SOUL REBORN:
AN APPROPRIATION OF THE
MOTOWN AESTHETIC

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A dissertation submitted in partial fulfilment of the award of a
Doctor of Philosophy

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ABSTRACT
In the highly lucrative and cutthroat business of popular music, the goal of record companies is largely to produce star singers and publish hit records. Formed in 1959, Berry Gordy’s Tamla Motown dominated the pop and R&B charts throughout the 1960s with its assembly line style of music production, which resulted in a distinctive sound that was shared by all of the label’s artists. However, much of the fame and prosperity has gone to only a select few involved in the production process. Furthermore, until the release of *Standing In the Shadows of Motown* (Justman, 2002), much was unknown of the involvement and influence of the individuals who made up the house band—a collection of instrumentalists known as the Funk Brothers. Inspired by this documentary, I proposed a research project that would focus on analysing the role of the house band in R&B record production. Central to this research was forming an ensemble of Brisbane musicians for the purpose of writing, recording, and producing an album of Motown-inspired original tracks—an album entitled: *Soul Sundays*. It was my intention to use this album production as a case study to analyse the ensemble dynamic within my proposed band. More specifically I investigated whether or not it was possible to recreate the ensemble dynamic/relationship of The Funk Brothers and how that interpersonal interaction affects the production of a new album of recorded tracks. As well as performing the role as band drummer, I also executed the responsibilities of lead producer and audio engineer. Between 2014 and 2017, I oversaw the tracking of the initial rhythm section beds and the subsequent refinement stages. Following on from the research of Bennett (2012) and Williams (2015), I investigated my “technostalgia” with a series of vintage instrument and recording gear experiments in order to better understand the sonic textures that made up the famed “Motown sound.” Furthermore, I investigated what positive or negative benefits vintage gear brought to a modern album production. Drawing guidance from Bartleet and Ellis (2009), I utilized an ethnographic approach to my research combining a creative journal of the production process as well as insights from my collaborators. Ultimately, my rationale for this research was to better appreciate the house band concept, better understand how to appropriate various aspects of the Motown aesthetic in a modern R&B production, and develop additional production skills in order to evolve from a drummer in to an “artist.”
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)

Vincent Perry
Date: 29/06/2017

How to read this thesis

This submission is in two parts, the written dissertation (Soul Reborn: An Appropriation of the Motown Aesthetic) and the creative work (the accompanying album entitled: Soul Sundays). Both aspects of the submission should be assessed with equal weighting.

Acknowledgements

This dissertation and the accompanying album have been brought to fruition due to the hard work of many kind and supportive individuals. Firstly, I would like to take this opportunity to thank my loving partner, Erin Matthews. You have been with me on this academic journey since day one and without you I would not have had the endurance and mental fortitude to complete the task at hand. To my mother and father, Flordeliza and Lionel Perry, and my brother, Paul, thank you for a lifetime of unconditional love and support. From the moment I first showed an interest in drums (as a young boy with chop sticks and used ice cream containers), you have always pushed me to pursue my dreams. I would not be the man I am today without your love and moral support. To my future mother-in-law, Christine Matthews, thank you for being my second mum these past few years. Your incredible work ethic and positive attitude are a constant inspiration to me.

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Lastly, I must take this opportunity to thank my band members. Thank you Tim Hatch, Kevin Suierfeld, Travis Lee, Mitch Pattugalan, Dan Wolsner, Brett Orr, and Glen Hunt for donating your time and wisdom to the production of Soul Sundays. Gentlemen, I consider you all brothers for life and I very much look forward to our next musical project together.
CHAPTER ONE: INTRODUCTION
Prelude

“Groove” and “feel” are axioms that are often cited in musical circles. These words represent desirable characteristics that many producers and songwriters look for when selecting session musicians for album productions. As a young aspiring drummer, I am asked to provide this “x factor” both in the recording studio and in live performance contexts. In addition, when I’m hired to support various artists and bands I’m expected to provide such elements as energy, control, showmanship, high quality instrumental proficiency, and a demonstrated knowledge of a variety of musical styles and genres.

In my younger musical career, it was my belief that it was my job to be in charge of any given ensemble and take every opportunity to try to impress both the audience and other members of the band. My first opportunity to play the drum set was in my high school jazz ensemble and on more than one occasion it was my intention to display every rudiment I had ever learnt in every single piece. My immediate musical goals were clear—every time I sat behind a drum kit on stage or in the rehearsal studio, I wanted to be the centre of attention and the star of the show. At the completion of high school, this approach led me to believe that if I was to continue to pursue drumming “greatness,” I needed to continue my studies in higher education and beyond, and that I was only going to further my technical abilities if I studied jazz under the tutelage of a world class drum instructor.

After failing to gain entry into an undergraduate jazz performance program at an Australian Conservatorium, I was instead invited to enrol in a bachelor of popular music, which gave me the opportunity to apply my drumming skills in a music production-based course. It was during my time in this degree programme that I came to an important realisation that playing for myself was not only selfish, it was also detrimental to the quality of a given production and/or song. On a daily basis, we as students and colleagues were able to scrutinise our respective music performances via audio recordings. This was the first time in my short music career that I was assessing the quality of musical production as both a drummer and as a producer.
During this journey, I began to discover the importance of an “identity”—both in the music industry and in society as a whole. Here I refer to persona such as “musician,” “instrumentalist,” “songwriter,” “producer,” and “artist”. These roles become individual identities in the music industry are often pigeonholed to one specific identity. My personal tag is “Vincent Perry: drummer.” Simplistic in nature however this “identity” is the easiest way for the public and fellow musical colleagues to remember me.

Through this research project, its creative works and dissertation, it was my goal to become more than just a great player and develop a better philosophical understanding of music making. When I originally proposed this research project, I envisioned it as an opportunity to transform into a more “complete artist”. Here then I turn to the past in order to investigate, adapt and better understand my possible future.

My musical heritage can be traced back to soul music of the 1960s. I discovered the musical recordings of Tamla Motown at a young age. However, only now as an adult am I starting to understand the profound influence it has had on my musical tastes and development as an artist. Upon reflection, I remember viewing *Sister Act* (1992) and the subsequent sequel *Sister Act 2: Back in the Habit* (1993) countless times during my primary school years. My mother owned both films on VHS and adored these movies because of their comedic plots, the entertaining and larger-than-life protagonist, and most of all because of the fabulous soundtracks. I didn’t realise it initially, however it was much obvious to me in later years that the collection songs (largely made up of 1960s and 1970s soul tracks) that had heavily featured in both these films were the songs of my mother’s childhood and teens. As a proud Filipino woman, she embraced American music and pop culture during her childhood and teenage years, and as a parent she passed on her affections for soul music on to my brother and I during our childhood in the 1990s.

Much later in life, after I had finished my undergraduate course, the Motown songbook again played another role in the direction of my career. In 2011, whilst waiting in line to post a package at a Gold Coast post office I came across a compilation CD box set to commemorate Motown’s 50th Anniversary. After speedily perusing the track listing of *Motown 50* (2009), I recognized many of the fifty songs
and decided to make an impulsive purchase of the box set. Listening to the compilation was superb nostalgia for me and brought back a wave of childhood memories. I was inspired to learn these songs and subsequently I purchased the accompanying Motown 50th Anniversary Songbook (2009), which featured the piano, guitar, and vocal parts. Not being a pianist, a guitarist, or vocalist, I longed for more content—information that was going to inform me of the other instrumentalists that made up the Motown band. More specifically, I was seeking information pertaining to the Motown drummers.

After some further online reading, I came across Paul Justman’s film Standing in the Shadows of Motown (2002): a documentary dedicated to uncovering some of the “unsung heroes” of Tamla Motown. I’m referring to the instrumentalists who made up the house band known as the Funk Brothers. Listening to Motown tracks helped me understand the importance of playing for the song and not just for myself. Furthermore, a deeper analysis of this company’s backing band taught me the importance of listening to my fellow instrumentalists and working as ensemble to achieve a common goal. I quickly grew affection for the Funk Brothers and was inspired to continue my academic study. After viewing the film I was motivated to dedicate another year of university study with the purpose of recording a tribute album to Motown.

In 2012, as part of my honours year, I recorded sixteen covers of Motown tracks in order to analyse the role of the drummers that made up the Funk Brothers. However, this research project and analysis of Motown drum beats evolved into a full-blown production of complete recorded covers of Motown tracks—recordings that included the tracking of a rhythm section, brass, strings, vocals, and percussion parts. After this experience, I was convinced that I could successfully provide the roles of drummer, producer, and bandleader and deliver a high-quality recorded product.

Following on from submitting this album and the accompanying dissertation, the next step for my development as an “artist” became clear to me. My next challenge—the main focus of this doctoral study—was to apply this acquired knowledge of the Motown aesthetic to a modern soul production with the end goal of producing an album of new original recorded works.
Research project introduction

There are many aspects of Motown records that inspire me as a musician, producer, and audio engineer. I am continually amazed by the charm and simplicity of their production techniques. The raw energy of the musicians is felt by the listener decades after the original day of recording. Also, as a musician historian, these tracks are fantastic insight into the soul, vibe, and excitement of this era of contemporary music. However, compare to today’s music releases, Motown’s records do not match the same levels of sonic quality. In addition the slight imperfections of pitch, tempo fluctuations, and harmonic distortion (to name a few) demonstrate that these tracks were captured during an era of live recording. A time when the concept of musicians performing live together in the same room was the norm and a time when a “quality recording” was simply just a “live performance.” In his foreword to Mark Cunningham’s *Good Vibrations*, Alan Parsons noted:

…We must remember that the early days of music recording started with attempts to give the impression that our living room had become the location where the performers were playing – an illusion. The purpose – as it still is now in many genres of music – was to recreate exactly the natural acoustic balance of the instrumentalists and vocalist such that the listener would be literally transported to the studio of concert hall (Cunningham, 1998, p. 15).

Also, from Cunningham (1998), Brian Eno commented:

Until the late Sixties, the recording studio had been a passive transmitter. A band went into the studio with the aim of getting a well-rehearsed, pre-existing song on to tape as faithfully as possible (p. 17).

It is the authenticity of capturing a band’s live performance that has inspired me the most. Motown’s engineers operated recording equipment during the 1960s and ‘70s that was cutting edge technology for that era. However, compared to today’s audio technology, Motown recording gear *could* be now viewed as out-dated. In my mind, their chosen recording equipment and production process meant that the musicians that were hired had to be highly proficient on their instrument in order to get the job done quickly and efficiently. It is my belief that today’s contemporary musicians can implement many of Motown production ideals in to today’s music productions. Furthermore, the process of recording as an ensemble is a beneficial exercise for all recording artists because it demands a higher level of musicianship from each individual. This type of band has to collectively rise above the challenges and pressures of recording as an ensemble and work together as team in order to achieve the common goal of a superb audio recording.
Primary research aims

This study aimed to answer the following primary research questions:

1. In what ways can I appropriate Motown musical practices in order to enhance my musical productions?
2. Furthermore, what lessons can be learnt from the instrumentalists that made up the Motown backing band?
3. Ultimately, could amazing, ensemble dynamic and great songwriting overcome any deficiencies in audio recording equipment?

Sub-questions

Following on proposing an initial research aim, this academic study also targeted the following sub-questions:

1. Is it possible to recreate the ensemble dynamic/relationship of The Funk Brothers?
2. How integral is vintage recording equipment in recreating the Motown sound?
3. Furthermore, what aspects of today’s audio technology are superior to 1960s technology in creating the Motown sound?
4. By taking what we’ve learnt from Motown and what this company achieved in the city of Detroit, can we bring together talented musicians, songwriters, engineers, and producers in the Brisbane region and replicate the Motown sound?

Research methods

In order to formulate answers to the proposed research questions, I addressed the following areas of research:

1. Literature review of all existing scholarly research pertaining to Motown.
2. Analyses of Motown recordings.

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1 Ethics clearance for this research was approved by Griffith University’s Office for research (Protocol Number QCM/13/14/HREC). As part of this ethics clearance application, I obtained permission from my collaborators to utilize their respective music compositions, opinions on the research topics, and observations throughout the research process.
3. Review of the Motown drum beats and sound.
4. Practical-based experiments of vintage gear and instruments of the 1960s and ‘70s.
5. Production of an album (entitled: Soul Sundays) of new tracks inspired by Motown records.
6. Reflective journal of the process of producing the album.

More specific details pertaining to my research methods are discussed below.

**Analysis of Motown recordings**

In conjunction with my literature review, one of my primary tasks was to analyse a collection of Motown recordings. What was important to me was researching what core elements were crucial to Motown’s record productions. These included:

1. Structure
2. Chord progressions
3. Melodic construction
4. Recurring lyrical themes
5. Instrumentation
6. Usage of shuffle and straight rhythms

**Review of Motown drum beats, arrangements and sound**

One of my roles in this entire creative process was to perform and write the drum arrangements. With this in mind, I proposed further research into the drummers of Motown and their respective drum compositions. Using my Honours dissertation as a starting point, I transcribed a collection of drum arrangements. This documentation of drum beats informed me of the vocabulary that is required to accurately replicate the drum grooves of 1960s and ‘70s soul records. In addition, after practicing and playing along with the original recordings, I acquired the coordination (the physical mechanics) to play these rhythms on a drum set with the correct feel and dynamics. Also, regular exposure to these recordings inevitably resulted in me developing a better ear for tuning my drum set to match the sound of the Motown drummers. Getting the tuning right before performing and recording with the band benefited our engineers whilst they were “pulling sounds” during the recording of the rhythm section beds.
Birth of new soul

It is difficult to truly replicate the Motown production experience in full-scale. Without substantial financial backing and the ability to employ individuals, it is challenging to reproduce the same assembly line process that was implemented at Motown during the 1960s. Unlike Motown founder Berry Gordy, I didn’t have the financial capacity to employ a collection of artists, songwriters, arrangers, and audio engineers. However, what was possible and financially viable was to look at very specific processes and pivotal working relationships that had a considerable influence on the “bigger picture.” Small-scale experiments and subsequent analysis of those experiments were far more feasible. The central focus of this scholarly work was the production of an album consisting of Motown-inspired tracks.

It was my belief (before commencing this project) that all great productions begin with a great song. With this in mind, this proposed album production began with collaborating with a group of like-minded songwriters. Being an instrumentalist and not a songwriter myself, it was my plan to contribute to the arrangement and shaping of the new songs. Primarily, my roles were to guide, assist, and inform all the composers with information pertaining to Motown’s production practices. Our collective goal was to compose, record, and produce music that embodied the Motown aesthetic.

In order to find suitable songwriters, I’ve extended the invitation to all members of my musical circles. This was a largely a production-based project so I specifically approached composers with audio production and engineering experience. It was my theory that these additional skills were going to help these songwriters to better conceptualize the project as a whole as well as their own individual role in the process. With this in mind, I’ve extended an invitation to all Bachelor of Popular music\(^2\) students and graduates. In addition, I personally invited all of the singer-songwriters that I was working with when I commenced this research in 2013.

After finalising my list of collaborators, I discussed the project with each songwriter and agreed on specific Motown artists and songs to analyse as a starting point.

\(^2\) An undergraduate program offered at Queensland Conservatorium, Griffith University (Gold Coast campus).
Together we studied specific stylistic characteristics, structure, chord arrangements, lyrical content, instrumentation, rhythmic patterns, sonic texture, and other elements in order to understand the essence of the Motown records we had at our disposal. Once the musical analyses had been completed, each songwriter began the composition of new songs. Pre-production also involved recording a demo-track of each song. Some of these demo tracks were as simple as a recording consisting of just a lead vocal (performing the proposed melody and draft lyrics) and chordal accompaniment.

**Setting up a “funk laboratory”**

**Location**

Inspired by Hitsville U.S.A.’s “Snake Pit” (Motown’s live recording room), I chose to record my band in a residential basement. Throughout 2014 and 2015, my colleague and bassist Tim Hatch allowed our live band to rehearse in his houses in Salisbury and Mansfield (two suburbs in Brisbane). Using existing video and photo footage, we aimed to convert Tim’s basement into a space that resembled the size and atmosphere of the Motown recording room in Detroit. Tim’s house in Salisbury was our location for writing, jamming, arrangement, and rehearsal of songs. After Tim had moved to Mansfield, we use the basement in his new residence as our chosen space for the tracking the initial rhythm section beds for *Soul Sundays*.

**Floor plan and recording set up**

In my experience of recording an ensemble of musicians in single space, I developed an appreciation for a well-organized floor plan/arrangement. When setting out specific positions for instrumentalists, vocals, and amplifiers, we aimed to construct a space which accomplished the following: 1) a space that is comfortable for everyone involved; 2) a room that inspired creative work and productivity; 2) a floor plan which allowed all musicians to have direct, eye contact; and 4) a well planned set up that is aided our engineers in balancing the individual volumes of instruments. By using baffles in appropriate places (such as in front of the drum kit and the amplifiers) we were able to control the louder “voices” in the room. In addition, I
made it the engineers’ (myself included) priority to ensure high-quality, headphone monitoring\(^3\) for all performers.

**Recording process, sonic texture and hybrid technologies**

Sonically, I envisioned the completed album of work to embody similar sonic characteristics to Motown recordings. However, this production team was aware of the technological advantages we have compared to our 1960s counterparts. Our goal was to *appropriate* vintage technology so we did not have to restrict ourselves to just simply analogue recording devices. With this in mind, hybrid technologies were employed in order to best capture the performances and quickly store data—in this case audio files. I used the term “hybrid” to describe the marriage of digital and analogue recording gear we chose to use. The ongoing discussion (in some cases argument) of analogue versus digital has been well documented with many of the pros and cons being mentioned and acknowledged. In the case of our production of *Soul Sundays*, our engineers employed a 1980s Soundtracs mixing console with analogue preamplifiers and equalization on each channel. This allowed us to capture and shape the “colour” of the individual signals during the recording phase.

**Structure of exegesis**

**Chapter Two: Literature review**

The section of the thesis is a synthesis of all the literature and recorded material I have explored for this thesis. The first part of this chapter discusses the existing literature surrounding Motown’s origins, it’s in-house backing band, key employees, and previous research in to “the Motown sound.” Some of the historical content discussed in this chapter has been appropriated from my honours dissertation: *In Search of Soul and Groove: A Study of the Motown Drum Sound* (2012). The second part of this literature review (or “context scan”) focuses on the recorded material of Motown’s music of the 1960s and ‘70s as well as the modern soul releases of the past two decades.

