual instruments. There is
much discussion about DAW’s but it was really virtual instruments that allowed access to previously inaccessible instruments. Very expensive concert grand pianos, rare analogue synthesizers and even the ambience of prestigious studios or halls with ‘impulse responses’. This evolution, partnered with a similar development of virtual studio hardware has enabled the home music producer access to an unlimited amount of instruments and studio equipment right in the laptop (Grayson, 2016 p.2).

Data suggests, it is evident that a number of respondents rely heavily on third party plugins and additional hardware technologies in order to reach their compositional outcomes. Although outcomes documented in this commentary may appear more relatable to production as opposed to compositional outcomes, I do believe the overall aesthetic sound of a composition is equally proportionate in value to the production techniques applied to create sound. Adding harmonic and rhythmic value via artefacts derived from configurable hardware and software technologies is substantiated by Keppler and Rando’s use of hardware emulation tools. Therefore, data suggests the consistent integration of such technologies develop an individual’s work from both a creative and sonic perspective.

Question 8 was designed to provide a greater understanding of what technologies individuals are using within their compositional process, but it also served to provide the study with greater information about which technologies are being applied in the context of sample-based music production.

The question allows respondents to openly discuss their approach in more detail, to both inform my study, and to suggest new lines of inquiry and considerations to support future research. Question 8 reads, Do you use specific software and/or outboard hardware to treat or transform sound? If so, what is your preferred method and how does it help achieve your desired outcome?

Keppler’s response is as follows, I use many types of hardware and software as well as methods and techniques... too many to mention here.
If I were to single one out, I would say the most common would be my use of very gentle compression on the final mix buss. This helps me 'glue' together the mix and provide some coherency. It could be digital software or an analog hardware unit. I will also tend to use the same device on most or every song if I am mixing an entire album of songs, as it will lend a similar color to the music, no matter how diverse the compositions may be in style. (Keppler, 2015 p.3)

The notion of “gluing” a track together can sometimes be viewed as the holy-grail of music production, mix engineering and mastering, where the endeavour is to provide the final work with a sense of coherency and unity, as one may witness when experiencing the London Philharmonic or Boston Pops Orchestras. Grayson further adds, the release of Ableton Live was the biggest shift for me personally. The ability to interact with sounds and structures in real-time was profound. This software single handily initiated a new sound and is comparable to the invention of the ‘Fairlight’ sampler (Grayson, 2016 p.3). Rando outlines the use of technology to shape and define sound stating, I use high analogue emulation plugins that create the algorithms of vintage analogue hardware. I also like using physical outboard hardware into my sound (Rando, 2016 p.2). Again, data supports a perpetual intent to find coherency and colour in music, whether from the perspective of utilising digital sampling and appropriation in order to achieve such results or, using technology to create colour; and in some instances, an individualised colour and may in some instances tie artists to a sonic signature. With the continual development of software plugins that allow for the extended shaping of sound, I’ve turned my attention to developing my sonic signature with the approaches discussed in this study.

Furthermore, continually listening to new releases allows for a greater understanding of how software technologies are being utilised and outlines individual interpretations of how technologies are being utilised to created sonic signature. The 9th question asks artists about the sampling of their own work and whether their work can be recycled. We understand and acknowledge the use of digital sampling and appropriation
of external sources into a new work, however do artists use their own work, or is there something more significant about the digital sampling and appropriation of other artists?

**Question 9 reads:** Do you sample and recycle/reappropriate, recontextualise/decontextualise your own work? If so, what is your motivation? Rando states, *I have used many samples that I have recycled and used into other works. My motivation is to make sound and interesting textures that cannot be used or produced by others* (Rando, 2016 p.3). Joshua Lindsay further adds, *I occasionally pull parts from older recording to add into new composition. It’s mostly an experiment to see how different parts work with each other. My motivation would be as more of an experimental practice to see how different sounding parts work together* (Lindsay, 2016 p.3). I believe these two responses offer a clear and concise indication that there is a clear intent for artists to use this approach as part of a composition when endeavouring to push the boundaries in order to either find something of significance or to offer something that no one else is unable to achieve.