**Chapter Three: Vintage vibe or simply old junk?**

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\(^3\) For the purpose of this creative method, musicians were not be restricted by 1960s monitoring techniques. All performers were encouraged to use headphones in order to minimize spill of audio during the recording of takes.
Chapter three is made up two conference papers I have previously presented. Following on from the research of Bennett (2012) and Williams (2015), I investigated my “technostalgia” with a series of vintage instrument and recording gear experiments in order to better understand the sonic textures of Motown records. Part one discusses my practical analysis of vintage keyboards,⁴ while part two covers my research in to reel-to-reel recorders.⁵

Chapter Four: *Soul Sundays* rhythm section beds
This chapter is largely made up of content that appeared in *Unsung heroes: Recreating the ensemble dynamic of Motown’s Funk Brothers* (2015), which is a paper I presented at an IASPM-ANZ annual conference. I have reflected upon the three weekends in which our house band (now referred to as The Perry Collective) tracked the rhythm section beds for *Soul Sundays*. Furthermore, this section of the thesis also discusses our band’s attempt to recreate the ensemble dynamic of Motown’s Funk Brothers.

Chapter Five: *Soul Sundays* drum journal
Chapter five is an overview of my drumming contributions on *Soul Sundays*. It is predominantly a drumming reflective journal discussing all the creative decisions that were made during the recording of the rhythm section beds. This chapter includes track reports for each song on the album. The purpose of this chapter is to discuss the aims, outcomes, and personal analysis of my drumming on each track.

Chapter Six: Refinement and orchestration of *Soul Sundays*
This chapter outlines the postproduction phase of *Soul Sundays*. I have documented and analysed the specific details pertaining to the different instrumental overdubs (strings, brass, vocals, solo instruments, and percussion) as well as the mixing and mastering sessions. This creative journal was compiled in order to analyse and assess the extensive composition, orchestration, engineering, editing, and blending of sounds that occurred between October 2015 and May 2017.

Chapter Seven: Results and conclusions

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⁵ *Vintage vibe or simply old junk? Part 2: Reel-to-reel recorders* (Perry, 2014b).
This final chapter features the various outcomes and conclusions I have experienced during this research project. After interviewing key members of my ensemble, I have synthesized their collective thoughts and reflections of the album production. Also, I included some of their individual responses to the research questions to provide other perspectives of the project. I have personally provided answers to my initial research questions and sub-questions. Lastly, I have suggested some potential future research projects that relate to my completed research.

**Chapter concluding remarks**

There were four focus areas to this research project:

1. A literature review of the scholarly research pertaining to the record production at Motown during the 1960s and ‘70s.

2. A practice-based study of the production of new tracks inspired by Motown recordings. All aspects of the pre-production, recording, and post-production processes were documented and analysed.

3. A hands-on study of vintage recording gear. I dedicated time to this topic because I wanted the opportunity to work with analogue vintage gear. In addition, with help from my colleague Tim Hatch, I proposed the construction of a Motown-inspired recording studio. This was central to our recording project and acted as the central location for our album production. We used the space to conduct various audio engineering and production experiments in order to answer crucial research questions.

4. The last focus area of my research project was probably the most personal to me: my development as a recording artist/drummer. As I stated in my abstract and prelude, I planned to use this research project to develop in to highly proficient artist—specifically in the recording studio. During the practical-based activities, the album recording process, and the subsequent analyses/reflection, it was my ambition to develop in to a better instrumentalist and more well rounded artist.
CHAPTER TWO: LITERATURE REVIEW

Overview

The following chapter synthesizes all the literature and recorded material I have utilized for this thesis. The first part discusses the existing literature surrounding Motown’s origins, its in-house backing band, key employees, and an analysis of the famed Motown sound. Some of the historical content discussed below has been appropriated from my honours dissertation: *In Search of Soul and Groove: A Study of the Motown Drum Sound* (2012). Furthermore, some of details pertaining to Motown’s backing band have previously featured in: *Unsung heroes: Recreating the ensemble dynamic of Motown’s Funk Brothers* (2015), which was a paper I presented at an IASPM-ANZ annual conference.

The second part of this literature review (or “context scan”) focuses on the recorded material of Motown’s music of the 1960s and ‘70s as well as the modern soul releases of the past two decades. Where possible, I have acquired vinyl LPs of each album for my analyses. The songs that feature in this passage are discussed chronologically based on their release dates. This passage can be viewed as an analysis of the evolution of the soul genre. Content from Robert Dimery’s *1001 Songs You Must Hear Before You Die* (2010) has been used extensively for details pertaining to recording labels, songwriting credits, record release dates, and background information of the respective artists. However, the audio recordings themselves have been the primary resource for this aspect of the research.
Motown’s origins and operations

By the early 1960s, the genre known as soul had become the most commercially successful of all the crossover styles. Drawing on musical influences from the genres of gospel, jazz, and blues, “…soul’s success was as much due to a number of labels, so-called ‘house sounds’, and little-known bands, as it was to specific performers or songwriters” (Borthwick & Moy, 2004, p. 5). Following on from the pioneer releases of Ray Charles and Sam Cooke, it was a Detroit-based independent label that would soon become a household name throughout the United States and the most successful of the American soul labels.

Throughout the early 1960s, Berry Gordy’s Tamla Motown dominated the domestic US pop and R&B charts with its assembly-line method to music production—an approach Gordy appropriated from his personal experiences working at the Ford automotive plant (Moorefield, 2010, p. 21). However, in 1963 the company expanded their business internationally after signing a landmark distribution deal with EMI in the UK (Borthwick & Moy, 2004, p. 5). Gordy’s headquarters—a seemingly humble, suburban residence—was ambitiously named Hitsville USA and throughout the 1960s it became a hub for pop record success. Emerson (2005) acknowledged Motown’s industry presence when he noted:

Motown was muscling in on the market for dance music. Streamlined, turbo-charged singles by the Marvelettes, Martha and the Vandellas, and the Supremes rolled off the Detroit assembly line. … Berry Gordy’s “Sound of Young America” challenged the Brill Building, 1650 Broadway, and 711 Fifth Avenue as severely as the British Invasion because it proved that black artists did not need white writers to reach a broad pop audience (p. 194).

McEwen and Miller (1992) conveyed a similar assessment of the record company in question:

Motown in its heyday, on the other hand, knew no peers. In the end, it was a wholly mechanical style and sound that roared and purred like a well-tuned Porsche (p. 289).

According to these scholars, it was the founder and his previous occupations that had the most significant influence on the success of Motown as a record label:

The success of Motown is almost entirely attributable to one man: Berry Gordy. A former boxer and onetime record-store owner, Gordy, through a combination of pugnacious panache,

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6 Ray Charles’ most notable tracks during soul’s formative years include “I’ve Got a Woman” (1954) and “What’d I Say Pt. 2” (1959).

7 See “You Send Me” (1957).-
shrewd judgement and good taste, became the mogul of the most profitable black music concern in the world (McEwen & Miller, 1992, p. 278).

In a 1990 interview with Berry Gordy, Michael Goldberg of *Rolling Stone* revealed the extent of Motown’s financial success as well as it’s humble beginnings:

It was a musical revolution that Gordy launched in Detroit in the late Fifties, when, at age twenty-nine, he borrowed $800 from his family to make “Come to Me,” a simple R&B record that reached Number Six on the black-music chart. Five years later, Motown was one of the hottest record companies in the world. Looking back, Gordy would say, “I earned $367 million in sixteen years. I must be doing something right” (Goldberg, 1990, p. 71).

Throughout the 1960s, it is apparent that Motown’s distinctive interpretation of the soul genre was in stark contrast to their rival record labels based in the southern states. Brackett (2009) explained:

At the same time, differences began to emerge between a down-home, “southern” soul style—identified with the Stax and Atlantic recording companies and with studio based in Memphis and Muscle Shoal, Alabama—and a “northern,” “smooth,” or “uptown” soul style—identified primarily with Motown Records based in Detroit (p. 144).

Rickey Vincent’s *Funk: the Music, the People, and the Rhythm of The One* (1996) also provides an insight in to the differences between Motown and it’s southern counterparts. Vincent argued:

Stax producers were interested in producing an intimate, blues-and gospel-rooted feel in their music, and appealing to blacks first—almost the direct opposite of their counterparts at Motown. More important, the improvisational nature of the label’s arrangements allowed artists to take more chances—and by the late 1960s there were a lot of chances taken in black music (p. 64).

McEwen and Miller (1992) also tackled the topic of race in pop music production when they stated:

Contrived yet explosive, the very epitome of mass-produced pop yet drenched in the black tradition, the Motown hits of the Sixties revolutionized American popular music. Never again would black performers be confined to the fabled chitlin circuit; never again would black popular music be dismissed as a minority taste (p. 289).

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8 (Johnson & Gordy, 1959)
9 Tequia Burt of *Reverb.com* offered this explanation of the “Chitlin Circuit”:
In an era when African Americans sat at the back of the bus and were banned from “Whites Only” establishments, the so-called Chitlin Circuit flourished. … And in the South, that’s exactly where black musicians played: hole-in-the-wall clubs, juke joints and roadside shacks. …Much of the circuit was located in the South… (Burt, 2016).
Based on the existing literature, one could draw the conclusion that Motown played an influential role in African-American pop culture and identity. Gerald Early, scholar of African-American culture theorised:

…Motown was important because it helped crystallize the formation, not of a black audience (that had existed before), but of a black public and a black public taste that was taken seriously as an expression of general aesthetic among a broad class of Americans (Early, 2004, p. 4).

Motown may have developed their own “flavour” of soul music, however their songwriting and production methods were appropriated from American record producers of the past. By using a model that had been established by Jerome “Jerry” Leiber and Mike Stoller a few years earlier, Berry Gordy entrusted both songwriting and production duties to a collection of specialized individuals and teams in order to create new recorded material. Furthermore, this African-American entrepreneur saw the immense “commercial potential in producing records that could cross over from the rhythm and blues charts onto the pop charts” (Covach & Flory, 2012, p. 224). Gordy decided to produce and market his recordings to be “acceptable to white listeners in their original versions” thus preventing covers of his songs by white artists—a strategy adopted from Chuck Berry (Covach & Flory, 2012, p. 224).

**Unsung heroes: The Funk Brothers**

Much of the stardom and financial return at Motown were shared by only a select few involved in the production processes. While the singers became household names and the songwriters prospered with their royalty earnings, it was the recording session instrumentalists who remained far less acknowledged. The collection of musicians in question was the Motown house band known as the Funk Brothers.

These recording artists share origins with numerous African-Americans. Throughout the first half of the 20th Century, many of the Funk Brothers and their respective families migrated north from various southern states to find employment and escape

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10 On the subject of Motown’s session instrumentalists, Covach & Flory (2012) noted: The documentary film *Standing in the Shadows of Motown* chronicles the contributions of the studio musicians behind the Motown sound. Most listeners tend to focus their attention on singers, and perhaps songwriters or producers. Few are aware of the crucial role that backup musicians play on a given record (p. 226).
the racial segregation that had impacted on every aspect of their daily lives. Lured by the thriving automotive industry and a chance for a better way of life, several instrumentalists who would later become regular session musicians at Motown found work on the assembly lines of Detroit’s car factories. Nevertheless, musical ambition and stardom drove these individuals to chase after something more prestigious and profitable. Berry Gordy and his recording label provided them an alternative career path and opportunity to leave the car industry for good. Gordy himself recruited many of these men after they were discovered performing in various Detroit jazz lounges and clubs. However, the payment for a recording session at Hitsville USA was not a substantial increase to their previous factory wages.

Based on the existing literature that investigates the operations and business ethics of Motown, it is evident that Gordy certainly “…knew the worth of his Detroit musicians” (George, 2003, p. 119). However,

…That didn’t mean he paid them top dollar until he had to, and it didn’t mean he felt they should be stars. None of Motown’s albums carried the musicians’ credits until the Seventies. The musicians were never cited by name in interviews with artists, producers, or executives during the Sixties (George, 2003, p. 119).

Between 1959 and 1960, it is documented that the Funk Brothers initial payment per session was five dollars and a bowl of soup. Eventually “Berry [Gordy] was gradually able to raise the pay scale of his studio musicians from the initial $5 a side to $7.25, $10, $15, and eventually several years later, the union scale of $52.50 a session” (Slutsky, Jamerson, & Gordy, 1989, p. 13). Session payments aside, the most alarming aspect to Gordy’s agreement with his house band was that the Funk Brothers were almost never acknowledged in the liner notes of record releases and were sternly prohibited from recording on their own or with any of Motown’s rivals. Gordy actions may seem unfair by today’s industry standards, however it is important to note that this was common practice amongst other labels of this period such as Chess and Sun Records.

On a positive note, Motown gave these musicians stable employment as well as an opportunity to collaborate with a new generation of American R&B songwriters, producers, and vocalists. From their basement recording space—affectionately called the Snake Pit— their collective job was to record the rhythm section beds for songs
that would soon take America and the world by storm. The Motown rhythm section beds would often consist of a drummer (sometimes two drummers on separate drum sets), electric/upright bassist, three electric guitarists, multiple keyboardists, a tambourine player, and a mallet percussionist (predominantly vibraphone) (Justman, 2002). The collective task of the rhythm sections of this era was to establish a solid foundation for the singers, instrumental soloists, and other members of the ensemble that focused on the melody (Covach & Flory, 2012, p. 17).

According to scholarly literature, it was the Funk Brothers who were central to Motown’s early success and perhaps the label’s “most essential ingredient” (Dahl, 2001, p. 55). Lozito (2001), pays homage to this house band and his respect for these instrumentalists is clear when he noted:

> There were many elements and individuals who combined to make Motown great, and there were none more so than the backing musicians. Together they were the rock on which the empire was built (p. 86).

Their technical proficiency as session musicians became well known amongst recording circles. Covach & Flory (2012) noted, “…these players were adept at creating their parts on the spot, often without the benefit of scored-out parts or even a completed formal design” (p. 125).

Released in 2002, *Standing in the Shadows of Motown* is a documentary that celebrated the largely unknown instrumentalists that made up Motown’s house band. Based on the Allan Slutsky’s *Standing in the Shadows of Motown: The life and Music of Legendary Bassist James Jamerson* (1989), Justman’s film goes one step further than the book and highlights the achievements of all the Funk Brothers. The living members who made up the majority of recordings reunite to share their memories and thoughts on productions that took place during the years that Motown was based in Detroit (1959 to 1971). The film also features excerpts from a reunion concert where a collection of hit songs are performed live by the Funk Brothers. The band is fronted by selection of established singers (most notably Chaka Khan and Ben Harper) who offer their interpretations of the original vocal performances.

Numerous members of the American music industry and ex-Motown employees contribute their opinions about this relatively unknown backing band and throughout
the film the viewer starts to understand how integral they were to this label’s productions. Paul Riser (Motown arranger, producer and songwriter) mentions in the film:

People will ask, “What is the Motown Sound?” They’ve asked producers, they’ve asked executives of Motown, “What is the Motown Sound?” It was the musicians. … Without them, there really wouldn’t be a Motown. They were the foundation. That was the essence of Motown (Justman, 2002).

Don Was is also interviewed and adds: “Being great jazz musicians, they could swing like crazy, and that’s something not always present in pop music. … When there’s a groove like that, the subliminal effect is everybody feels good” (Justman, 2002). Due to their musical talent and improvisation skills, these artists were ideal studio musicians. However, because of their jazz background, they contributed their own unique flavour to pop music production.

Based on the interviews that were featured in Standing in the Shadows of Motown, it is apparent that Motown prided itself on its exceptional productivity during recording sessions. This was a result of using the same collection of musicians on very regular basis. Jack Ashford (one of the prominent Motown’s percussionists) is another musician who is interviewed during Paul Justman’s film. During his interview, he discusses the details of a typical recording session in Studio A. He mentions that the production team:

…Would allow for four songs for a three-hour session and we would get no less than two. But that’s because the same groups of guys played together all the time. … The only thing that changed was the changes. It was a home there. We spent so much time there (Justman, 2002).

The Funk Brothers certainly spent long periods of time together in the studio. However, these instrumentalists did not collaborate with Motown’s star singers very often. Dahl (2001) revealed:

Fraternization between the road-toughened studio musicians and the youthful singers was discouraged by Motown’s hierarchy. “We didn’t see the singers much when we did our sessions.

11 “Changes” is a colloquial term that is frequently used among jazz musicians, and is short for the chord changes in musical arrangements.
Very rarely,” said [Jack] Ashford. “They were instructed to stay away from us. So they really didn’t associate with us.” Since the backing tracks were usually laid upon prior to the singers’ arrival at the studio from the mid-‘60s on, interaction between the two factions was effectively minimized (p. 59).

**Key members**

Hitsville USA was home to numerous session instrumentalists. However, it was Earl Van Dyke, William “Benny” Benjamin, and James Jamerson “…who were the key men. …They were Motown’s backbone, the men who played the music that made America dance” (George, 2003, p. 119). Aside from his performances on both piano and organ, it was Van Dyke’s roles as bandleader and “studio organiser” (Lozito, 2001, p. 87) that were equally essential to the productivity and direction of each recording session.

On the subject of Benjamin’s contribution, Slutsky (1998) noted:

> You need to hear only the intro to Martha & the Vandellas’ “Dancing in the Street” to know where Benny Benjamin was coming from: energy and attitude. He also excelled at subtle kick-drum shadings, deft brush work, and the originality of his beats (p. 41).

Slutsky also acknowledges Benjamin as the creator the “Motown drum beat”: a rhythmic measure that features a constant quarter-note snare-drum pattern. This beat is regularly heard on Stevie Wonder’s “Uptight” (1965), throughout the duration of “Stop! In the Name of Love” (1965b), and during the chorus sections of The Temptations’ “Get Ready” (1966). Even though the bass drum pattern varies, the hi-hat and snare drum patterns largely remain the same throughout the duration of these mentioned tracks. Benjamin’s drumbeat quickly became a recurring theme in many other hit records and was adopted by all Motown drummers. From a drumming standpoint, it is my belief that this drumbeat became an authentic rhythmic feature that allowed Motown to remain relatively distinctive amongst the other soul labels. Tragically, Benjamin’s personal flaw was his alcohol and drug dependence and in 1969, his self-abusive lifestyle led to his untimely death (Dahl, 2001, p. 62). Despite the passing of this influential artist, Motown was fortunate to have two other drummers who would be able to deputize for Benjamin. Regarded by Slutsky as “the

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12 (Gaye, Stevenson, & Hunter, 1964)
master of the Motown shuffle”, Richard “‘Pistol’” Allen provided drum arrangements on hit records such as The Four Tops’ “I Can’t Help Myself (Sugar Pie Honey Bunch)” (1965a).