In keeping with other areas of this study this data further supports the use of selected sampling techniques in order to achieve individualism in the realms of electronic music production. Dalton further reinforces this notion, *as a professional my job is to make money and if I can re-use any previous work I can and will. Rather than record a completely original drum kit I will open a folder on my laptop and call up any number of kick, snare and hi-hats that I have and re-appropriate them into a form that is appropriate to the composition. The quicker I can turn a job around the quicker I can get paid and start on the next job* (Dalton, 2016 p.3).

Question 10 relates to the practice of crate digging. Would you also agree/disagree that the creative practice of crate digging and other forms of isolating textures of music samples, deepens the understanding of musicianship as well as highly develops critical listening skills? To me this is a very significant and purposeful question within the study.
My reasoning for this statement is as follows. As more non-tradition musicians begin to undertake compositional practices utilising sampling technologies, we need to understand how their technical proficiency and dexterity is developed and how to enhance their aural capabilities to identify, tone, texture, rhythm and harmony.

Grayson’s response to this question is as follows,

*I most definitely agree. The process of create digging is as important as discovering and deconstructing great literary classics. This is a form of practice-based research that produces a number of outcomes as you suggest. The music producer searching through old records, or perhaps mining a streaming service such as Spotify, has a focused listening experience. Perhaps they are looking for drum breaks, musical breakdowns, one shots or introductions? Regardless, this active listening is both analytical and critical and results in a deeper understanding of the construction of form and structure. I would say this process is a prerequisite for any music producer in any genre (Grayson, 2016 p3).*

Keppler further eloquently presents his point of view;

*any listening and analysis of music can only deepen understanding of musicianship, whether it is by combing through a sample library or listening (and repeated listening) of music. And, I believe that listening to samples in particular can help develop critical listening skills by the fact that one's ear and mind is no longer focusing on an entire piece of music, with its emotional and larger compositional aspects, but a (usually) much shorter sound bite.*

*I believe, especially after repeated listening of a sample that the mind will focus much more on sonic characteristics, and give the listener increasing more sonic reference to draw from (Keppler, 2015 p.3).*

Deepening one’s understanding of genres and the nuances associated to those
genres, allows for those partaking in such activities the chance to broaden their musical pallet, but also afford individuals to make specific and comprehensive choices in the creation of their music; but more importantly, the success of the compositional outcome both from a creative perspective but also, one of sonic quality. This provides a legitimate undertaking when developing aural skills, not to mention this extends to choosing music from samples packs as well as being able to identify selected phrases for intended use, but provides a sub conscious historical context of music for those not privy to institutional curriculum.

The final question in the survey, number 11, relates to future and where each artist envisions the future with regard to digital sampling and appropriation. Question 11 asks, what do you envision for the future of Digital Sampling and Appropriation as an approach to composition?

Keppler states, digital sampling and appropriation in a commercial sense have been with us since the late 1970's/early 1980's. For me, I would hope that artists will explore the vast horizon of music and sound far more vigorously than has been done so far, and come up with creations and compositions unlike anything else previously heard on this planet. That said, there are definitely some excellent works currently in existence and those artists and more will undoubtedly continue to deliver into the future (Keppler, 2015 p.3). Grayson adds, I believe the future lies in looking back at what has come before. Software instruments like Ableton Live are equipping young electronic musicians with a unparalleled pallet of tools to create. The future will be faster computers, which will enable to creation of better sounding instruments and effects. The production of hardware controllers is really still in its infancy. We will see the creation of new hardware instruments that improve human interaction and expression, and possibly begin to merge with traditional instruments (Grayson, 2016 p.3). Tommy Rando adds, I envision new mediums and DAWs’ will make the digital environment accessible and interesting for any novice. The combination of high fidelity sound and vision will be the future landscape of composition (Rando, 2016 p.3). Dalton adds,
arrangers and producers have an even bigger and more expansive palette to source their core sounds from. Over time all references to the original source sound will be lost and we will in effect be manipulating hyper-real sounds. All popular music will eventually become a simulacrum of the original. The sounds that we will be hearing within composition won’t bear any resemblance to their original source but I hope that they still rock (Dalton, 2016 p.3).