The second most prominent musician who carried on Benjamin’s legacy was Uriel Jones—a drummer best known for his driving groove on the Marvin Gaye/Tammi Terrell’s duet: “Ain’t No Mountain High Enough” (1967). During an interview for a magazine article even Jones acknowledged Benny Benjamin as the most respected of the Motown drummers amongst the instrumentalists who recorded for this label. According to Jones:

Papa Zita [Benjamin’s nickname] invented that Motown beat, and he taught it to us. Because of all his problems, we probably played drums on more Motown hits than he did. But he was Funk Brother #1 (Slutsky, 1998, p. 41).

If Benjamin was the number one drummer, then James Jamerson was the most revered Motown bassist amidst his peers. In simple terms, he was regarded as: “…the player who everybody wanted on their sessions” (Lozito, 2001, p. 87). Respected musician and producer Don Was claims that Jamerson’s bass contributions on Motown recordings are “the height of creativity, …freedom and experimentation and fearlessness” (Justman, 2002). Probably the most remarkable feature of Jamerson’s technique was that he performed all his bass parts with only his left hand and his right index finger. According to his son, James Jamerson III, “he played on all those hits with one finger. It was called the ‘hook’” (Justman, 2002). However, like Benjamin, Jamerson also sadly suffered from alcoholism. “The ensuing deterioration of Jamerson’s physical and mental health caused Motown to bring in Bob Babbitt to fill the void” (Slutsky, 1998, p. 41). His depression was only intensified when the Motown recording company decided, without warning, to move their operations and headquarters to Los Angeles. His tragic death in 1983 was directly related to his alcoholism and depression. Despite the tragic endings to these musicians’ lives, Benny Benjamin and James Jamerson are still regarded as the quintessential Motown rhythm section.
Other prolific American house bands

At this point in the chapter, it is very important to note that The Funk Brothers were certainly not the only prolific house band working in the American recording industry during the 1960s and ‘70s. Furthermore, it was common practice for record labels to not credit specific instrumentalists in the record liner notes and as a result, their identities were often unknown to the general public. It is clear that most American bands of this period rarely experienced any fame. Williams (2010) commented:

> Popular music in particular supports a celebrity system centered on highly visible and easily identifiable individuals. Yet much popular music is in fact made by unknown, unidentified musicians, hired collaborators who work out of the public eye in the recording studio or in the shadows of the concert stage (p. 59).

Exactly why the session musicians of this period remained largely uncelebrated is debatable.

On the west coast of the United States, record producer Phil Spector made heavy use of a backing band known as the Wrecking Crew. Throughout the 1960s and early ‘70s this prolific backing band provided the rhythm section beds on hit records by The Beach Boys, Frank Sinatra, Nancy Sinatra, Sonny & Cher, Elvis, The Monkees and many more artists. Directed by the son of Wrecking Crew guitarist Tommy Tedesco, the 2008 documentary The Wrecking Crew! Provides an insight into the LA recording industry of the 1960s and ‘70s as well as interviews with many famous recording artists that had recorded with this relatively unidentified backing band. In the film, Brian Wilson describes this band as being: “…the focal point of the music…” and the individuals “…with all the spirit and all the know-how especially for rock and roll music” (Tedesco, 2008). Nancy Sinatra also displays her admiration when she labels these instrumentalists as: “…the unsung heroes of all those hit records.” However, there is also a general feeling of frustration conveyed by some of the film’s interviewees and this is evident later in the documentary when Mickey Dolenz (of the Monkees) notes:

> The producers made a big mistake when they didn’t put the credits on the back of their albums of all the people who had played on the albums. Not only did they deserve it, but I think it was misleading.
The conclusion that can be drawn from this documentary is that the Wrecking Crew—like their Detroit-based counterparts the Funk Brothers—were highly valued for their musical talents in the recording studio, but heavily under appreciated and unknown by the general public.

**Celebrating the “hidden musicians”**

Over the past two decades, several authors and filmmakers have explored the role and importance of the session musicians that make up house bands. Zak III’s *The Poetics of Rock: Cutting Tracks, Making Records* (2001) provides a scholar’s perspective on the collaborative process of recording production. Zak III reflects:

> Making records is intrinsically a collaborative creative process, involving the efforts of a “composition team” whose members interact in various ways. As a matter of form, the “artist” on a recording is usually the person or group who receives top billing on the album cover, but in fact most of the tasks involved in making a record require some measure of artistry. Social relationships among the team members also contribute to the outcome of a recording project (p. 163).

Campelo (2015) continues the theme of celebrating and highlighting the work of all those who contribute to the music production process. As part of her concluding thoughts, this professional musician and academic passionately proclaims:

> It is my firm belief that session musicians should earn more credit for their anonymous work, on a general as well as an academic level. It would be important to clarify the type of contribution that these truly “hidden musicians”, using Ruth Finnegan’s expression (Finnegan, 1989), gave to music cultures associated to popular music (p. 7).

Following on from where *Standing in the Shadows of Motown* (2002) and *The Wrecking Crew!* (2008) left off, Morgan Neville’s *20 Feet From Stardom* (2013) shines the spotlight on the backing vocalists that have sung behind some rock and roll’s most iconic and prolific artists.

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The Motown Sound

Much is still debated about what exactly occurred in Motown’s Studio A and what specific elements make up the Motown sound. Musical scholars have previously analysed the musical and social content in great detail, (Fitzgerald, 1995; Neal, 1999; Gulla, 2008; Fink, 2011) however the specific production techniques—integral elements of the Motown sound—are not as widely documented or easily found. In addition, some of the material that has been documented is based on personal memories of previous employees and artists. Fink (2011) noted:

Pop criticism and serious musicological work alike are forced to rely on (often unreliable) memoirs from interested participants, and the strict division of musical labor central to Motown’s mode of production means that most accounts, even from those who were there, day after day, tell only part of the creative story (p. 180).

Cunningham’s Good Vibrations: A History of Record Production (1998) provides some insight in to production techniques implemented at Motown. The author himself acknowledges that this label played an influential role in “development of American record production in the Sixties” (p. 71). Also, Cunningham describes this label’s sound as a “mystery” and adds:

One might say that the Motown Sound as a subject deserves a book of its own and, true enough, there have been in-depth studies of the company. But we are dealing here with the physical production of the records, and the true story of the making of Motown’s hits has been so guarded by those close to Gordy that it is difficult to know exactly what happened, when and, more importantly, where (p. 71).

Bill Dahl’s Motown: The Golden Years (2001) provides possibly the most informal definition of this label’s famed sound:

Defining the “The Motown sound” in a few pat phrases can be a frustrating proposition. Gordy disingenuously referred to it as “a combination or rats, roaches, talent, guts and love” (p. 55).

Natais (2009) also makes some interesting observations on the Motown sound and theorised its three key elements. The first of which is the Funk Brothers who he collectively describes as musicians who “made a major contribution to this unique sound.” He adds, “The Funk Brothers were responsible for the consistency and groove of the Motown sound” (Natais, 2009, pp. 22–24).
Natais’s article mentions the use of reverb as the second key contributor to the label’s production process and overall sound. He points out that the recording engineers often broadcasted audio from Studio A in to the attic of the building through a hole cut in the ceiling. This cavernous space became the in-house echo chamber. “The sound bounced around in the vacant space and was picked up by a microphone and recorded” (Natais, 2009, pp. 22–24). These ‘60s recordings took place decades before the invention of digital effects. As a result, the engineers of this company had to be more inventive in order create a feeling of space. Motown’s reverb may have been created using primitive tools and methods, however it was highly effective and noticeable on their recordings.

The third and final key component that Natais discusses is the abundant use of the tambourine. Originally, this instrument was used in African-American gospel choirs and was used to energize a congregation. Motown percussionists realized its driving and rhythmic capabilities and utilized it on numerous hit records. As a studio instrument, the tambourine was easy to play and simple to record. Due to its richness of high-mid and treble frequencies, it was “pleasing to the ear when the music was played on small transistor radios, which were popular during Motown’s peak years” (Natais, 2009, pp. 22–24).

**Audio engineering and production at Motown**

A discussion of the Motown sound must also make mention of the techniques implemented by the company’s audio engineers. The most notable were Lawrence Horn and Mike McClain. Berry Gordy and his engineers were well aware of the technological advancements occurring throughout the ‘60s. They were determined to produce high quality audio that would sound outstanding in car speakers and be well received on transistor radios, “which by 1963 had almost totally replaced the tube format” (Cunningham, 1998, p. 72).

Gordy’s determination to produce audio for this medium resulted in him purchasing their own vinyl disc-cutting machine for the company. For every track recorded, they produced and an average of twelve marginally different mixes so Hitsville’s quality
control department\textsuperscript{15} could audition them and pick the best of the mixes. Perfection was what these employees were aiming for during these intense, listening sessions. To ensure release quality audio, each potential single was auditioned through a portable transistor radio, which was an audio device similar to those owned by the public of that time.

After much mixing, discussion and scrutinising, the audio that Motown released sonically sounded balanced and bright. This was a result of two key factors. Firstly, their audio engineers would employ “extensive equalisation hardware which outweighed every other known American studio, with control over various parameters of bass, middle and treble both in the recording and mixing stages” (Cunningham, 1998, p. 72). Three bands of equalisation gave Motown an advantage over their rivals since the majority of competing studios could only adjust bass and treble frequencies. According to Greg Milner: “The brightness of the Motown sound, explicitly tailored to AM radio, set a part from the sounds of most other R&B labels, such as Stax” (Milner, 2010, p. 178). The second key factor that influenced this audio production was the heavy usage of compression.\textsuperscript{16} Motown’s engineers applied an “excessive use of limiting in order to regulate the dynamics of vocal recording from artist to artist” (Cunningham, 1998, p. 72).

It is also important to note that Motown’s sound was unquestionably influenced by the company’s recording space. Often affectionately known by its staff as the “Snake Pit,” the Motown recording studio was originally the garage/basement of Hitsville USA. The Snake Pit is described as a small room with a relatively low ceiling. On the subject of this “home studio,” Motown engineer Bob Ohlsson noted:

> Essentially the whole place was Berry Gordy’s home studio. I mean, obviously after they became successful they were able to buy some very fancy gear and they had a lot of home-made gear, but it must be borne in mind that this really was the guy’s home! On the other hand I think Abbey Road was built in somebody’s mansion, so it’s not an unprecedented thing. I think too big a deal is made of this home studio versus the non-

\textsuperscript{15} Covach & Flory (2012) noted:

> Once a week, he gathered the staff together for “quality control” meetings, which served as the final test for each song, its arrangement, and its recorded sound. A number of freshly recorded potential releases were presented for Motown employees, and sometimes members of the community, to vote on which songs would be released that week (p. 226).

\textsuperscript{16} These comments on Motown’s EQ and compression methods correlate with my later analyses on p. 40 and p. 72.
home studio. A studio’s just a studio and there’s good ones and bad ones and some of them are in homes and some of them are built from the ground up (Stevenson, 2002).

In the earlier years of the company, Motown’s recording engineers were tracking with “a used vintage 1939 Western Electric recording console” (Slutsky et al., 1989, p. 61) and all musicians and singers were recorded on to just three tracks and “only two prior to 1961” (Slutsky & Zorro, 1999). They were individually responsible in mixing themselves acoustically in the studio. Ultimately, musicianship was the key.

Eventually Motown’s recording studio would feature a four-channel tape machine. However, the instrumentalists continued to balance their respective levels within the recording room. Tambourine and vibraphonist Jack Ashford reflected:

> When I was recording, I would have to sit close to the sock cymbal mic, which was played by Benny Benjamin. So I was on the sock mic, so they [the audio engineers] couldn’t turn me up and down, otherwise they would turn the drums up and down. They only had four tracks. So whatever volume they had, they’d say, “Move a little closer” (Dahl, 2001, p. 62).

In a 2002, *Tape Op Magazine* quizzed Bob Ohlsson about specific engineering and production methods implemented at Motown. The interviewee divulged about Motown’s obsession with record refinement and capturing the “perfect” vocal performance. According to Ohlsson, “…we were seriously into overdubbing, so live vocals were very rarely done.” (Stevenson, 2002) On the subject of miking up the house rhythm section, Ohlsson noted:

> Well, there are two distinct flavors: The first original set-up they used pretty ordinary mic’ing. That’s where I first saw the Shure 545, which went on to become the [Shure] SM57. They had a bunch of those. They had two or three [Neumann] U67s, a [Neumann] U47, a RCA 77 that I was told was used on the bass drum, which kind of surprised me (Stevenson, 2002).

Ohlsson also revealed valuable information pertaining to the reverb effect units that were used at Hitsville USA:

> …We had a mono EMT plate [reverb unit]. …We had a Fender spring [reverb], we had a Binson Echolette, we had an Echoplex. They were all rack mounted and came up in the patch bay (Stevenson, 2002).
In 2010 on the audio website Gearslutz.com, Bob Ohlsson continued to informally expose some of the audio techniques implemented at Motown. On the topic of microphones and vocal production, he revealed:

Most of our vocals were recorded 3 to 10 feet away from the mike. The Hitsville studio was quiet and uncolored enough to get away with those distances. The Mike was a Neumann U67 or an Neumann SM2 (stereo KM-56) before ’69 and a Neumann KM-86 after (Olhsson, 2010).

This forum post also featured very specific directions pertaining to the EQ and compression settings he applied to vocal channels:

Before we had a 16 track [tape machine], around 1969, using parallel compression on the lead vocal in the mix was common with a noise gate to kill the compressed channel between phrases. Track 1 of our home-brew machine had hum so we put the lead vocal there and high-passed on the mix to kill the hum. The top end was down so we had to turn it up a bit with a Pultec or a graphic (Olhsson, 2010).

An audio engineering handbook

As stated earlier, elements of the famed Motown sound have been rarely discussed and discussed in scholarly research. In order to investigate methods of replicating the sonic qualities of the Motown label, one must look at all research already conducted pertaining to all audio productions of the 1960s and ‘70s. Rick Clark’s Mixing, Recording, and Producing Techniques of the Pros (2011) features interviews with 115 leaders of the audio production industry and provides some glimpses into recording practices during the era in question. These first hand accounts are a combination of anecdotes, recording tips, and specific instructions on how to each audio producer has captured tones on their respective productions.

On the subject of electric bass, Norbert Putnam shared his experience recording with the Fender Precision bass: the chosen make and model of Motown bassist James Jamerson. Putnam reflected:

In the mid ‘60s, the only way to record a Fender Precision bass was through an Ampeg B-15 with the bass and treble turned off and a Neumann U 87 shoved up near the speaker cone. You had the treble knob and volume fall out on the Precision bass and fixed the final output level on the front of the Ampeg. Most engineers then applied 2 or 3 dB of compression via an LA-2A or an Urei 1176. However, a few years later, almost all recordings were by direct box with
the treble and volume still full out on the bass. I no longer had to haul a heavy amp. Yeah!

(Clark, 2011, p. 19)

*Mixing, Recording, and Producing Techniques of the Pros* also provides some timeless and insightful wisdom in to the mixing and mastering stages. Furthermore, Clark’s book includes an interview with a reputable audio engineer who discusses the value of LP albums of the past. Mastering engineer Greg Calbi (whose recording credits include Paul Simon, John Lennon, David Bowie, Bruce Springsteen, and Bob Dylan) commented:

…I must stress that producing a great-sounding LP will require a financial and artistic commitment, but one that would have tremendous rewards for the vinyl lover. … Next time you rifle through a bin of old LPs at the local antique center, realize that albums you see were recorded in professional studios with budgets 8 to 10 times higher in real dollars than the average budget today… They were probably recorded by professional engineers who spent years as studio assistants, and the only way to listen to them on demand was to buy them or have friends who did. If you see one by an artist you like, and it’s less than 10 bucks, I would recommend you buy it and a turntable to play it back. The sound might surprise or even shock you (Clark, 2011, p. 189).

Clark (2011) also discussed the dynamic relationship between artists and recording engineers. Gavin Lurssen (who has previously worked alongside Elvis Costello, Tom Waits, Quincy Jones, James Taylor and Guns n’ Roses) expressed his views:

Listening to music is an intensely subjective experience. We hear things a little differently, depending on the frequency range within which we function. What may be too bright or too loud for me may be just right for you. Experienced audio engineers can—and should—give advice, but the final sound that really counts is the sound that the artist wants (Clark, 2011, pp. 189–190).

This interview with Lurssen also included the engineer passing on some valuable advice for balancing the creative, personal, and technical tasks with artists. He noted:

It is essential for all of us in the recording industry to understand that fact so that we can give our clients the best product possible, the one that really captures their vision and opens a connection between the artist and the fans… The best way to achieve that goal is by clear communication. I have learned over the years that one of the first important steps for me as a mastering engineer is to communicate with a client at a human level and to leave the technical stuff until later. … I tried to relate the subject to everyday human experience, and I found to my pleasure that people seemed to like that approach (Clark, 2011, p. 190).
The Motown drum sound

Musical historians only have to inspect photos or view archival footage to know that Beatles drummer Ringo Starr played Ludwig drums. Amongst drumming circles, it is also widely known that Premier was chosen drum brand of Keith Moon of The Who. However the drum sets that the Motown house musicians played weren’t as uniform as their British counterparts. A 1999 issue of Modern Drummer magazine describes these sets as a “Rainbow Coalition” made up of various components from Rogers, Ludwig, Gretsch, Slingerland and half a dozen no-name brands (Slutsky & Zorro, 1999). In addition, the company was careful to not purchase any expensive drum sets. This decision was made because Benny Benjamin infamously sold one of their house kits to a local pawnshop.

Motown’s drum sound was often made up multiple drummers playing at same time so these session musicians had to adjust their playing styles in order to balance their combined volume. According to Doerschuk (2012), “For a while all three drummers [Benjamin, Allen, and Jones] were laying down tracks at different times.” Marvin Gaye’s “I Heard It Through the Grapevine” (1968b) is probably the most noteworthy Motown track to feature all three house drummers. Schlueter (2012) explained:

> This song was recorded with Benny Benjamin, [Richard] “Pistol” Allen, and Uriel Jones playing together and dividing the drum and percussion parts between them. We can see a pared-down hi-hat and kick groove, a tom on 2 and 4, and a tambourine roll that lasts through the intro that transitions to a muted bongo part. A couple of minutes into the song, a full drum set part kicks in for four bars.

After an era of two and three-track mixing, the introduction of eight-track consoles drastically improved the drum sound because drums could now be isolated in the mix. By 1965, Hitsville’s resident engineers were recording with a pair of Ampex eight-tracks (Cunningham, 1998, p. 71). Multiple microphones could now be used on individual drums and as a result the Motown engineers had more control of the drum sound during the recording and mixing process. Nevertheless, those technological changes meant very little to Motown’s house drummers.

> All this talk of channels and tracks was the realm of the room on the other side of the control booth glass. They were more interested in what was happening in the corner of the studio floor where their kit was set up (Slutsky & Zorro, 1999).
In 1999, “Pistol” Allen and Uriel Jones were interviewed for an article in *Modern Drummer* magazine. During this discussion, they shared valuable information regarding the specific drum production and microphone techniques implemented on Motown’s hit records. According to Allen:

> We played with the front bass drum head off with some blankets stuffed in it. They’d stick the mic right in there. For the snare, we’d place the microphone right on the head or sometimes on the side near the air hole. For the floor tom, I’d tune it to a G, and then they’d mike it from underneath with a boom stand (Slutsky & Zorro, 1999).

Every session was an experiment to the Motown house drummers. Snare drums often got special attention in order to “get that tight, crisp sound” they were after (Slutsky & Zorro, 1999). Electrical tape was stuck to bottom head of the snare to reduce the natural resonance of the instrument. Jones also recalls using a combination of duct tape and tissue paper on the top snare head. After successfully finding an ideal sound, the recording engineers stressed the importance of *not* adjusting the drum tuning. Jones reflected:

> Those drums very rarely went out of tune. … And besides, the engineers didn’t want us messing around with the tuning anyway. Once in a while if it got really out, you might pull out a drum key and give a half turn or so. But we usually came in and just started playing with what was already there (Slutsky & Zorro, 1999).

On the subject of drumhead\(^{17}\) selection, the house drummers were not overly concerned about their make or model. Due to the nature of live recording, they had to be disciplined with how hard they struck their drums. As a result, the Motown drummers didn’t damage their drumheads very quickly and therefore did not have to change them very often. Allen recalls spilling his lunch on the drumheads and pointed out:

> It didn’t matter to us what they were. They had tomato catsup stains on ’em, and McDonald’s French fry grease was splattered everywhere. As long as they sounded good, that’s all we cared about (Slutsky & Zorro, 1999).

The Motown house drum set/s may have been shared by all three drummers, however, each player had their own trademark drum fills. In an interview from *Standing in the*

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\(^{17}\) Drumheads are also commonly referred to as drum skins.
Shadows of Motown (Justman, 2002), “Pistol” Allen demonstrated and performed the three drum fills that characterized each Funk Brother. All three “pick ups” are notated in the transcriptions below:

Figure 1: Signature/key for drum fills

Figure 2: Benny Benjamin drum fill

Figure 3: Uriel Jones drum fill

Figure 4: "Pistol" Allen drum fill
Recorded resources: 1959–1980

Other than the recordings that were previously discussed, there are many Motown records that have informed this research. This discussion of Motown records begins in 1959 during the post-rock and roll era. Influenced by the doo-wop\textsuperscript{18} vocal groups of the 1950s, Tamla Motown’s earliest releases continue the tradition of call and response vocals. The most notable records of Motown’s formative years include: Barrett Strong’s “Money (That’s What I Want)” (1959), The Marvelettes’ “Please Mr. Postman” (1961), and the Miracles’ “Shop Around” (1961).

During the mid-1960s while the Beatles were achieving mass fame in the United States and triggering the “British invasion” (Dimery, 2010, p. 107), Motown achieved some its greatest crossover success.\textsuperscript{19} The songwriting/production team Holland-Dozier-Holland combined with vocal group the Supremes to release a series of infectious pop singles including: “Baby Love” (1964), “Stop! In the Name of Love” (1965b), and “You Can’t Hurry Love” (1966). No discussion of Motown pop records would be complete without mentioning The Temptations’ hit record “My Girl” (1964). Co-written and produced by Smokey Robinson, “My Girl” was voted number one in a survey conducted by Motown fans in 1997.\textsuperscript{20} Martha and the Vandellas’ “Dancing in the Street” (1964) symbolised a change in American race relations. Fulford-Jones (2010) theorised:

“Dancing in the Street” sounds like a veiled attempt to address these issues and inspire the black community to action, although Reeves has always held that it was not a call to arms but an invitation to party. (p. 142)

Another notable Motown recording of the mid-1960s was “The Tracks of My Tears” (1965) from The Miracles’ \textit{Going to a Go-Go}, which peaked at number 2 on the American R&B chart and number 16 on the pop chart.\textsuperscript{21} On the topic of the lead vocalist/producer, MacDonald (2010) assessed, “… Smokey’s dramatic production distinguishes the song from its R&B/doo-wop lineage, with the drums and horns adding an urgency more often associated with the output of Motown’s rival label, Stax” (MacDonald, 2010, p. 158). This memorable period in Motown’s history also contained the releases of the Temptations’ “Ain’t Too Proud to Beg” (1966) and

\textsuperscript{18} See Flory (2006, pp. 49–61) for specific details pertaining to Motown doo wop vocal groups.

\textsuperscript{19} See \textit{Motown Crossover Hits 1963–1966 and the Creative Process} (Fitzgerald, 1995).

\textsuperscript{20} See “The Motorcity Fanclub’s Top 100 Motown Tracks” in Abbot (2001, p. 250)

\textsuperscript{21} (McEwen & Miller, 1992, p. 290)
Stevie Wonder’s “For Once in My Life” (1967)—two singles that will be long remembered for featuring passionate lead vocal performances.

Following the 1967 summer of love, Motown entered an era of “psychedelic soul” (Flory, 2006, p. 134). After the tragic assassinations of John F. Kennedy, Martin Luther King, and Malcolm X., this recording company began to display their social conscience with records such as the Temptations’ “Cloud Nine” (1968a) and “Ball of Confusion (That’s What the World is Today)” (1970a), as well as Edwin Starr’s anti-Vietnam war protest track “War” (1970b). Norman Whitfield, who was an instrumental figure in the development of the psychedelic soul sub-genre during the late 1960s, produced all three tracks.

The Jackson 5 was the last successful vocal group to come out of the Motown’s Detroit headquarters during this period of the company’s history. Their vocal arrangements and heavily choreographed dance routines honoured past vocal groups. Furthermore, their bubbly on-stage personas injected a youthful energy into Motown’s stable of artists. The group’s debut album Diana Ross Presents The Jackson 5 featured tracks that could be described as “bubble gum soul.” However, the Jackson 5 displayed a superior level of vocal ability compared to other bubble gum pop outfits such as the Monkees, the Archies, and the Banana Splits. One of the most notable tracks to appear on their debut album was “I Want You Back” (1969) and featured session guitarist Louie Shelton—a member of the prolific backing band the Wrecking Crew. Shelton’s instrumental performance along with Motown’s house band previewed listeners of the funky soul records of the coming decade. Huey (2017) noted:

The Jackson 5’s infectious brand of funky pop-soul was a definite departure from the typically smooth, elegant Motown sound, as befitting the group’s youth and the dawn of a new decade.

At the relatively young age of 20, Stevie Wonder was given full creative control of his productions. Along with Smokey Robinson and Marvin Gaye, he was one of only three individuals to write, perform, and produce his own material. On the topic of Wonder’s evolution as an artist, Rockwell (1992) assessed:

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22 See Fink (2011) for in-depth details on Norman Whitfield’s production and songwriting work at Motown.
Musically, Wonder aided in the early Seventies by producers Robert Margouleff and Malcolm Cecil, started to exploit the potential of the modern studio, particularly for overdubbing. He was now able to play most of the instruments, with only occasional guitar solos, horn, string or percussion supplementation and backup singing by others (pp. 296–297).

Wonder’s “Signed, Sealed, Delivered (I’m Yours)” (1970) was the first record he produced himself and it achieved crossover success peaking at number 1 on the American R&B chart and number 3 on the pop chart (Rockwell, 1992, p. 298). On the subject of Wonder’s vocal performance and production of “Signed Sealed Delivered (I’m Yours),” Perone (2006) clarifies:

He sings here with a gospel-like feeling— even doing some throaty octave-jumping screams— sounding more like a Philadelphia-style soul singer than a Motown product. Further, every breath and every emotional gasp he takes is audible. He would continue to make heavy use of close-miked vocables in his even more funk-oriented recordings of the next couple of years (p. 20).

1970 also saw the release of The Supremes’ *New Ways but Love Stays*. This album was an important milestone in the band’s evolution as it was the first record to feature new lead vocalist Jean Terrell. In January of that year, Terrell replaced Diana Ross who had left the vocal group to pursue a career as a solo singer and film actress. Carrying on the peace and love themes of Sly and the Family Stone records, “Stoned Love” (1970) was the most notable track of *New Ways but Love Stays* and featured the lush string arrangement of David Van DePitte. Also included on the album were the Motown-style cover versions of the iconic songs “Bridge Over Troubled Water” (Simon & Garfunkel) and “Come Together” (Lennon & McCartney).

David Van DePitte’s association with Motown continued when he conducted and orchestrated arrangements for Marvin Gaye’s melancholic masterpiece *What’s Going On* (1971). In a 2012 vote conducted by *Rolling Stone* magazine, the album ranked as the 6th “greatest album of all time.” What is most amazing of this album release was that it almost was not released. According to (RollingStone.com, 2012):

Gaye was determined to shatter Motown’s pop formula and address pressing social issues. Motown founder Berry Gordy was not pleased. He claimed that “What’s Going On” was the worst song he had ever heard. ... Gaye responded that he would never record for Motown again unless “What’s Going On” was released as a single. After initially being rejected by
Motown’s quality-control committee, it was; when the song became a Top Five hit, the album – and a burst of socially conscious music from Motown – followed soon after.

The album’s title track\(^{23}\) conveyed Gaye’s sadness and confusion after his brother was conscripted to fight in Vietnam war, while “Mercy Mercy Me (The Ecology)\(^{24}\) was the singer’s sorrowful ode to the environment. The album’s third single, “Inner City Blues (Make Me Wanna Holler)\(^{25}\) drew attention to the poverty-stricken individuals who lived in the city ghettos across America. Hutcheon (2010) noted that the track:

\[
\text{...Lacks the dope-haze sense of optimism of the title track and finds the singer staring into the abyss. With Eddie “Bongo” Brown and bassist Bob Babbitt leading the musicians, the Motown house band conjures up a Latin-flavoured voodoo funk from the opening second… (p. 298).}
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Throughout the 1970s, Stevie Wonder continued to explore the possibilities of both overdubbing and electric keyboards. Rockwell (1992) wrote:

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\text{The music’s color was defined above all through Wonder’s fascination with synthesizers, the clavinet, electric pianos and organs and, more recently, samplers and MIDI-interfaced computer technology. They lent his work, particularly the uptempo material, a twangy insistence that was unmistakably personal without ever lapsing into silly technocratic display (p. 297).}
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Wonder’s usage of the Hohner Clavinet model C on his cover version of the Beatles’ classic “We Can Work It Out” (1971) and most notably on “Superstition” (1972a) from Talking Book popularized the usage of the electric keyboard throughout the 1970s. “Superstition” would also feature a bass line that Wonder performed himself on a Moog synthesizer. With the exception of the horns and guitars, Wonder truly proved his ability to appear as an “one-man-band.” Berry (2010) revealed:

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\text{For “Superstition,” Stevie had all the sounds in his head and developed the track in the studio. Aside from horn and guitar overdubs that would be added later, there were no musicians that had to be rehearsed: Wonder would play all the instruments.}
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Also from Talking Book, Wonder utilized the Fender Rhodes electric piano on his bossa nova ballad “You Are The Sunshine of My Life” (1972b). This electric piano would become a regular feature of his following albums. Jazz piano virtuoso Herbie Hancock would make a cameo appearance on Wonder’s Songs in the Key of Life (1976) performing his Fender Rhodes solo on “As.”\(^{26}\) The double album also included

\(^{23}\) (Cleveland, Benson, & Gaye, 1971)
\(^{24}\) (Gaye, 1971)
\(^{25}\) (Gaye & Nyx Jr., 1971)
\(^{26}\) (Wonder, 1976a)
“Sir Duke”\textsuperscript{27} and “I Wish,”\textsuperscript{28} which are two tracks that feature prominent brass arrangements.

“Master Blaster (Jammin’)” from \textit{Hotter Than July} (1980) merged the funk and reggae genres together in one politically-tinged recording. The landmark track was released after a decade that had seen Bob Marley become “reggae’s most charismatic star.” (Dimery, 2010, p. 257) Perone (2006) further explained:

Wonder’s exploration of reggae and ska in “Master Blaster (Jammin’)” follows on the heels of various British musicians, including Elvis Costello, the Police, and the Clash, as well as mixed-race bands like the Specials, in bringing these 1960s Jamaican styles into a new (and second- and third hand) prominence during the late 1970s. …Wonder’s composition is a tribute to Bob Marley …and the Pan-American politics expressed in some of Marley’s songs (pp. 80–81).

\textsuperscript{27} (Wonder, 1976c)
\textsuperscript{28} (Wonder, 1976b)
Recorded resources: 1995–2016

During the mid-1990s, a new generation of recording artists, producers, and songwriters began to re-package the soul genre. If R&B was an “alternative to hip hop’s one-note tales of thug life,” then the neo-soul movement of the 1990s offered an alternative to commerciality and pop sensibility of R&B. One could argued that the sub-genre name “neo-soul” was created by Kedar Massenburg (who was president of Motown Records between 1997 and 2004) as a simple method of marketing his stable of artists. In an interview conducted in 2008, Motown Records artist Erykah Badu was asked for her definition of the sub-genre and her response was quite surprising:

What’s funny about neo-soul is that I don’t even know what it is… I know what the two words mean, but that term was thrust upon myself and D’Angelo by Kedar Massenburg, who is the president of the label that signed me. He has a talent for spotting underground music that he feels is the next wave. I guess that’s what neo-soul is to Kedar, a new wave of soul (Turner, 2008).

Defining this sub-genre is quite a difficult task and scholars have rarely researched or discussed the ‘90s “new wave of soul.” There are some online sources and magazines that have offered some insight on the topic of neo-soul. On the subject of the sub-genre’s roots, Dimitri Ehrlich professed:

The origins of neo-soul date back to the late ‘80s and early ‘90s, when acts like Mint Condition, Tony Toni Toné, and Terence Trent D’Arby bent the conventions of R&B. … The subgenre is most closely identified with Erykah Badu, D’Angelo, Jill Scott, India.Arie, Musiq Soulchild, and Bilal, all of whom emphasize a mix of elegant, jazz-tinged R&B and subdued hip hop, with a highly idiosyncratic, deeply personal approach to love and politics (2002, p. 72).

Terich and Pearson (2016) made the observation:

What distinguishes neo-soul from, simply, soul is the broad palette of sounds that it incorporates. Soul is, of course, the foundation, but artists such as Erykah Badu, D’Angelo and Maxwell took those classic R&B textures and fused them with rock, jazz, funk, hip-hop, Latin and African styles to create something less conventional, yet still deeply soulful.

29 (Seymour, 2002, p. 71)
31 See “Brown Skin” from India.Arie’s Acoustic Soul (2001).
33 See “Otherside of the Game” from Erykah Badu’s Baduizm (1997).
34 See “Really Love” from D’Angelo and the Vanguard’s Black Messiah (2014).
Nero (2017) presented a definition of the genre that was similar and further explained its main difference with R&B:

Neo-soul is a musical genre that fuses contemporary R&B and 1970s-style soul with elements of hip-hop. As its name (new-soul) implies, Neo-Soul music is essentially modern-day soul music, with contemporary attitudes and sensibilities. It differs from contemporary R&B in that it’s obviously more soulful, and it also tends to have deeper messages and meanings than R&B.

Fintoni (2014) was quite frank while assessing the sub-genre and explained the flawed nature of the prefix “neo”:

Neo soul has an additional paradoxical nature, as pointed out by Vibe writer Dimitri Ehrlich in the same year: “Neo means new. Soul is timeless.” The word was doomed to fail from the get go. The music, however, has remained true to its timeless roots.

Notwithstanding the paradoxes surrounding the sub-genre meaning, neo-soul was regularly viewed as the non-commercial alternative to the more mainstream R&B music of the 1990s. In a 2002 issue of Vibe, Brian Casey of the band Jagged Edge bluntly noted, “I appreciate a lot of these neo-soul artists, …but they lose sight of making a hit record. And if you don’t make hit records, people don’t hear your music” (Seymour, 2002, p. 71).

Genre definitions and paradoxes aside, journalists have found common ground when naming the seminal neo-soul artists and their respective albums. Representing the male singer/songwriters of this era, D’Angelo’s Brown Sugar (1995) is an album performed and produced by an artist who successfully employed a combination of vintage recording gear and modern electronic devices. His usage of electric keyboards and live instruments on the album’s title track paid homage to Motown icon Stevie Wonder, while his cover version of Smokey Robinson’s “Cruisin’” noticeably demonstrated his ability to repackage a late ‘70s record in the mid-1990s. D’Angelo would later reinterpret another track of the 1970s on his second studio album Voodoo (2000). His cover of Roberta Flack’s 1974 record “Feel Like Makin’ Love” was slower and slinkier than the original, and was heavily influenced by the track’s drummer Questlove, a member of fellow neo-soul/hip-hop outfit The Roots.

35 (Robinson, 1995)
Other tracks that are noteworthy in this discussion of neo-soul are Maxwell’s “Sumthin’ Sumthin’” and “Ascension (Don’t Ever Wonder)”36 from his album Urban Hang Suite (1996). Terich and Pearson (2016) made special mention of this album and assessed:

Maxwell’s Urban Hang Suite is a lush sonic world unto itself, all gorgeously arranged full-band funk songs and slow jams, nodding to the likes of Marvin Gaye and Off the Wall-era Michael Jackson as Maxwell dives into a loose lyrical narrative that follows a romance between two people. It’s an intoxicating listen throughout, each song ripe for either dancing or making sweet love.