Finally, Lindsay closes with,

I envision the future of Digital Sampling as one that is going to ever increasingly get more ‘randomised’ but still be done with great taste. The more people want to push the boundaries of sampling, the more weird and wonderful corners of recorded music history they will go to find samples to then place in compositions giving their tracks unique sounds/textures/melodies. As a technique, the technology will continue to progress, transform and evolve with the need for more creative ways to use samples in music. It will become more automated and become more and more the ‘norm’ for people to include samples in their compositions (Lindsay, 2016).

From the collection and analysis of this data, it is evident that all respondents envision a future where sampling techniques and approaches to compositional appropriation are increasingly supported by technology and, as one respondent noted, may become the “norm”. As physical and intellectual limitations are placed on music through lack of developed musicianship and training, I envision there will be a greater scope for manufactures to design, develop and release technology for artists, allowing them to capture, combine and share their music with greater ease and with a greater impact in live contexts.
Respondents offer insights rich in quality regarding approaches to composition, compositional processes, compositional development, the development of critical listening and analytical thinking in relation to digital sampling and appropriation. From one of the world's leading live sound and studio engineers in Peter Keppler (Katy Perry, David Bowie and Nine Inch Nails) to Tim Dalton's career producing the Faith No More, Beastie Boys and Public Enemy, individual insights offer personal motivating factors to developing a sonic signature and the importance of continual compositional development. Grayson, Lindsay and Rando, further share Keppler and Dalton’s sentiments, whilst elaborating on the affordance of DAWs to utilise as a tool to extend the scope of live performance. Respondents embrace the notion of Improvised Remix as a developing approach to composition and performance and expressed their personal intent to further explore the affordances of technology to assist in the development of their own music.

Combined with the sculpting of sound to create a sonic signature, respondents positively address the implementation of Lyrical Fragmentation, Cultural appropriation, Constructionist Collage and Improvised Remix as approaches to composition extending on my theories.

To close this section I refer to Jon Hopkins’ interview with Electronic Beats (Slice Feature) where Hopkins states, *I really love the idea of really exploring an instrument and getting into the bottom of what it can do and then learning it.*

*Now particularly, with software synths you can be surround by new stuff every single week that does all kinds of crazy new stuff that you’re never going to need and doesn’t help you write it just distracts you from actually finishing things so, my ideas its to always kind of leave all the new stuff out of it, just for now then, when I feel like I need inspiration I will allow one thing in* (Hopkins, 2013 3:45).

I would like to personally thank all respondents for contributing to my research. Respondents were identified and selected based upon innovation, inspiration and ongoing contributions to knowledge and creative expression.
7. Conclusion

As technology develops and the affordances of emerging technologies allow for greater creative freedom, an understanding of integrated and standardised approaches to sample-based composition will become necessary in order for artists to explore greater musical liberties. The aim of this research was to identify and articulate new approaches to sample-base composition, further assisting in the development of sample-based composition utilising software and hardware technologies, including the affordances of user interface environments such as DAWs. This resulted in defining Lyrical Fragmentation, Constructionist Collage, Cultural appropriation and Improvised Remix. As defined in Chapter four, the abovementioned are becoming standardised practices in electronic music production. These approaches assist in developing the initial architecture and construction of creative works utilising software and hardware technologies, allowing for greater intricacy within the realms of electronic music production.

Once analysed, *Paul’s Boutique* (Beastie Boys, 1989), *Endtroducing* (DJ Shadow, 1996), *It Takes A Thief* (Thievery Corporation, 1999) and *Shades of Blue* (Madlib, 2003), offered significant insight into the importance of architectural design in sample-based composition and furthermore, the importance of developing musical vocabularies with source material. Survey respondents echoed these sentiments in their responses. Respondents also supported and outlined individual approaches to sample-based composition when implementing Lyrical Fragmentation, Constructionist Collage, Cultural appropriation and Improvised Remixes, again echoing sentiments of the definition of each approach and its purposeful use in sample-based composition. Furthermore, albums such as *Paul’s Boutique* (Beastie Boys, 1989) and *Endtroducing* (DJ Shadow, 1996) showcased the experimental methods used to outline hybridity and intertextuality nuances that flaunt references, influences and allusions (Williams, 2011 p.3) of links between jazz and hip-hop. Therefore, it is plausible the motivation to
incorporate selected nuances is to integrate musico-cultural influences in order to achieve musical unification.