Lauryn Hill’s “Doo Wop (That Thing)” from The Miseducation of Lauryn Hill (1998) demonstrated this artist’s ability to blend hip-hop instrumentation with soulful chorus vocals, and hard-edged rap verse sections. Jim Harrington (2010a) formulated his assessment of the song and noted:

The music evoked a raucous block party, with uplifting horns and sweet backing vocals. … She volleyed between crooning like a classic beehive-haired diva and rapping like a b-girl—and was equally as both (p. 770).

Outside of the rigid confines of the neo-soul sub-genre, the 2000s also saw a series of throwback albums consisting of both new musical and cover versions of soul classics. The best example of this style of album production was Joss Stone’s The Soul Sessions (2003), which included revamped covers of Willie Garner’s “Super Duper Love (Are You Diggin’ on Me?) Pt. 1,”37 Soul Brothers Six’s “Some Kind of Wonderful,”38 The Isley Brothers’ “For the Love of You Pts. 1 & 2,”39 and Aretha Franklin’s “All the King’s Horses.”40 Instrumentation for the album included organ, tambourine, electric bass, electric guitars, and acoustic drums—all trademark features of the rhythm sections that appeared on soul records of 1960s.

Fellow British-born artist Amy Winehouse continued the theme of “throwback” albums with her 2006 release Back to Black. However, unlike Joss Stone’s The Soul Sessions, Winehouse wrote or co-wrote all eleven tracks on her album. This is also a

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36 (Maxwell & Shur, 1996)
37 (Garner, 2003)
38 (Ellison, 2003)
39 (Isley et al., 2003)
40 (Franklin, 2003)
key difference with the female soul singers of the 1960s who very rarely wrote their own material (Partridge, 2016). Harrington (2010b) assesses the album as:

…One of the most influential albums of the decade, *Back to Black* tapped into the girl-group vibe of the early Sixties and inspired a rival of old-school soul/R&B music. It paved the route to stardom for fellow revivalists Duffy and Adele but also influenced new music from established stars such as Raphael Saadiq and Tom Jones (p. 864).

Harrington goes on to pinpoint “Love Is a Losing Game”\(^{41}\) as one of the more notable and memorable tracks to feature on *Back to Black*. He commented:

This mature, timeless song features forlorn wisdom delivered via deceptively catchy lyrics. A sparse yet velvety arrangement complements the message and the result is far beyond convincing retro-soul. …More than anything else on the critically acclaimed *Back to Black*, sounds like a long-lost gem from the Sixties that has been rediscovered (p. 864).

From a musical arranger’s perspective, the usage of orchestral strings, rich brass, and vibraphone heard on “Love Is a Losing Game” honoured the instrumentation implemented by Motown arrangers of the past. Another track to appear on this album that visibly pays tribute to Motown, is “Tears Dry on Their Own”\(^{42}\) which samples of one of Motown’s most recognizable tracks. Smith (2017) explains:

While the melody and lyrics are composed by Amy [Winehouse], the music behind her voice is a sample interpolation of Marvin Gaye and Tammi Terrell’s 1967 Motown classic hit “Ain’t No Mountain High Enough,”\(^{43}\) penned by the married duo of Ashford & Simpson.

This album was an important milestone in Winehouse’s short career. Despite her very public battle with alcoholism and substance abuse, her music earned the artist respect amongst the British recording fraternity. In an interview on the BBC radio program *Desert Island Discs*, George Michael voiced his admiration for Winehouse and commented, “This is the best female vocalist I’ve heard in my entire career and one of the best writers…” (BBC, 2007).

Amy Winehouse remained in the public eye after performing a cover of “Valerie” on Mark Ronson’s *Version* (2007). The format of this record was different to funk/soul-influenced albums of the past because the central figure (Ronson) did not feature as a vocalist on any of the tracks. Like Joss Stones’ *The Soul Sessions*, the album was

\(^{41}\) (Winehouse, 2006)
\(^{42}\) (Winehouse, Ashford, & Simpson, 2006)
\(^{43}\) (Ashford & Simpson, 1967)
largely a compilation of re-interpreted covers except each track featured a different artist performing their own “version” of the song. Ronson played the roles of producer and multi-instrumentalist throughout the record. Notable tracks from Version include the brass-instrumental cover of Coldplay’s “God Put A Smile Upon Your Face” featuring The Daptone Horns and Daniel Merriweather’s mash-up of “Stop Me If You Think You’ve Heard This One Before” with the Supremes’ “You Keep Me Hangin’ On.”

Back in the United States, African-American artist Raphael Saadiq released his retro-soul album The Way I See It in 2008. Drawing inspiration from Motown and Philadelphia soul records of the past, Saadiq wrote or co-wrote all tracks and amazingly performed the majority of rhythm section instruments himself. The appearance of Motown tambourine and vibraphone player, Jack Ashford added a 1960s authenticity to the record. The most prominent tracks to appear on The Way I See It include the slinky “Sure Hope You Mean It,” “Just One Kiss” (Saadiq’s duet track with Joss Stone), the blues-infused “Let’s Take A Walk,” and “Never Give You Up,” a track that features both Motown icon Stevie Wonder and hip hop artist CJ Hilton.

The last record to be discussed in this passage of recorded resources is Jimmy Barnes’ Soul Searchin’ (2016). This album was Jimmy Barnes fourth “homage” record intended to honour the R&B and soul records that influenced him during his formative years as a singer. In the Soul Searchin’ liner notes, the Scottish-born vocalist (who is best known for fronting the iconic Australian rock band Cold Chisel) candidly admitted, “Soul music is where I drew my influences as a singer. I’ve always said: I wanted to sing like a soul singer in a rock & roll band” (Barnes, 2016). Barnes intentionally recorded the album in the Nashville and collaborated with veteran

44 (Berryman, Buckland, Champion, & Martin, 2007)
45 (Morrissey, Johnny, Holland, Dozier, & Holland, 2007)
46 (Saadiq, 2008b)
47 (Saadiq, 2008a)
48 (Saadiq & Curtis, 2008)
49 (Saadiq & Hilton, 2008)
50 The most notable cover tracks from Jimmy Barnes’ previous R&B/soul tribute albums include: "(Your Love Keeps Lifting Me) Higher and Higher" from Soul Deep (1991), “Hold On, I’m Comin’” from Soul Deeper...Songs from the Deep South (2000), and “Hallelujah I Love Her So” from The Rhythm and the Blues (2009).
session musicians in order to ensure that each track embodied an authentic Southern-soul feel. On the record liner notes, he reflected:

I wanted to get some players who’d played on the original soul sessions and The Memphis Boys played on songs like “Suspicious Minds” and “In The Ghetto” for Elvis, they’d played with Wilson Pickett, Solomon Burke, James Carr, Bobby Womack, Joe Tex, right through to Neil Diamond, The Box Tops and Dusty Springfield. They are such incredible players and it was unbelievable for me to have them in the studio. They came in – they’re in their 80s – came in, sat down an they went “Whomp! One, Two! Bang!” The groove of doom! So there I was, making a record in Nashville with the legendary Memphis Boys. I was just laughing to myself (Barnes, 2016).

The most notable tracks from Soul Searchin’ are “If Loving You Is A Crime (I’ll Always Be Guilty)” with featured the rhythm section the Memphis Boys, and “I Worship the Ground You Walk On” which included a lead guitar cameo from Steve Cropper—the guitarist who is best known for his session work with Stax house band Booker T. and the M.G.s and fondly remembered as a member of the Blues Brothers band.

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51 (Y. Williams, 2016)
52 (Oldham & Penn, 2016)
CHAPTER THREE: VINTAGE VIBE OR SIMPLY OLD JUNK?

Overview

Nostalgia has been a constant driving force in my development as a musician. My obsession with Tamla Motown records has caused me to romanticize the 1960s and 1970s—two decades that occurred before I was born. Oxford Dictionaries online (2017) describes this feeling as: “a sentimental longing or wistful affection for a period in the past.” Carrying on the rather melancholic theme, The Pocket Macquarie Dictionary (1989) defines nostalgia as: “A longing and desire for home, family and friends, or for the past.”

“Technostalgia” as the word suggests is a longing or desire for technology of the past. Based on my current collection of vintage instruments (most of which consists of Ludwig drums manufactured in the 1960s), microphones, and recording gear, it is evident that I have contracted a bad case of technostalgia. However, according to Alan Williams’ Technostalgia and The Cry Of The Lonely Recordist (2015), my fascination with vintage gear is warranted:

> It’s only logical – to make recordings as great as those that inspired us, we should use the same machines that shaped and captured those sounds. And it is overly simplistic to suggest that an appreciation for older technology is really an exercise in associative nostalgia.

During mid-2014, my fellow band members and I decided to explore my technostalgia and analyse two types of vintage gear: keyboards and reel-to-reel recorders. I had chosen these two contrasting categories of gear, as I believed that they would have the most impact on our musical performances during the production of our proposed album: Soul Sundays. In hindsight, I am pleased that I chose to study one piece of recording gear and one type of musical instrument. My theory—based on my previous encounters during my honours research project—surrounding reel-to-reel recorders was that there was no better and more time efficient method of adding tape saturation to an audio file than using the “real deal.” And on the subject of musical instruments, I theorised that if I were to hire/purchase a vintage keyboard for

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my fellow members, they would be inspired to perform more emotionally and channel the “vintage vibe” of the instrument. Furthermore, it was my hope that they would experience technostalgia as well (much in the same way that my vintage drum kits have inspired me).

In my mind, this obsession with older gear was warranted: if our band was going to successfully recreate the sonic and musical characteristics of Motown records, we should all have instruments that were manufactured during the 1960s and 1970s. At this initial stage of my doctoral research, I still held on to the romantic idea that any vintage instrument or piece of recording gear could and would bring an element of heritage to any production I was involved with. This specific academic endeavour to study vintage gear more closely was necessary because I truly wanted to discover if there were any quality digital (software) alternatives to the older hardware.

As stated in my structure of exegesis, this chapter is made up two conference papers I have previously presented. Following on from the research of Bennett (2012) and Williams (2015), I conducted a series of experiments (shoot out tests) in order to better understand the sonic textures of Motown records. Part one discusses my practical analysis of vintage keyboards,\(^5\) while part two covers my research in to reel-to-reel recorders.\(^6\)

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\(^5\) (Perry, 2014a)  
\(^6\) (Perry, 2014b)
Part 1: Vintage keyboards

There is much debate among musicians of my generation (gen Y) and my mentors regarding vintage keyboard sounds and what methods are “best” in order to re-create the sonic characteristics of the 1960s and ‘70s. The purists (who are largely made up of my older colleagues) favour the option of maintaining a vintage electro-mechanical keyboard—such as a Wurlitzer electric piano. Others (the more technologically savvy musicians) prefer software patches and a MIDI controller with weighted keys due to their affordability and convenience. Over the past decade, there has been a resurgence in vintage keyboard usage. In an interview conducted in 2011, American producer/engineer Cookie Marenco noted:

There’s been renaissance in the last few years of the older, classic instruments like the Fender Rhodes and Hammond B-3 organ. I still haven’t found a synthesizer that can duplicate the sound, let alone the feel and touch. Many synths come close—or least close enough to save your back when schlepping it around is an issue (Clark, 2011, p. 164).

I was especially interested in the researching vintage keyboards, as many of the Motown records that have inspired this research project have featured organs, electric pianos, and analogue synthesizers. Furthermore, all the singer/songwriters I chose to collaborate with to produce my research creative output (Soul Sundays album) are keyboardists. Understanding these older instruments was going to have an influence on the production of the album. Also, we didn’t have a large budget for this recording project so this comparison test was vital in determining which type of keyboard was going to provide the closest representation of Motown keyboard tone without breaking the bank. Ultimately, I was aiming to answer the following question: Do vintage keyboards actually provide vintage vibe, or are they all simply old junk?

We aimed to study the three types of keyboards that were available to us in our comparison test:

1. Electro-mechanical keyboards
2. Synthesizers/Keyboards (hardware)

This comparison (shoot-out) test gave us one vintage option and two modern-day alternatives to analyse. The two specific keyboards that we chose to examine were: 1) the Hammond B-3 organ and 2) the Fender Rhodes MK I. The organ was more of a
feature during the 1960s when Motown was still based in Detroit, Michigan. The
Fender Rhodes on the other hand, was more of a feature of the early to mid-70s
productions. Due to logistic and financial reasons, we were not able to hire a genuine
Hammond B-3 organ so we settled for a more affordable alternative instead. Leading
up to this comparison test I was able to acquire a Wurlitzer Organ (Model 555) for
free on Gumtree. We chose two reference tracks from the Motown discography for
these experiments. Mary Wells’ “My Guy” (1964) was selected as our organ
reference track while Stevie Wonder’s “You’re the Sunshine of My Life” (1972b)
provided us guidance on recreating the Rhodes electric piano tone. Gear
specifications and keyboardist details are listed below:

**Electric piano experiment**
- Instrumentalist: Chris Sheehy
- Instruments:
  1. Vintage option: Fender Rhodes MK1
  2. Keyboard/synthesizer option: Korg SP250
  3. MIDI keyboard/D.A.W. option: Korg SP250 (as a MIDI controller)
     triggering software patches in Logic Pro X
- Computer: Mac Book Pro
- Recording software: Logic Pro X
- Recording/MIDI interface: Focusrite Saffire Pro 40

**Vintage organ experiment**
- Instrumentalist: Mitch Pattugalan
- Instruments:
  1. Vintage option: Wurlitzer organ (Model 555)
  2. Keyboard/synthesizer option: Roland Juno Di
  3. MIDI keyboard/D.A.W. option: Roland Juno Di (as a MIDI controller)
     triggering software patches in Logic Pro X
- Computer: Mac Book Pro
- Recording software: Logic Pro X
- Recording/MIDI interface: Native Instruments Audio 8 DJ
- Microphone: Shure PG 56 dynamic (for miking up the Wurlitzer organ speaker
  cabinet)
Criteria for comparison test

1. **Ease of Use**: This part of the test related to how difficult it was to set up each instrument. The three different keyboard types each had contrasting signal paths in order to create sound.

2. **Tone**: We wanted to explore the sonic variations between the three options. This section of the experiment was testing how effective the instrument was at replicating the original sounds heard on the Motown tracks.

3. **Vibe**: For this criteria section, we wanted to measure (if it’s possible) how much creative inspiration each instrument brought to the recording. We wanted to know which of three options best recreated the “vibe” of the respective reference track.

Each criterion was given a numerical value out 10 with 10 being the highest mark. I asked each keyboardist to grade each keyboard option because they were in physical contact with each instrument.
**Fender Rhodes MK I test findings**

The tone was almost identical to the reference track. Chris noted that: “[it] sounds real because it *is* real. …It’s one sound but it’s *the* vintage Rhodes sound” (Sheehy, 2014). Unfortunately, during the test he accidentally severed a crucial internal wire, which meant that it needed to be re-soldered. Also, one of the keys had no action left and was practically unplayable. These faults were initially an inconvenience. However, whilst watching Chris persevere with his faulty instrument provided me an insight into vintage keyboard ownership. Overall, this option provided excellent and authentic tone but only momentarily due to the faults.

Chris’ scores:
- Ease of use: 7.5
- Tone: 10
- Vibe: 9.5
- Total score: 27/30

![Figure 6: Chris' Fender Rhodes broken key](image1)

![Figure 7: The severed wire underneath the piano body](image2)

**Rhodes alternative #1: Korg SP250**

Whilst experimenting with the Korg SP250, Chris noted that, “[it is] really built for home use. The Korg sounds much better through its in-built speakers. The D.I. [direct input] signal sounds tinny and thinner…” (Sheehy, 2014). The one positive of this keyboard was the weighted keys. Unfortunately, the Korg SP250 offered very little manipulation options.

Chris’ scores:
- Ease of use: 8
- Tone: 6
- Vibe: 6
- Total score: 20/30

![Figure 8: Chris’ Korg SP250](image3)
Rhodes alternative #2: DAW/MIDI keyboard patch (“Deluxe Classic”)

For the third electric piano option, we employed a Logic Pro X electric piano patch. To my surprise, it provided a very realistic tone and you could even hear the simulated mechanical sounds within the virtual Rhodes. Chris commented, “It’s unfair how easy it is to play and pull a very realistic tone” (Sheehy, 2014). This was partly due to weighted keys of the Korg SP250, our MIDI controller for this experiment.

Chris’ scores:
- Ease of use: 9
- Tone: 9.5
- Vibe: 9
- Total score: 27.5/30

Wurlitzer Organ (Model 555) test findings

On first hearing (after turning on the instrument), the Wurlitzer organ tone was already very close to the sound of the organ on the “My Guy” recording. There is a rotary speaker within the body the organ so the organ tone was being amplified authentically. In regards to the organ speaker, Mitch commented, “…You feel the keyboard tone in your gut… It has ‘grit’ so it [the keyboard tone] would also cut through the mix” (Pattugalan, 2014). Overall, this set up was simple and the organ provided plenty of vibe and creative inspiration for Mitch and myself.

Mitch’s scores:
- Ease of use: 9
- Tone: 8
- Vibe: 9
- Total score: 26/30
Organ alternative #1: Roland Juno Di
Our first organ alternative was Mitch’s Roland JUNO-Di synthesizer. We decided on the patch titled: “VKHold4Speed” because this tone was the closest to the sound of the organ from “My Guy.” However, it sounded (in Mitch’s words): “too modern and too clean.” It was easy to use and “provided a lot of options for patches…” but compared to the Wurlitzer, “…there isn’t as many options for manipulating a specific tone” (Pattugalan, 2014). As a result, it scored poorly for tone and vibe marks.

Mitch’s scores:
- Ease of use: 8
- Tone: 6
- Vibe: 7
- Total score: 21/30

Figure 11: Mitch performing on his Roland JUNO-Di

Organ alternative #2:
DAW/MIDI keyboard patch (“Classic tone wheel”)
Our third organ option was a Logic Pro X EVB3 sound patch called: “Classic tone wheel.” From a tone perspective, it provided a: “little bit more character than the Roland (little bit more grit). …But still sounded too modern” (Pattugalan, 2014). On a positive note, the software patch gave us the ability to refine our chosen tone via virtual drawbars and dials.

Mitch’s scores:
- Ease of use: 7
- Tone: 7
- Vibe: 7
- Total score: 21/30

Figure 12: Logic X "Classic tone wheel" organ patch
**Overall experiment reflections**

**Fender Rhodes**

Chris reflected that “the emotional response” of playing the Rhodes was a very different thing to playing a MIDI controller or keyboard. Also, the Fender Rhodes electric provided a tone that is ideal for the jazz, R&B, and soul genres. On the topic of the virtual sound patch, Chris noted, “You’re [the player] approaching the instrument because you know it’s not real.” When asked which of the three options he preferred, his response came as a surprise to me:

> I probably pick the MIDI [option], because in a saddening way, it’s easier to play. The Korg action [as a MIDI controller] can facilitate better parts—more complex riffs are easier to perform. At the cost of loosing some authenticity, the weighted keys are easier to play (Sheehy, 2014).

**Wurlitzer Organ**

From a performance point of view, the organ’s two tiers affected the way Mitch approached the instrument. It was obvious to me that the two tiers aided his creativity. However, because the organ doesn’t have a direct output, we were forced to mike up the speaker cabinet with an instrument microphone. On a positive note, because we *were* miking up the organ’s speaker, we were also capturing some room ambience, which significantly improved the quality of the tone. This added ambience enhanced the authenticity of our organ tone replication.

*Figure 13: Mitch performing on my Wurlitzer Organ*
Concluding thoughts on vintage keyboards

1. I neglected to investigate one major variable in the production/performance of vintage keyboards: feel and touch.

2. Ambience and “vibe” in the recording room can be created when the keyboard (any type) is amplified via a speaker.

3. If a vintage keyboard is not in working order, it will not provide a clean signal or appropriate tones. Furthermore, maintenance of these instruments can be very expensive. If the instrument has broken keys, the keyboardist can not play those notes. Older keyboards can feel “clunky” and unresponsive due to wear and tear.

4. There are more positives than negatives to vintage keyboard so they are certainly worth hiring or purchasing.

5. After this experiment, I was convinced that vintage keyboards were going to have a positive influence on our production of Soul Sundays.
Part 2: Reel-to-reel tape recorders

There is much debate among musicians of my generation (gen Y) and my mentors regarding analogue tape saturation and what methods are “best” in order to re-create the “soulful” tones of 1960s and ’70s records. The traditionalists and purists favour the option of maintaining a vintage reel-to-reel tape recorder for tracking and mixing purposes. This is because of their ability to add tape saturation on individual channels and also act as the “glue” in a mixing session. My more technologically savvy colleagues prefer digital plug ins (tape emulators) due to their simplicity, affordability, and ease of use.

Based on discussions I have had with my audio production mentors and colleagues, I developed the following positive views of tape machines:

1. Tape machines can compress large transients (such has percussive sounds).
2. Tape saturation can provide warmth in the low mid-range and bass frequencies.
3. Tape machines can “smooth out” harsher treble frequencies.

These were purely theories based on informal conversations and the brief hands-on experiences whilst completing my 2012 honours dissertation. I decided in 2014 that further research was required in order to better understand the pros and cons of incorporating reel-to-reel recorders in a modern-day production.

Existing literature offered some valuable insights. In an interview for Rick Clark’s *Mixing, Recording, and Producing Techniques of the Pros*, Tony Visconti afforded this wisdom regarding the misconceptions of tape compression:

Tape compression, although it is a reality that has become a romantic notion, is not an accurate means of compression and is unpredictable. … The actual warm and nostalgic analog sound sought after today is not actually the tape itself. It was the total, sonic decisions of an engineer like myself, fighting down the long chain of production events, trying to restore the original punch of the instruments before they were committed to tape (Clark, 2011, pp. 12–13).

Also from Clark (2011), Nick Launay weighed in on the discussion and offered some positive reasons for using analogue tape machines. He advised:

I think analog still sounds better than digital for many reasons, but a lot of it has do with how you line the tape machine up and what tape machine you use. It’s not just about renting any old Studer and throwing black and brown tape on it. You have to get the right Studer, and you
have to line it up with the right tape. It really depends on what tape you use and what level you record the different instruments at (p. 14).

An anonymous author from Dustygizmos.com lamented the demise of reel-to-reel recorders during the digital age:

The days of reel-to-reel tape recorders are long gone and if you want to record audio these days you will probably end up using a computer, or some sort of digital device where the only moving parts are the on/off switch. That’s a shame, we’ve lost something, there’s nothing quite like the sight of a big reel-to-reel tape recorder doing its thing, fast winding a pair of ten inch metal reels. It’s awesome and would probably be banned under today’s health and safety legislation. But more importantly, a good reel-to-reel setup really does sound better than most digital recording systems (Dustygizmos.com, 2017).

After reading these passages, I was inspired to purchase my own tape machine and explore the sonic possibilities of tape saturation myself. By pure coincidence, I obtained my own machine without any major financial investment. In 2014 after bringing up my new fascination for tape machines with one of my musical mentors, Russell Stork, he proposed a surprising and humorous deal to me. In short, I swapped a bottle of Jack Daniels for a used Revox A77 MK IV ¼ inch tape machine. I knew very little about the recorder, but he assured me that is was worth repairing and incorporating in to my audio productions. I did some further research to better understand my tape machine and learn how to operate it. I’ve included the following passage to cover its manufacturing history and technical specifications.

**Revox A 77 MKIV stereo tape recorder**

The Revox A77 tape recorder was produced between 1967 and 1977 in Switzerland and Germany. Known for its reliability and rugged assembly, nearly 290,000 A77s were manufactured. The basic version of the A77 has been more or less unchanged during the ten years they were produced. Based on the serial plate, my specific machine is a Mark IV model and was assembled at some stage between 1974 and 1977 in Germany. It can record two channels on a ¼ inch tape reel at 7.5 IPS (inches per second) and 3.75 IPS. Geary Yelton of *Electronic Musician* reviewed the tape machine in 2011 and provided the following information:

> Popular with audio professionals, the Revox A77 may have been the bestselling 2-track reel-to-reel tape recorder of all time. … Beginning in 1955, Studer produced a line of what the company considered recorders for enthusiasts rather than professional studios, under the brand name Revox. Revox high-fidelity open-reel tape decks were handmade and designed for audiophiles. The A77 was built to such exacting standards and with so many options, however,
that it crossed over from enthusiast to pro and was embraced by broadcast and recording engineers. Like pro-level Studers, the Revox A77 was known for its precision engineering, rugged build quality, and accurate sound reproduction (Yelton, 2011).

**Kramer Master Tape plug in**

For the purposes of comparison, I chose to analyse the Kramer Master Tape plug in. I downloaded a free demo version of the software for this research. Designed by Waves, this plug in was programed to simulate the tape saturation of a rare vintage ¼” reel-to-reel machine that was used in London’s famed Olympic Studios. Developed in association with legendary producer/engineer Eddie Kramer, this digital tape machine allows the user to adjust the virtual tape speed (15 IPS and 7.5 IPS), bias, flux, wow and flutter, and slap/feedback delay settings (Waves.com, 2017). To ensure a fair shoot-out test with the Revox machine, I decided to use the 7.5 IPS setting on the Kramer plug-in.

**Research questions**

This practical-based research in to reel-to-recorders and their plug-in alternatives aimed to answer the following questions:

1. Can reel-to-reel tape recorders provide vintage texture/vibe/tone?
2. What does tape saturation sound like on overall mixes?
3. What does tape saturation sound like on individual instruments?
4. Can digital plug-ins provide the same effect (tape saturation) on overall mixes?
5. Can digital plug-ins provide the same effect (tape saturation) on individual instruments?
6. Which option is more time efficient?
7. Which option is more cost effective?
8. Overall, which is the “better option?”
Experiment method

My chosen method for this shoot-out test was fairly straightforward. I recorded our band performing a chorus from one of the original songs we had recently written for Soul Sundays. The band consisted of: drums, bass, keyboard (mono), organ, tambourine, claps, and a lead vocal. The chosen signal chain for this experiment was as follows:

1. I sent the total mix of these tracks to the Revox tape recorder and selected the 7.5 IPS tape speed.
2. I then bounced that stereo tape mix back to my computer.
3. I used a digital plug-in (in the method as the tape machine) on the mix master of the original tracks.
4. I applied a digital plug-in on individual tracks and then bounced those mixes back to my computer.

Experiment gear specifications

Audio signal path

1. Microphones (AKG C414 condenser, Shure PG 56 dynamic and Shure PG 52 dynamic) and D.I. boxes
2. Multicore
3. Analogue console
4. Audio interface
5. Laptop and Pro Tools
6. Audio was sent to the reel-to-reel recorder via the laptop headphone output
7. Audio was returned to laptop and Pro Tools via the laptop audio input

Figure 15: Behind my Soundtracs console
Figure 16: Audio interfaces
Figure 17: My Laptop and Revox A77
Instrument channel list

1. Bass drum microphone: Shure PG 52 dynamic
2. Drum kit overhead microphone: AKG C414 condenser
3. Bass direct input
4. Keyboard direct input
5. Organ microphone: Shure PG 56 dynamic
6. Tambourine microphone: AKG C414 condenser
7. Claps (take one) microphone: AKG C414 condenser
8. Claps (take two) microphone: AKG C414 condenser
9. Lead vocal microphone: AKG C414 condenser

Figure 18: Ludwig 22” bass drum
Figure 19: AKG C-414 condenser microphone
Figure 20: Ludwig drum kit with microphone set up
Figure 21: Shure PG 56 miking up the Wurlitzer Organ
## Experiment results

### Table 1: Plug in comparison test table

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Plug in tonal/sonic characteristics</th>
<th>Better option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bass Drum</td>
<td>Full, punchy, and warm tone. The plug in provided tone that was close to the tape machine audio</td>
<td>Tie</td>
</tr>
<tr>
<td>Drum Overhead</td>
<td>A lot brighter than the tape machine audio. Minimal change in texture.</td>
<td>Tape</td>
</tr>
<tr>
<td>Bass</td>
<td>Not as much punch, noise, or warmth as the tape machine audio.</td>
<td>Tape</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Fractionally brighter. The noise filter helped create a vintage texture.</td>
<td>Tie</td>
</tr>
<tr>
<td>Organ</td>
<td>Very close to the tape machine audio. This result might be due to the limited frequency range of the organ.</td>
<td>Tie</td>
</tr>
<tr>
<td>Tambourine</td>
<td>I actually preferred the plug in for saturating the tambourine audio. It was richer in the bottom end, which enhanced the sound of my hand hitting the calfskin.</td>
<td>Plug in</td>
</tr>
<tr>
<td>Claps</td>
<td>Very similar in tone but did not provide as much noise as the tape machine audio.</td>
<td>Tape</td>
</tr>
<tr>
<td>Vocals</td>
<td>Brighter than the tape machine audio. But it did not &quot;smooth out&quot; treble frequencies as much as the tape machine.</td>
<td>Tape</td>
</tr>
<tr>
<td>Overall Mix</td>
<td>Minimal change. Some saturation and smoothing in the top end.</td>
<td>Tape</td>
</tr>
</tbody>
</table>

## Research questions and answers

1. **Can reel-to-reel tape recorders provide vintage texture/vibe/tone?**
   
   In short, yes. My Revox A77 applied a grain-like texture and “noise” to all the audio samples. Also, the tape machine provided some “character” and added ambience for the instruments that had been connected via D.I. boxes (the bass and keyboard).

2. **What does tape saturation sound like on overall mixes?**
   
   The saturation was instantly recognizable. It did actually “glue” instrument signals together and applied tape compression to the louder transients.

3. **What does tape saturation sound like on individual instruments?**
   
   The tape saturation sounded “punchy” and warm on lower frequencies and took the edge off harsher treble frequencies. On a negative note, it did unfortunately affect the intonation of pitched instruments.
4. Can digital plug-ins provide the same effect (tape saturation) on overall mixes?
   Yes, but it only provided a minimal change to the audio sample.

5. Can digital plug-ins provide the same effect (tape saturation) on individual instruments?
   Yes, but only on select instruments. Also, the Waves Kramer Master Tape plug in did not smooth out or dull the audio like the tape machine. Furthermore, the major downside to the plug in was that it digitally distorted audio when the input volume was too high.

6. Which option was more time efficient?
   The Kramer Master Tape plug in was easily more time efficient as there were no analogue connections involved. All I had to do was simply select the plug in from the list of digital effects with the click of a mouse.

7. Which option was more cost effective?
   The Kramer Master Tape plug in is far more cost effective as it only costs $249 for the full version. A fully restored and functioning Revox A77 can cost over a thousand Australian dollars to purchase.

8. Overall, which was the “better option”?
   All bias aside, the reel-to-reel tape machine was the better option. It will require ongoing maintenance and if I do need to replace it, it will be far more expensive than simply purchasing the plug in option. However, it will probably retain its value. It’s approximately forty years old and is already considered a collectors item. It will never require a “system update” like the plug in alternative and I don’t need a computer to use it. The creative process of using a physical device is much more tactile, precise, and fun—something that’s very hard to quantify by very important in any creative process. As a bonus, this specific tape machine model can also record at 3.75 IPS—a tape record speed that makes any audio signal sound lo-fi and “vintage.” Is this tape machine simply old junk? Absolutely not.

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56 While I was editing this chapter in June 2017, Waves were offering the plug in for the “sale price” of $49 (Waves.com, 2017).
CHAPTER FOUR: SOUL SUNDAYS RHYTHM SECTION BEDS

Overview of recording project

The following chapter covers the first major stage in the production of Soul Sundays: the tracking of the live rhythm section beds. Furthermore, I have included details of the songwriting process leading up to recording as a band and how we acquired/hired historically informed gear (musical instruments and audio recording gear) for the production. Also, I have reflected upon our method of converting an empty residential basement into a Motown-inspired recording space, as well as the challenges that were involved. This chapter of the thesis is largely made up of content that previously appeared in Unsung heroes: Recreating the ensemble dynamic of Motown’s Funk Brothers (2015), which is a paper I presented at an IASPM-ANZ annual conference. I have extensively reflected upon the three weekends (between the 15th and the 30th of May, 2015) in which our house band (now referred to as The Perry Collective) recorded as a section. Furthermore, this chapter also discusses our band’s attempt to recreate the ensemble dynamic of Motown’s Funk Brothers—a major focus of my research project.

Research aims

Following on from the work of Zak III and Campelo, this practice-led research project aimed to highlight the contributions of the “hidden musicians.” Furthermore, a major goal of this recording project and chapter was to situate my proposed rhythm section in the “shoes” of the Funk Brothers—the specific backing band that I am most influenced by. As a “compositional team” we wanted to investigate what mental, physical, emotional, and musical pressures these session musicians endured during the production of Motown’s iconic records. Time is one of the most precious commodities in a recording session and it was my belief that the recording label in question were experts in maximising their creative time. According to Motown’s vibraphonist and tambourine player, Jack Ashford:

They [the Motown producers] would allow for four songs for a three-hour session and we would get no less than two. But that’s because the same groups of guys played together all the time. …The only thing that changed was the changes. It was a home there. We spent so much time there (Justman, 2002).
With this information in mind, it was my goal as the producer of *Soul Sundays* to record a minimum of two tracks per session.

Despite this research project being a largely (and personally) indulgent study of Motown recording practices, it was one of my primary ambitions to uncover what elements of Motown’s live recording process are applicable to a modern record production. This style of recording is logistically more ambitious than the standard multi-track method that my collaborators and I are used to—this method generally involves recording each instrument separately. With this current recording project, it was my hope to embrace the house band concept of recording a rhythm section bed as a full rhythm section.

Another major aim for this research was to create an ideal space for the recording of the rhythm section beds. Throughout my undergraduate years, the topic of “space” was often discussed in the context of acoustics and ambience. However, the subject of space in relation to the research at hand pertains to the other main focus of *ensemble unity*. It is my belief that the Motown basement recording room heavily influenced the interpersonal interactions between the session musicians. This confined work area may have presented numerous sonic challenges but from a positive standpoint, it forced the band to work as united recording team. For many of my collaborators the idea of recording in the basement of a house is quite a foreign concept due our previous experience of working in large-format studios. This choice of location may also be viewed as a budget option compared to recording in an existing, purpose-built recording facility. However, I intentionally chose a basement in order to better understand how this type of space influences the musical interactions between my collaborators. Also, because I chose a suburban house, I wanted to document if this choice of space made the instrumentalists feel “more at home” during the recording process. Furthermore, I was precisely interested to see how a basement studio affected my collaborators’ individual performances during the rhythm section bed tracking process.

In preparation for the recording sessions, I aimed to source historically appropriate instruments and recording gear. It was my intention to set up a completely analogue recording studio with instruments from the 1960s and ‘70s. I was specifically
fascinated to see if the vintage instruments and gear had any influence on our musical performance—In other words, I wanted to test if vintage instruments could provide *vintage vibe* during the recording sessions.

Sourcing drums for this research was easy, as I already owned a collection of 1960s Ludwig drums in various different dimensions and sizes. Glen Hunt (our band’s guitarist) was kind enough to lend his vintage Fender Precision Bass to Tim Hatch to ensure that he could pay homage to Motown’s James Jamerson and Bob Babbitt. A set of flat wound strings was purchased to complement the Fender P-Bass tone in an attempt to recreate the iconic bass tones of Jamerson. In order to recreate authentic Motown keyboard sounds, we sourced a 1959 Hammond B-3 organ (with a genuine Leslie Cabinet), a 1970s Wurlitzer Electric Piano, a 1970s Rhodes Electric Piano Mark 1, and a 1967 Kawai upright piano. Finally, we hired a Tascam MS16 reel-to-reel recorder as our recording device. From a historical perspective, this specific device was not historically appropriate due to its construction and assembly in the 1980s. However, this specific model was selected because it was the most vintage multi-track tape machine available for hire. Also, from an audio engineering perspective, a major positive feature of this specific model was that it provided our production with sixteen separate channels—we hoped that this feature would make the mixing process easier. Overall, this obsession with sourcing vintage gear maybe view as simply “technostalgia.” However, it was my belief that giving my collaborators the appropriate tools was going aid our band in our quest to recreate the Funk Brothers’ dynamic and *vibe*.