*Shades of Blue* (Madlib, 2003) and *It Takes A Thief* (Thievery Corporation, 2010) outlined the successful integration of cultural memory and post-memory concepts, with Madlib’s socio-musical past combined with intergenerational musical bonds of his extended family, aided in the completion and fluidity of an interpretative experimental hip-hop record released by one of the biggest jazz music labels to date. Data collection suggests, respondents acknowledged the importance of software and hardware technologies and its importance to sample, archive, manipulate, sculpt and layer sound. Unaware of the case studies assisting in the defining of approaches to sample-based composition, it is evident that all respondents utilise software and hardware technologies to create, archive and extend musical vocabularies, assisting in the construction of compositions. Challenges for future creative output will be the invariable change and technical comprehension of user ability within new and emerging technologies. In order for an artist to outline innovative approaches to electronic music composition, greater exploration of the user interface (DAW) will become increasingly necessary. Through the search of incorporating points of creative differentiation, electronic music production will focus less on the architecture of a composition and more on affordance.

Researchers including Chang (2005-present), D’Errico (2014-present), DJ Spooky (2004-present), Kembrew (1998-present) and DiCola (2006-present) contribute to the field of electronic music production from both historical and socio-historical contexts. However, there is a gap supporting compositional and performance based practice research due to a focus on dissecting undefined processes in designing and implementing new approaches to composition. The defining of individual practices of digital sampling and appropriation as four approaches to sample-based composition in this research, culminated from an assessment of past, present and potential future electronic music production. Artists featured as case studies in this research utilised the affordances of digital technologies in the creation of musical works. Further research is required to assist in the continual development of compositional approaches and outcomes when
utilising digital sampling, hardware and software technologies to create electronic music. New and emerging technologies will assist in the development of new approaches to sample-based composition however; the fundamental embodiment of technique must exist to allow for the development of individualised musical expressiveness and outcomes.

Edwards (2015 p.154) states, *music that is exceptionally innovative and is also strongly influential if someone has made large strides forward in that genre, then subsequent artists learn from them, incorporating their new methods to stay relevant and using the new techniques to improve their music.*

Edwards (2015 p.154) alludes to the need for intergenerational music bonds for continual development of the creative process. Therefore, in this research, it is proven that intergenerational musical bonds influenced the development of the four sampling approaches to sample-based composition, where digital technologies assisted in the development of cultural music unification. The outcomes of this research highlight that digital sampling is often driven by the integration of cultural memory to create music influenced by sounds that directly relate to a significant period in time. The affordances of digital sampling technologies allow for the binding of cultural memory in a tangible musical format, allowing for the appropriation of found source material. Perchard (2011, p.279) states,

* sampling is commonly and casually said to either function as a medium of significant binding collective memory or else enact some kind of musico-cultural traditionary incorporation. These two figures, cultural memory and tradition, are difficult to separate from one another, and while they are intertwined with every aspect of the debate on sampling’s historicity

It is plausible, musico-cultural traditions extend to the utilisation of digital technologies and interface parameters serving as mediums to assist in the binding of collective memory. Where the traditions of musico-cultural influences and collective
memory have influenced the architecture of past works, linking genres such as jazz and hip-hop from a socio-historical perspective; Perchard’s (2011, p.279) reference to cultural memory in a musical context may be the driving force behind the practice of digital sampling and affordance technology in order to create and define new works. If relating motivating factors such as cultural memory and collective memory in support of appropriating textual elements into a new work, then I must reference Hirsch’s description of post-memory to further support and articulate plausible reasoning for this practice.

Hirsch’s (1977, p.22) description of the concept ‘post-memory’ offers further insight into practice-based approach to composition.