**Method**

Assembling an appropriate backing band for the *Soul Sundays* recording project was fortunately a simple task. Firstly, I approached musicians that participated in my last research/recording project (Perry, 2012) and the subsequent Motown tribute show: *Vincent Perry’s Motown Revue*. Three of my collaborators (Kevin Suierveld, Tim Hatch, and Travis Lee) were my classmates during my undergraduate years and we

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57 “An essential element of ‘the Jamerson Sound’ [was] heavy gauge Labella flat wound strings” (Slutsky et al., 1989, p. 85).
had almost a decade of experience working together on various musical projects. With the exception of Phil Mairu, every musician in my proposed personnel list was a current colleague of mine in one of the various function/corporate bands in South-East Queensland. All members of the band regularly attended local jam nights and music social events as part of group of musicians that was informally known as “The Brisbane Jam Fam.” We are all fans of Motown records and we all shared a similar music vocabulary/repertoire.

Table 2: Years of mutual experience

<table>
<thead>
<tr>
<th>Artist name</th>
<th>Instrument/s</th>
<th>Years of mutual experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kevin Suierveld</td>
<td>Congas</td>
<td>Nine</td>
</tr>
<tr>
<td>Tim Hatch</td>
<td>Bass</td>
<td>Nine</td>
</tr>
<tr>
<td>Travis Lee</td>
<td>Vocals</td>
<td>Ten</td>
</tr>
<tr>
<td>Mitch Pattugalan</td>
<td>Piano and Keyboards</td>
<td>Six</td>
</tr>
<tr>
<td>Dan Wolsner</td>
<td>Piano and Keyboards</td>
<td>Two</td>
</tr>
<tr>
<td>Glen Hunt</td>
<td>Electric Guitar</td>
<td>Three</td>
</tr>
<tr>
<td>Xell Newton</td>
<td>Vocals</td>
<td>Three</td>
</tr>
<tr>
<td>Brett Orr</td>
<td>Keyboards</td>
<td>Three</td>
</tr>
<tr>
<td>Phil Mairu</td>
<td>Tambourine</td>
<td>None</td>
</tr>
</tbody>
</table>

Before we were able to arrange, record, and produce an album of new tracks, our first job as an ensemble was to write new repertoire. Several members of the proposed backing band are respected singer/songwriter/producers in their own right. This meant that multiple members of the band acted as both songwriters and instrumentalists during the production of the album. Conveniently Dan Wolsner and Brett Orr had previously written both the tracks that they were contributing to the album prior to the project—these four tracks were stylistically appropriate for the research. Travis Lee, Kevin Suierveld, Mitch Pattugalan, and Xell Newton (collaborating with Tim Hatch, Glen Hunt, and Chris Sheehy) all wrote new material specifically for the album. Between May 2014 and April 2015, I organised arranging/jam sessions on various Sundays to work on the material. Sunday was the only day of the week where we could regularly meet and collaborate. This almost weekly ritual became the inspiration for the album title: *Soul Sundays.*
Table 3: Track details and record dates

<table>
<thead>
<tr>
<th>#</th>
<th>Song title</th>
<th>Songwriter/s</th>
<th>Vocalist</th>
<th>Record date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;We'll Get Together&quot;</td>
<td>Dan Wolsner</td>
<td>Dan Wolsner</td>
<td>15/05/15</td>
</tr>
<tr>
<td>2</td>
<td>&quot;Just You and I&quot;</td>
<td>Travis Lee and Kevin Suiveld</td>
<td>Travis Lee</td>
<td>16/05/15</td>
</tr>
<tr>
<td>3</td>
<td>&quot;Masterpiece&quot;</td>
<td>Mitch Pattugalan</td>
<td>Mitch Pattugalan</td>
<td>22/05/15</td>
</tr>
<tr>
<td>4</td>
<td>&quot;Real Love&quot;</td>
<td>Mitch Pattugalan</td>
<td>Mitch Pattugalan</td>
<td>22/05/15</td>
</tr>
<tr>
<td>5</td>
<td>&quot;The Least That You Can Do (Smile)&quot;</td>
<td>Brett Orr</td>
<td>Brett Orr</td>
<td>23/05/15</td>
</tr>
<tr>
<td>6</td>
<td>&quot;Chemistry&quot;</td>
<td>Brett Orr</td>
<td>Brett Orr</td>
<td>24/05/15</td>
</tr>
<tr>
<td>7</td>
<td>&quot;Now You're Gone (So Very Happy)&quot;</td>
<td>Xell Newton and Glen Hunt</td>
<td>Xell Newton</td>
<td>29/05/15</td>
</tr>
<tr>
<td>8</td>
<td>&quot;Second Opinion&quot;</td>
<td>Xell Newton, Chris Sheehy, and Tim Hatch</td>
<td>Xell Newton</td>
<td>29/05/15</td>
</tr>
<tr>
<td>9</td>
<td>&quot;Change&quot;</td>
<td>Dan Wolsner</td>
<td>Dan Wolsner</td>
<td>30/05/15</td>
</tr>
<tr>
<td>10</td>
<td>&quot;Always&quot;</td>
<td>Travis Lee and Kevin Suiveld</td>
<td>Travis Lee</td>
<td>30/05/15</td>
</tr>
</tbody>
</table>

During the arranging and pre-production process we carefully listened to and analysed iconic Motown records (on vinyl where possible) for directions on instrumentation, song writing elements, and audio production components. *The Supremes A’ Go-Go* (1966), *The Motown Story (Volume One)* (1971), *What’s Going On* (1971), and Stevie Wonder’s *Songs In the Key of Life* (1976) became essential listening. Where possible, we tried to source vintage instruments in order to replicate sounds and textures heard on these iconic Motown releases.
Next we installed a temporary recording space/studio in the basement of a suburban house. Tim Hatch and Xell Newton were kind enough to volunteer their home in Salisbury for the pre-production process (writing and arranging) and their subsequent house in Mansfield for the recording of rhythm section beds. As stated in the previous section covering the research questions, we had previous experience recording together in a large-format recording studio. After that album production, I understood that a large recording room with tall ceilings was not ideal when trying to replicate the Motown sound. Furthermore, it was my theory that if we could record in a basement, we might able to create a similar creative vibe to Motown’s Snake Pit.

Between the 15th and 30th of May, 2015 we recorded all the rhythm section beds for the ten proposed tracks. Where possible we tracked each song with the entire rhythm section present. Our colleague and former classmate James Fox Higgins was hired as our audio engineer. During the recording sessions, he was located in the control booth located in the adjoining room. His main role on the first day of recording was to help set up microphones in appropriate locations, assign record levels via an analogue

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58 Salisbury and Mansfield are both suburbs of Brisbane.
59 Studio A and room 1 at the Queensland Conservatorium’s Gold Coast campus (Griffith University) were used during the previous research project (Perry, 2012).
console, and operate the 16-channel tape machine that he had hired to our band for the project. After the first day of recording, everything was left in place for the following two weeks so we could simply walk in to the studio, turn on the appropriate equipment, and carry on where we had left off.

I purchased a 1” reel of analogue tape to record in conjunction with James’ Tascam MS16 reel-to-reel recorder. We limited our number of takes for each song based on the duration of the reel. In most cases we achieved a maximum of eight takes on each reel (for the shorter songs). After we were satisfied we recorded “the take,” we bounced all passes of each song into Pro Tools 10 (my preferred D.A.W. on my laptop) via two 8-channel Focusrite Sapphire Pro40 interfaces. Because there was only one tape reel, we erased the tape after each track in order to record the next song. This recording limitation promoted a sense of finalisation after each track and clearly motivated a higher level of musical performance amongst my collaborators. As part of documenting the creative process and work environment, I hired filmmaker Mason Hoffman and his assistants to film all the recording sessions. The video footage that he captured was very valuable when I began to reflect on the rhythm section recording process.

**Outcomes and reflections**

Recording one song can be a very time-consuming process. Originally, I booked in the band and hired the recording gear for two weekends (four day sessions) with the goal of recording the ten proposed tracks. In reflection, this was not nearly enough time. It ended up taking seven separate sessions over the space of three weeks to record all the rhythm section beds. Also, I did not allocate sufficient time to set up the immense amount of recording and musical gear in our basement studio. Furthermore, we were only able to track one song on the first day because I underestimated the time it takes to sound check microphone levels and ensure everyone had quality headphone monitoring. My poor time management heavily affected my creativity and drumming performance. On more than one occasion, I was more concerned with keeping up with my unrealistic recording schedule than worrying about the quality of the actual tracks. This time-pressure also affected my individual mood, which in turn affected my
fellow recording artists and their respective performances. On a positive note, productivity did improve over the three weekends because we naturally became more comfortable in the surroundings of the basement studio. Our ensemble dynamic noticeably improved during this challenging process and each completed track developed our confidence as a band.

Tracking live as a band is risky but the rewards are worthy of the gamble. There is a small margin of error when recording whole rhythm section beds. Each musician is relying on one another to execute their respective parts and the pressure of not wanting to let down your fellow band mates can often create a deep sense of anxiety and internal pressure. However, when our band was able to record a full take, it felt like a genuine achievement and a true team effort.

It occurred to me on the second day of the recording project that my anxiety of my own individual performance should be replaced with encouraging thoughts and positive energy. Instead of worrying about making mistakes, I was motivated to inspire the musicians around me by performing to the best of my ability and laying down a solid drum part every take. Also, I eventually discovered that my positive energy and presence were more valuable than a solid drum performance. The simple act of smiling and demonstrating that I was enjoying the experience (of working with this group of people) benefited those around me in the room. We were much more efficient and musical as an ensemble when we were having fun and our respective body language influenced the collective mood in the room. Brett Orr reflected on the recording process and noted, “When you’re looking up at Tim [band bassist] and he’s just grinning his arse off, as oppose to someone who is just staring at a chart—it’s a big difference” (Orr, 2016).

The other major benefit of recording as an ensemble was that we were forced to listen to each other’s parts in relation to our own individual part. I believe that of chordal players: Glen (electric guitar), Mitch (keyboards), and Dan (keyboards) all benefited from recording together because they were often writing and arranging their respective parts at the same time during each take. This trial-and-error style of arranging would sometimes result in one or more musicians spoiling a quality take. However, if a musical idea (such as a keyboard lick or riff) were too complicated,
dissonant, or unfitting for the song we would know instantly based on body language and hearing each other in the room. Conceptually, recording each song was similar to a group of people assembling a jigsaw puzzle together.

Furthermore, there were feelings of finalisation after each take because we knew we were recording (A.K.A. “printing”) to tape as a band. It was quite liberating being able to commit to a part and not have worry about editing or “fixing it in post.” This style of recording promoted better ownership of our performance—both individually and collectively as ensemble. Also, by tracking together we saved the time normally allocated to tracking each instrument individually. Instead of organising a full day to record just guitar or just piano parts, we were dedicating time to recording a complete rhythm section bed.

The experiment of working in a temporary basement recording studio/room provided an encouraging and welcoming space for creative work and it “…didn’t feel like there was any financial/time pressure” during the sessions (Orr, 2016). Financially, this project has been a fairly affordable venture. Conversely, large-format recording studios are expensive to hire and don’t always provide a space where musicians can feel comfortable or creative. Considering the decline of record profits in the recording industry over the past fifteen years, this method of home recording presents a sustainable and affordable option for producers (such as myself) to efficiently record full ensembles on a regular basis.

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60 O’Grady (2013) noted:

Over the past 15 years, there has been a decline in large corporate owned studios and a rise in smaller independently owned, producer-based studios. Many of these studios are located in private homes, owned by a mixture of hobbyists and professionals. Here, producers own and operate their own studio, often functioning as both a sound engineer and musician (p. 103).
Chapter conclusion

It is difficult to comprehend the pressures and challenges that were experienced by the Funk Brothers (or any other notable house band) throughout the 1960s. However, after forming a smaller version of their backing band and recording an album of Motown-inspired original songs, I have a greater understanding of the inter-personal skills required to be an efficient rhythm section. Also, this practice-led research demonstrated to me the supreme level of musicianship that is required to record rhythm section beds as a full ensemble—something that I had only read about in scholarly work and viewed in documentaries. Furthermore, recording songs as a complete rhythm section is often a stressful process and only allows a very small margin for error. However, when successfully executed, this recording method can produce tracks that embody ensemble unity and the individual instrumentalists involved will mature dramatically as recording artists.

On the subject of house bands, we as a recording community and industry need to applaud and properly credit the contributions of these “hidden musicians.” The general public may only idolise and glorify the performances of the vocalists that are the “face” of a record, however everyone involved in the “compositional team” deserves to be celebrated and at the very least listed on the liner notes of a record.

The most positive research outcome from this research/recording project was the completion of ten rhythm section beds\(^ {61} \)—the foundation and backbone of ten original Motown-inspired tracks. It is my hope that many of the revelations and findings that have occurred during this ongoing production would aid me in my future recording projects and research.

\(^{61}\) Shortly after tracking the rhythm section beds, we decided not continue producing "Now You're Gone (So Very Happy)" and "Second Opinion" due to personal reasons.
CHAPTER FIVE: SOUL SUNDAYS DRUMMING JOURNAL

Overview

This following chapter is an overview of my drumming contributions on Soul Sundays. It is predominantly a reflective journal discussing all the creative decisions that were made during the recording of the rhythm section beds. Below are track reports for each song on the album. The purpose of this chapter is to discuss the aims, outcomes, and personal analysis of my drumming on each track. Some notation has been provided to visually explain the grooves that were performed on different tracks as well as some transcriptions of Motown grooves that have inspired my drum compositions. I have adopted the conventional drum kit notation key from Steve Powell’s Beat Roots for my drum transcriptions, which is seen below. All drum transcriptions were created with Sibelius 7.

Figure 23: Drum Kit Notation Key from Beat Roots

At this point of the thesis I would like to point out that many of the decisions I made as a drummer can be interpreted as the same creative decisions that were made as the record producer. This is no accident because during the tracking of the rhythm section beds I was simultaneously performing the roles of drummer, co-producer, bandleader, and academic researcher. Many of the topics discussed during this chapter will inevitably reappear in other chapters of this thesis.

62 (Powell, 2015, p. 3)
Track report for drumming on *Soul Sundays*

“Chemistry”

This neo-soul/gospel track features a slow 6/8-drum groove. Because Brett had written this song before being approached to contribute material for this album, “Chemistry” is by far the most modern-sounding track on *Soul Sundays*. As a result, there was no Motown-equivalent song for the 1960s and ‘70s that I could use as a reference track. However, I drew some inspiration from Stevie Wonder’s “Joy Inside My Tears” from *Songs In the Key of Life*—an album that has heavily influenced Brett and I during our development as artists. Despite the song featuring a 4/4 drum beat with open hi-hats, the song demonstrates a solid and simple drum groove (performed by Stevie Wonder himself) throughout that track. This drum groove beautifully supports melody and lead vocal performances. Furthermore, the usage of ride during the climatic sections of the song was another element that I appropriated for the drum composition of “Chemistry.”

Due to time constraints, “Chemistry” was not recorded on the proposed date of Sunday, the 23rd of May 2016, so we rescheduled the recording of the song bed for the day after. We recorded the song as a three-piece section (Brett on Wurlitzer electric piano, Tim on electric bass, and myself on drums) in the evening in order to accommodate for Tim who had work commitments during the day. Unfortunately due to varying reasons—including sickness, fatigue, and external band rehearsals—the rest of the rhythm section was unavailable for the revised session on Monday night. The positive outcome for this revised recording session was that we could concentrate on tracking the song as a smaller group of collaborators, away from the stress and distraction of the rest of the ensemble. Furthermore, the filming team were also not present, so we did not have the pressure of being filmed. Capturing the intimacy and emotional content of the song was a much more achievable task in this night setting with fewer creative individuals present.

However, because we were recording the track in the evening, we were much more mindful of noise and potentially disturbing Tim’s neighbours. We were limited to a

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63 (Wonder, 1976c)  
64 (Wonder, 1976d)
recording session that began at approximately 7pm and finished at around 10pm. With only about three hours of time in total to rehearse, discuss individual parts, trial various tempos, and considering the duration of the track (six and a half minutes), we were fortunate to record five full takes. Furthermore, the other challenge we faced as a section was carrying the groove with only three members present. The absence of rhythm guitar and tambourine—two instruments that would normally provide reinforcement to the snare drum backbeats—created some doubt in mind during the takes. Due to the slower tempo and relaxed vibe of this song, this drum performance proved to be one of the most challenging tracks to execute. The concentration required maintaining a steady tempo and confident feel was immense. For this specific track I was juggling the tasks of holding a steady groove for long periods of time, as well as counting numerous repeat bars in order to avoid getting lost in the structure of the song. Fortunately, Brett and Tim both share a common trait of sustaining positive and relaxed energy levels and this inevitably affected me positivity and minimised my stress levels during the recording of this song. Also, because of the set up of the room, we had excellent line of sight and this resulted in fantastic non-verbal communication. Furthermore, the collective consumption of small glasses of Japanese whisky resulted (at least for me) in a much more relaxed performance. We (most members of the band and close friends) had recently celebrated my 28th birthday and the bottle of whisky in question was a present from Tim and his partner. The inebriation I experienced after enjoying this whisky resulted in much more relaxed performances towards the end of session. After listening to and analysing the individual takes (in a sober state), I can confidently say that the alcohol consumption improved my individual performance and it steadied my nerves during the session. That being said, if this song had been recorded during a day session, I don’t think drinking any alcoholic beverage would have benefited my concentration levels or drumming performance.

From a drum composition point of view, I opted to keep my drum part fairly modest and my method for achieving this outcome was restricting my drum arrangement to hi-hat (right hand), side stick (left stick across the snare drum and striking the rim), and bass drum. The opening of the track featured a simple ride cymbal pattern played on the downbeat of each bar, which accompanied Brett’s ambient, reverberant Wurlitzer performance. After a short and dramatic drum fill, my drum arrangement
immediately returns to being a background feature. Because the song has slight shuffled 16th note feel, I occasionally included some shuffled sixteenths in my hi-hat and bass drum composition. To add contrast in tone and dynamics, I switched from sidestick to playing the centre of the snare with my left hand. This proved to be an effective variation during the pre-choruses. Furthermore, to embellish the ensemble crescendos in the track, I slightly opened my hi-hats to introduce a “washy” cymbal sound in order to increase the dynamics during the transitional periods of the track. Finally, in order to add some contrast to my drum part, I moved my right hand stick to the ride cymbal during the outro section. This re-introduction of the ride cymbal added another “washy” tone to the track and added some drama to the outro and climax of the song.