Hirsch (1977, p.22) states, post-memory, is distinguished from memory by generational distance and from history by deep personal connection. Post-memory is a powerful and very particular form of memory precisely because its connection to its subject or source is meditated not through recollection but through an imaginative investment and creation. This is not to say that memory itself is un-mediated, but that it is more directly connected to the past. Post-memory characterises the experience of those who grow up dominated by narratives that preceded their birth, whose own belated stories are evacuated by the stories of the previous generation, shaped by traumatic events that can be neither understood nor recreated.

Hirsch’s (1977, p.22) reasoning supports the four new approaches to sampling, specifically Cultural appropriation, as development and creativity of new music is driven by memories connected to a subject or a source meditated through recollection. It would be difficult to fully subscribe to the idea of an individual’s sole intent to utilise digital sampling and appropriation as approaches to composition. Defining selected processes through the development of the four sampling approaches and combining this information with a series of interviews for this research, we can better understand the reasoning and motivation behind various sampling approaches. This research allows
greater insight into the technical approaches of sample-based composition, defining motivators such as musico-cultural influences, cultural memory and the binding collective memory that allow for greater intricacy and outcomes to relive a narrative. The accessibility of a socio-musical past driven by a culture of sharing via web based mediums, provides an ever-growing platform for artists to develop. The use of ‘quoting’ in mainstream hip-hop may be the derivative and fundamental technique of compositional architecture that can be attributed to the ‘Golden Age’.

However, the utilisation of Cultural appropriation as an approach to sample-based composition, I believe will continue to serve, influence and encourage composers, as they continue to draw on the past in order to build on the future; as evidenced in the Golden Age. This research highlighted the following question; at what point do generic controlled affordances allow for generic outcomes due to the written boundaries of DAWs and user interfaces? If not implementing the specific four sampling approaches as outlined in this research, genres such as trap music, influenced by the affordances of generic DAW functionalities such side chaining, ducking and other sound manipulation, is in jeopardy of producing music with a limited ‘shelf-life’.

Artists exploring the general parameters and not the depths of interface affordances will become susceptible to creative boundaries, allowing the idiosyncrasies of generic DAW interface affordances to dictate creative outcomes. Although, this research is not unopposed to this style of composition, musico-cultural influences, cultural memory, including the binding of collective memory, make significant contributions to the conceptualisation and influence of a new work, therefore allowing the integration of the past to build on the future that’s not solely driving by technical affordance. When driven by the affordance of functionalities, outcomes will result in stunted growth and eventually the sound quality will become nothing more than a sonic period in history, where the music is directly relatable to the functionalities and affordance of specific DAWs and user interfaces. As the user’s ability and technical understanding of a plugin’s design extends beyond the generic affordances of functionality, this is when affordance becomes persuasive technology. In this context,
persuasive technology is defined by where the parameters of randomisation deliver unimaginable outcomes through persuasive measures. In turn, it further encourages a user to push far beyond the boundaries of their usual aural comprehension. Although generalised DAW affordances are persuasive, it is the technical development and understanding of persuasive technology that extend far beyond affordances supporting the exploration and creative expressiveness of musical ideas and influences through inquisitiveness and musico-cultural influences.

Further developing and experimenting with such technologies utilising source material as the basis for manipulation, will contribute to extended and innovative approaches to sample-based composition. This will allow for greater compositional outcomes, greater creative freedom, but more so, expressiveness through the utilisation of digital technologies in sample-based composition.
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Discography


# Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Ableton Live</td>
<td>A software music sequencer and digital audio workstation for OS X and Windows</td>
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<tr>
<td>Appropriation</td>
<td>The use of borrowed elements (aspects or techniques) in the creation of a new piece/work, and is often associated with cultural appropriation</td>
</tr>
<tr>
<td>Artifact</td>
<td>In sound and music production a sonic artifact, or simply artifact, refers to sonic material that is accidental or unwanted, resulting from the editing or manipulation of a sound</td>
</tr>
<tr>
<td>Chilled Hip-Hop</td>
<td>A slow, down-tempo form of hip-hop, emphasizing low, droning beats and a slow rhythm</td>
</tr>
<tr>
<td>Chillout</td>
<td>A genre of electronic music and an umbrella term for several styles of electronic music characterised by their mellow style and mid-tempo beats, &quot;chill&quot; being derived from a slang word for &quot;relax&quot;</td>
</tr>
<tr>
<td>Collage/Collaging</td>
<td>In music, montage (literally &quot;putting together&quot;) or sound collage (&quot;gluing together&quot;) is a technique where newly branded sound objects or compositions, including songs, are created from collage, also known as montage. Forms the basis of Constructionist Collage</td>
</tr>
<tr>
<td>Compression</td>
<td>Often used to make music sound louder without increasing its peak amplitude. Found in software and hardware formats</td>
</tr>
<tr>
<td>Constructionist Collage</td>
<td>An approach to musical composition where fragmented pieces of music and are often appropriated to construct a new work</td>
</tr>
<tr>
<td>Cultural appropriation</td>
<td>Adoption or use of elements of one culture by members of a different culture without invitation or permission of use</td>
</tr>
<tr>
<td>DAW- Digital Audio Workstation</td>
<td>A digital audio workstation (or DAW) is a computer program that is exclusively designed for the recording, editing and playing of digital audio files. A DAW allows for the editing and mixing of multiple audio sources simultaneously on a musical timing grid (frames) and to visually see how they line up over time</td>
</tr>
<tr>
<td>De Minimis</td>
<td>A Latin expression meaning about minimal things and a legal doctrine by which a court refuses to consider</td>
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<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>Digital Samplers</td>
<td>An electronic musical instrument similar in some respects to a synthesizer, but instead of generating sounds, it uses recordings (or &quot;samples&quot;) of sounds that are loaded or recorded into it by the user.</td>
</tr>
<tr>
<td>Digital Sampling</td>
<td>The act of taking a portion, or sample, of one sound recording and reusing it as an instrument or a sound recording in a different song or piece</td>
</tr>
<tr>
<td>DJ</td>
<td>Play recorded music on radio or at a club or party</td>
</tr>
<tr>
<td>Drum Break</td>
<td>A short segment of a piece of music (such as a rock song or a march) in which the drummer or drummers play alone; also: a short segment of percussion accompaniment that is used as a sample loop</td>
</tr>
<tr>
<td>EDM – Electronic Dance Music</td>
<td>A set of percussive electronic music genres produced primarily for dance-based entertainment environments, such as nightclubs</td>
</tr>
<tr>
<td>Editing</td>
<td>Audio editing software is software, which allows editing and generating of audio data. Audio editing software can be implemented completely or partly as library, as computer application, as Web application or as a loadable kernel module</td>
</tr>
<tr>
<td>EMP-Electronic Music Production</td>
<td>Electronic music (production) is music that employs electronic musical instruments and electronic music technology in its production, an electronic musician being a musician who composes and/or performs such music</td>
</tr>
<tr>
<td>E-mu SP 1200</td>
<td>A drum machine &amp; sampler combo of legendary status among old school rap and hip hop artists from the eighties and nineties</td>
</tr>
<tr>
<td>EQ-Equalisation</td>
<td>The process of adjusting the balance between frequency components within an electronic signal</td>
</tr>
<tr>
<td>Experimental Hip-Hop</td>
<td>Also known as abstract hip-hop. Experimental Hip-Hop is a genre of hip-hop that employs structural elements typically</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>Extended Phrase Extraction</td>
<td>In music, the act of taking sections of pre recorded music to appropriated and recontextualised into a new work. This process is often met with sever legal ramifications</td>
</tr>
<tr>
<td>Fair Use Doctrine</td>
<td>A US legal doctrine that permits limited use of copyrighted material without acquiring permission from the rights holders</td>
</tr>
<tr>
<td>Fragmentation</td>
<td>The use of fragments or the “division of a musical idea (gesture, motive, theme, etc.) into segments.</td>
</tr>
<tr>
<td>Fragmented Literal Similarity</td>
<td>A fragmented copyrightable element copied from a protected work to a degree not allowed by fair use</td>
</tr>
<tr>
<td>Frame</td>
<td>An increment of time set within a DAW grid. Often referred to as framing left or framing right allowing for incremental placement of sound</td>
</tr>
<tr>
<td>Front of House (FOH engineer)</td>
<td>Controls the mix for the audience during a live event, and most often operates from the middle of the audience or at the last few rows of the audience from an equipment area known as the &quot;Front Of House Position&quot; or &quot;FOH&quot;</td>
</tr>
<tr>
<td>Golden Age of Hip-Hop</td>
<td>A name given to a period in mainstream hip hop music, usually cited as the late 1980s to the early 1990s. It is said to be characterized by its diversity, quality, innovation and influence</td>
</tr>
<tr>
<td>Hardware Technology</td>
<td>Outboard/physical signal processing units allowing for the manipulation of sound. Affects colour and shape of recorded signal</td>
</tr>
<tr>
<td>Hip-Hop</td>
<td>A music genre formed in the United States in the 1970s that consists of a stylized rhythmic music that commonly accompanies rapping, a rhythmic and rhyming speech that is chanted</td>
</tr>
<tr>
<td>Improvised Remix</td>
<td>The use of pre recorded stems of music to perform live utilizing a DAW such Ableton with live sequencing and triggering capabilities. Improvised Remix is utilizing pre developed music vocabularies to create a new work in a real time environment</td>
</tr>
<tr>
<td>Integrated Technologies</td>
<td>The use of technology tools in order to allow individuals to apply computer and technology skills to musical</td>
</tr>
<tr>
<td><strong>Logic Pro X</strong></td>
<td>A digital audio workstation and Musical Instrument Digital Interface MIDI sequencer software application for the Mac OS X platform. It was originally created in the early 1990s as Notator Logic, or Logic, by German software developer C-Lab, later Emagic.</td>
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<tr>
<td><strong>Lyrical Fragmentation</strong></td>
<td>Fragmented use of lyrical content to create and new vocal phrase or meaning. Often running in parallel with appropriation.</td>
</tr>
<tr>
<td><strong>Maschine (Native Instruments)</strong></td>
<td>A hybrid hardware/software digital audio workstation developed by Native Instruments. Maschine consists of a controller that connects to the included sequencing software, which can be installed on any compatible computer or laptop.</td>
</tr>
<tr>
<td><strong>Melodyne</strong></td>
<td>Audio software similar to auto-tune for editing of timing and pitch correction.</td>
</tr>
<tr>
<td><strong>Misappropriation</strong></td>
<td>To take (something, such as music) dishonestly for your own use: to appropriate (something) wrongly.</td>
</tr>
<tr>
<td><strong>Mix Engineer</strong></td>
<td>A person responsible for combining (&quot;mixing&quot;) the different sonic elements of a piece of recorded music (vocals, instruments, effects etc.) into a final version of a song (also known as &quot;final mix&quot; or &quot;mixdown&quot;).</td>
</tr>
<tr>
<td><strong>Mixing Console</strong></td>
<td>A mixing console is an electronic device for combining routing, and changing the volume level, timbre (tone color) and/or dynamics of many different audio signals.</td>
</tr>
<tr>
<td><strong>MPC- MIDI Production Controller</strong></td>
<td>Electronic Musical Instrument now referred to as a Music Production Centre</td>
</tr>
<tr>
<td><strong>Neo Soul</strong></td>
<td>A genre of popular music. The term was coined by music industry entrepreneur Kedar Massenburg during the late 1990s to market and describe a style of music that emerged from soul and contemporary R&amp;B.</td>
</tr>
<tr>
<td><strong>Cultural appropriation</strong></td>
<td>A more defined and purposeful use of culturally appropriated textures in new music. Typically appropriated from cultures outside of what is considered western music.</td>
</tr>
<tr>
<td><strong>Payola</strong></td>
<td>In the music industry, the illegal practice of payment or other inducement by record companies for the broadcast of recordings on commercial radio in which the song is presented as being part of the normal day's broadcast.</td>
</tr>
</tbody>
</table>

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<p>| <strong>Plugin</strong> | An audio plug-in, in computer software, is a plug-in that can add or enhance audio-related functionality in a computer program. Such functionality may include digital signal processing or sound synthesis |
| <strong>Pro Tools</strong> | A digital audio workstation for Microsoft Windows and OS X developed and manufactured by Avid Technology |
| <strong>Quoting</strong> | The practice of directly quoting another work in a new composition |
| <strong>Rap</strong> | A style of popular music, developed by disc jockeys and urban African Americans’ in the late 1970s. Comprises of recurring beat patterns and rapid, slangy, and often boastful rhyming vocalists |
| <strong>Recontextulise</strong> | Recontextualisation is a process that extracts text, signs or meaning from its original context (decontextualizing) in order to introduce it into another context |
| <strong>Record Production</strong> | An album or single featuring original music production. This term typically refers to electronic music pieces where a music producer is the primary contributing artist to the body of work. |
| <strong>Remixing</strong> | A reinterpretation of a pre-existing song, meaning that the “aura” of the original will be dominant in the remixed version. |
| <strong>Signature Sound</strong> | A distinctive mark, characteristic, or sound indicating identity |
| <strong>Sonic Signature</strong> | A distinctive mark, characteristic, or sound indicating identity within high fidelity recordings |
| <strong>Splice</strong> | To unite, link, or insert as if by splicing |
| <strong>Spotify</strong> | A digital music service enabling users to remotely source millions of different songs on various record labels from a laptop, smartphone or other device |
| <strong>Stems</strong> | ‘Stem’- mixing is a method of mixing audio material based on creating groups of audio tracks and processing them separately prior to combining them into a final master mix. Stems are also sometimes referred to as sub-mixes, subgroups, or busses. |
| <strong>Synthesizer</strong> | Usually abbreviated as “synthesizer” or &quot;synth&quot;, also spelled &quot;synthesiser&quot;) is an electronic musical instrument, generating electric signals that are converted to sound through instrument amplifiers and loudspeakers |</p>
<table>
<thead>
<tr>
<th>Technological Developments</th>
<th>The root of technological comes from the Greek word tekhnologia, meaning “systematic treatment,” and a systematic, scientific approach is still behind modern technological developments. What makes something technological — rather than scientific — is the practical application of the science.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip-Hop</td>
<td>A sub-genre of electronic music that originated in the early 1990s in the United Kingdom, especially Bristol</td>
</tr>
<tr>
<td>UAD – Universal Audio Design</td>
<td>A designer and manufacturer of audio signal processing hardware and DSP (Digital Signal Processing)</td>
</tr>
<tr>
<td>Vocalign</td>
<td>Audio software similar to auto-tune and melodyne for editing of timing and pitch correction</td>
</tr>
<tr>
<td>VST – Virtual Studio Technology</td>
<td>A software interface that integrates software audio synthesizer and effect plugins with audio editors and recording systems. VST and similar technologies use digital signal processing to simulate traditional recording studio hardware in software</td>
</tr>
</tbody>
</table>
Appendix A: Interview Questions

Interview Questions:

1. Do you use digital sampling and appropriation as a compositional technique? If so, what initiated the sourcing and implementation of samples in your work?

2. As a compositional process, do you feel the technique of sampling allows for individuals the chance to further develop their creativity? If so, how?

3. With regard to individual compositional processes, how best would you define or even implement the term “Lyrical Fragmentation”, as a sampling and creative practice based technique?

4. With regard to individual compositional processes, how best would you define or even implement the term “ Cultural appropriation”, as a sampling and creative practice based technique?

5. With regard to individual compositional processes, how best would you define or even implement the term “ Constructionist Collage”, as a sampling and creative practice based technique?

6. With regard to individual compositional processes, how best would you define the term or even define “ Improvised Remix”, as a sampling and creative practice based technique?

7. What technologies do you use to create music and does the affordance of any one particular piece of software allow for greater creative freedom than others? If so, how and why?

8. Do you use specific software and/or outboard hardware to treat or transform sound? If so, what is your preferred method and how does it help achieve your desired outcome?

9. Do you sample and recycle/re appropriate, recontextualise/decontextualise your own work? If so, what is your motivation?

10. Would you also agree/disagree that the creative practice of create digging and other forms of isolating textures of music samples, deepens the understanding of musicianship as well as highly develops critical listening skills?

11. What do you envision for the future regarding the notion of Digital Sampling and Appropriation as a Compositional Technique?