“(The least that you can do) Smile”
“(The least that you can do) Smile” was Brett’s second contribution to the album and like “Chemistry,” this song was previously written before the production of Soul Sundays. This specific version of the track is very much inspired by 1970s funk, Latin, and reggae tracks. More specifically, we drew immense inspiration from Stevie Wonder’s “As” (Wonder, 1976a). Because Brett is primarily a drummer, he already had a few drum beat ideas in mind. After an evening jam session with Tim, we decided on a groove that Brett humorously named: the “cup-a-tea” drumbeat. The origins of the name pertain to the repetitive and prominent hi-hat pattern that occurs throughout the intro, verses, and instrumental sections. My bass drum pattern during the verse sections largely revolves around the bass guitar arrangement. However, during the choruses Brett requested a four-to-the-floor bass drum pattern to introduce some variation between the sections of the song. This simple change of bass drum rhythm provided a steady tempo for the rest of the ensemble. Inspired by samba rhythms, the insertion of the ride cymbal pattern during the second half of the chorus reinforced the strength of drumbeat as well as providing an obvious sonic change in cymbal tone.

“Real Love”
Mitch Pattugalan’s first contribution to the album was a song conceived during one of our Soul Sundays sessions during 2014. Tim, Mitch, and I workedshopped a few groove/feel ideas as a small ensemble and we decided to compose a track inspired by
Marvin Gaye’s “Let’s Get It On” (1973). This specific song and groove felt quite natural for the three of us, as we had regularly performed the song in a covers band in the past. Of the ten songs that we recorded for the album, “Real Love” was easily the most time-efficient track to perform and record. From a drumming perspective, my drum grooves were a simplified version of “Let’s Get It On.” My drumming goal for the song was to achieve a slight lilt with my snare backbeats without losing any intensity in my performance. After manually programming the tempo map in Pro Tools, I discovered that our ensemble BPM would fluctuate between 90 and 98 beats per minute. This tempo graph also revealed that we would slightly speed up towards transitional bars and this was most prevalent during my drum fills. Interestingly, I would very frequently use the first snare backbeat in the new section (for example in chorus 2) to pull the band back to tempo prior to the drum fill. In the figure below, you can see that we increase the tempo from 91 to 96 BPM within 4 beats and then after the drum fill it quickly drops to 89 BPM. These visual analyses of my drumming and time-keeping ability lead me to the following realization: one of the most influential tools I have at my disposal is the first backbeat of a new section.

Figure 24: Pro Tools session tempo map for "Real Love"
“Masterpiece”
“Masterpiece” was largely our tribute to the Supremes’ iconic “Baby Love” (1964). My drum arrangement incorporates several fills and grooves that were clearly appropriated from the Motown track in question. After Mitch originally introduced the track to Tim and I, we decided on two contrasting grooves for the two contrasting sections of the song: the verse and chorus. Of the eight tracks on the album, “Masterpiece” is the only one that is built around a shuffled rhythm and this perhaps is why I personally ranked “Masterpiece” as the most the difficult and uncomfortable to record.

On reflection, the act of simply counting in this song for each take was quite nerve-racking as Mitch performed his piano part on his own for the first four bars. This meant that every time I counted in the song I was forced to rely on Mitch to hold my chosen tempo before I eventually introduced my drum arrangement. Even though I had not composed anything for the piano intro, I was subconsciously playing pedal hi-hats on each backbeat. This habit might be the result of years of playing swing patterns with my left foot keeping time with the hi-hat pedal. However, if I am honest I think this was actually my passive-aggressive attempt to guide (or control) Mitch’s tempo. This lack of trust I displayed from take one resulted in a stressful recording session for their entire rhythm section.

Overall, I am very disappointed in my performance and arrangement on “Masterpiece” and after breaking down each component of my drumming on this track, it is clear to see why. My right-hand shuffle pattern feels rigid and rushed.
throughout the chorus sections, which is in complete contrast to the drumming displayed by my Motown counterpart on “Baby Love.” Furthermore, the transitional drum fills I chose to include sound like I was attacking the drums like a modern contemporary drummer instead of showing some jazz finesse. Also, my bass drum pattern is inconsistent and waivers in tempo. However, the one aspect of my drum performance I most disappointed with was my left hand. My snare drum backbeats sound like a pop-rock drummer and not a jazz-trained drummer had performed them. My frustration, impatience, and nerves got the best of me and this is most evident with how I was striking the snare drum. At times I was rim-shotting the drum when I should have been striking the centre of instrument. The drummer heard on “Baby Love” most likely would have been playing with traditional grip and because of this chosen technique he would have been striking his snare with a less exuberance.

Furthermore, it is my belief that the Motown drummers of the 1960s (along with the rest of the Funk Brothers) were regularly performing shuffle rhythms during their live performances. This type of drumbeat would have been considered quite straightforward and natural to perform. In stark contrast, my usual live performances involve four hours of repertoire with no more than five songs involving shuffled rhythms so this type of drum groove does not come natural to me. Most of the drumbeats I perform on regular basis are either quaver or semi-quaver based and almost always in a 4/4 time signature. Not having a strong background/foundation in bebop drumming, it would have been wise to have learnt and practiced various shuffled rhythms prior to recording “Masterpiece.” This inexperience and lack of preparation caused our rhythm section to record take after take. While I was compiling all the takes for analysis, I was shocked to discover that we had recorded thirteen different takes of the track—nine more takes than Mitch’s other contribution “Real Love.” This alarming statistic is directly related to my inexperience with jazz and shuffled beats. The sad outcome of all this stress and effort was that we didn’t capture one single take that was proficient from start to finish. “Masterpiece” is the only song on our album that was made up of more than one rhythm section bed. The “take” that we decided on was an amalgamation of two different beds.

It is clear that I heavily underestimated my chosen drum grooves for “Masterpiece,” and my arrogance and naivety resulted me under-preparing for this track. If I had my time again, I would have rehearsed this song on my own with a metronome and
concentrated on maintaining a strong tempo without having to strike my drums with such force. Also, my practice sessions would have incorporated some triplet-based patterns so I could best prepare myself for all of the triplet-based drum fills. Furthermore, I would have aimed for a much more relaxed frame of mind in order to be light with hands.

In hindsight, it would be interesting to see what would have happened had we recorded rhythm section bed with Mitch singing his lead vocal during the same take. I believed that we would have played the song at a slightly more relaxed tempo and not rushed as much because we would have been influenced by Mitch vocal delivery. By simply hearing the lyrics being sung during each take, I think we would have naturally played the song slower. To put it simpler, a vocalist would have provided me with more context pertaining to tempo and feel.

“Change”
Approaching this track from a drumming perspective was fairly straightforward. Dan’s main keyboard riff is the most prominent feature and every other instrument has been composed to complement and reinforce this performance. Like many other tracks on the album, the common theme of simple drum grooves continued with the production of “Change.” My primary goal was to compose a drum arrangement that was both punchy and driving but did not interfere with the rhythmic pattern of the electric keyboard. During the intro section, I opted for a straight 8th note groove that strengthened the accented notes in Dan’s keys part and this most evident in the bass drum pattern. After trialling a few different options, I settled on a two bar phrase that featured two minor variations in the second bar: the first was an open hi-hat just after the first backbeat and an additional bass drum that leads in the next snare note on beat four. Upon reflection, it is the bass drum note that immediately follows the first backbeat (on the “&” of beat two) that is most important to the rhythm section as it marks the first chord change of the song. On playback, it is clear that Tim and I are very much “leaning” in to this note and adding weight to the chord change.
This type of 8th note drum groove features regularly in my live performances. As a contemporary/pop drummer, I very much consider this two bar phrase as a “meat-and-potatoes” drumbeat—a simple, filling “meal” without any garnish. Due to its efficiency in the intro section and its direct connection with the main keyboard riff, I recycled the phrase during the chorus sections.

Listening to previous recording sessions, I am reminded of an even simpler drumbeat that I heard on the Temptations’ track “My Girl” (1964). Even though this song did not directly influence the production of “Change,” it is obvious (in hindsight) that this Motown record reminded me of the importance of composing a simple drumbeat that performs the primary role of supporting the track without getting in the way of the vocal performance/s and main chordal instrument. Furthermore, the drum groove heard in the verse section of “My Girl” demonstrates the effectiveness of a bass drum pattern that doubles the bass guitar pattern—something that I aimed to accomplish with my performance on “Change.” The self-control and subtlety displayed by this Motown drummer is what I am most inspired by.

Dan asked Tim and I to compose a verse groove that was less prominent than the groove heard during the intro. My four-bar drum phrase features quarter notes instead of eighth notes on the hi-hat and the introduction of some short and punchy sixteenths play by my right foot—again the bass drum part is modestly doubling the electric bass
part. It is these sixteenths that bring a distinct neo-soul flavour to the track. In the fourth bar of the phrase, I’ve included two open hi-hats that fall on beats three and four to emphasize the two bass drum notes that lead the groove back to the start of the four-bar phrase. This groove is then recycled for the pre-chorus sections.

Figure 29: "Change" verse drum groove

During the bridge, I introduced more of a neo-soul flavour in to the track with a flam on each backbeat. I have achieved this by periodically shifting my right hand from the hi-hat to rim-shotting the snare whilst my left hand plays a conventional side-stick pattern.65

Figure 30: Drum chart for the bridge section of "Change"

For the breakdown chorus I composed a sparse groove in order to make room for the lead vocals, claps, and saxophone. However, I dramatically return to the track with a punchy drum fill (that is reinforced by the ensemble) to lead the band back in to the chorus. My last element of variation occurs during the final chorus. Only at this stage of the song do I move my right hand from the hi-hat to the ride cymbal. The more open sounding ride cymbal highlights the climax of the song as well as adding a different sonic texture to the track. Overall, I am satisfied with my energy and driving

65 This is a technique I’ve appropriated from neo-soul and jazz drummers. See Esperanza Spalding’s live cover (with Terri Lyne Carrington on drums) of “Afro Blue” (Comegato, 2013).
drum beats on “Change.” Furthermore, I am very pleased that I have composed a drum arrangement that blends shades of Motown records with more modern neo-soul flavours

“Just you and I”
My initial intention for this song was to compose a light and simple drum groove that would gently drive the rhythm section through verse and chorus sections. Like many of the other songs on the album, this drum composition had been inspired by the work of Smokey Robinson and specifically The Temptations’ “My Girl.” To gain a greater understanding of my drum part for “Just you and I,” I transcribed sections of the song. I wanted to better understand why I decided on playing certain beats and fills; this reflective process revealed some interesting aspects to my drumming.

The opening drum fill sets the tone for the rest of the track. The choice of opening drum fill is a slightly simplified version of Benny Benjamin’s drum pick-up and regularly recycles throughout the track. Verse one and the intro feature a very straight 8th note drum groove with very little embellishment and this groove remains largely the same during the first chorus. Because I kept the hi-hat pattern fairly straight, I was able to maintain a steady tempo. After manually programming and subsequently analysing the tempo map, I discovered that our collective tempo as a section did not fluctuate more than seven beats per minute throughout the duration of the track. After beginning the song at 106bpm, we did not exceed 113bpm and the song felt most comfortable around 109bpm. What is interesting is that during the second verse I have naturally added some understated ghosting on the snare drum—something that I only noticed during playback. In hindsight, introducing this left-hand ghosting was my sub-conscious decision to subtly add some variation to the main drum groove. For the bridge, I played more of a prominent and leading role with my selection of drum beat. In order to initiate further variation and tension to the song, I introduced the signature Benny Benjamin Motown groove, which is successfully reinforced by other rhythm section players. The tension of the repetitive snare drum pattern—along with the other instrumentalists who are also leaning on each down beat—is only “released” with the beginning of the saxophone solo passage. This section of the song is essentially a double middle-eight (a structural feature appropriated from modern popular music composition). As the band leader/producer, I encouraged the band to
express themselves more freely during this solo section. To complement the more syncopated rhythmic patterns of the bass and congas, I have relaxed my left hand and included some further light ghost strokes. The natural variation continues with the second half of the saxophone solo when I introduce some delayed backbeats—an element that I have appropriated from Clyde Stubblefield’s drum performance on James Brown’s iconic “Cold Sweat” (1967). The outro is largely a modified version of the intro except with a short ritardando to end the song.

After reflecting on the total drum part, I am quite relieved that I didn’t write a chart for this track (or for any of the other tracks for that matter) prior to recording this rhythm section bed. Because we opted to compose our specific parts as a complete rhythm section, I was much more aware of my collaborators’ parts and less concerned about even minute detail of my own part. It is no coincidence that that the grooves I have used on this recording have been built upon rhythmic patterns already established by the electric guitars, bass, and congas. As a drummer, I am confident that I was able to promote a steady tempo because I kept my individual part simple and focused on the essential job of providing the backbone of the track.

“We’ll get together”
Like many of the other tracks on the album, my goal as the drummer on “We’ll Get Together” was to execute a tidy, eighth note drum beat. Because Dan had written this song prior to the commencement of Soul Sundays, his piano part was already very established and I (as bandleader and producer) already knew that this instrumental performance was going the centrepiece of this track. It’s no surprise that Tim (on bass) and I composed simple parts that reinforced the rhythmic patterns heard in the piano arrangement. Dan’s demo version (piano and vocals) of this track already embodied shades of the Motown aesthetic so our jobs as rhythm section players was to support Dan’s performance, bring positive energy to the recording session, and hold a steady tempo.

The first Motown motif I appropriated for this track was a modified version of Benny Benjamin’s drum pick-up at the start of recording. I recycled this fill throughout the intro, verse, and chorus sections. The “Pistol” Allen pick-up was my other preferred drum fill and was used on numerous occasions as a variation to the opening fill. Also,
in keeping with Motown drumming tradition, I predominately focused my right hand rhythms on the hi-hat. In order to highlight and enhance the piano solo, I introduced the ride cymbal for some sonic variation. This was my subtle method of lifting the energy in the room without getting the way of Dan’s solo. However, it is important to note that my right hand returns to the hi-hat at the completion of the piano solo and beginning of the outro chorus, thus allowing the lead vocal to be easily heard in the mix.

Another important composition element in “We’ll get together” that is noteworthy is the half-time bridge section. The feel of the piano part inspired the sixteenth note groove that I chose to perform on the track. My hi-hat pattern was intentionally kept light while my kick pattern acted as the “heart beat” of the bridge. This half-time groove may only last six bars, however it offers the listener an emotive B section that features a heavier groove. Incidentally, it is also the only half-time drum groove that features on the album.

“Always”
My drumming reflections for “Always” are brief as it was the most straightforward drum part that I composed for Soul Sundays. For the chorus sections, I appropriated the classic quarter note Motown drum groove. And throughout the song, I have adopted the drum fill from Junior Walker & the All Stars’ “Shotgun” (1965). Please see the last bar of the drum chart below for further rhythmic details pertaining to the drum fill:

Figure 31: Drum chart for “Shotgun”
Drumming conclusions

1. My drumming performance on Soul Sundays was a result of surrounding myself with talented and like-minded musicians. That specific group of musicians all aided me with their energy, enthusiasm, and presence during those recording sessions. Furthermore, because the rhythm section recorded together, I was not the only musician responsible for maintaining the tempo of each track.

2. After drumming on “Masterpiece,” It is obvious that I need to continue to work on my shuffle patterns. I clearly underestimated the subtlety and finesse that is required to play swung rhythms. Also, this type of song requires a much lighter backbeat compared to the songs I usually play. In order to improve this aspect of my drumming I must practice striking my snare drum with less power.

3. I can always play less! In the context of a full rhythm section, it is imperative that I do not overplay so I can allow room for my collaborators’ respective parts.

4. Performing the drum part on “Chemistry” reminded me of the challenges of playing softly and slowly. If I want to continue to develop and mature as a drummer, I must regularly practice with a metronome at slower tempos and practice playing a variety of dynamics.

5. In regards to working with Brett Orr and Dan Wolsner, I wish I had better understanding of the neo-soul genre prior to commencing this album. My goal is to continue to listen to neo-soul records so I can better understand the musical tastes and influences of my band members.

6. As a result of this research, I now better understand my musical heritage and I am a better-informed musician. Furthermore, after analysing the drummers of Motown, I have become a more authentic R&B/soul drummer.
CHAPTER SIX: REFINEMENT AND ORCHESTRATION OF
SOUL SUNDAYS

Overview

The following chapter outlines the postproduction phase of Soul Sundays. Between October 2015 and May 2017 I participated and led the refinement stage of our album. After the successfully tracking the rhythm section beds in May 2015, our attention was then focused on recording and shaping the other textural layers of the eight songs. Along with our songwriter/vocalists, I hired the services of an established string quartet, an assembled brass section, and other various musicians who added the final instrumental flourishes. I have compiled this creative journal in order to analyse and assess the extensive composition, orchestration, engineering, editing, and blending that occurred during those twenty months of the research project. Below are the specific details pertaining to the different instrumental overdubs as well as the mixing and mastering sessions.

Overdub and refinement aims

Leading in to the lengthy overdub and refinement phase, we assigned the following production aims:

1. Record rhythm section instruments that were missing during the rhythm section sessions. These included: additional guitar, tambourine, auxiliary percussion, tuned percussion, and piano parts.

2. Record any instrumental solos.

3. Continue to appropriate instrumentation heard on ‘60s and ‘70s Motown records (for example strings, backing vocals, and vibraphone).

4. Track the brass and string section as whole sections to in order to maintain the *ensemble dynamic* mantra established by the rhythm section beds.

5. During the mixing sessions, we limited our gear options to purely analogue outboard units. Furthermore, we aimed to mix each track via an analogue console and bounce each mix to tape.

6. Master the album for both digital and vinyl releases.
The table below outlines the individual instrumental credits and overdubs for *Soul Sundays*. All names in the table with orange shading represent instruments that were recorded in the initial rhythm section bed sessions while names with blue shading are associated with all the instrumental overdubs.

**Table 4: Instrumental and overdub details**

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<tr>
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<th>&quot;We’ll get together&quot;</th>
<th>&quot;Change&quot;</th>
<th>&quot;The least that you can do (Smiley)&quot;</th>
<th>&quot;Chemistry&quot;</th>
<th>&quot;Masterpiece&quot;</th>
<th>&quot;Real love&quot;</th>
<th>&quot;Always&quot;</th>
<th>&quot;Just you and I&quot;</th>
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**Orchestration method**

1. Each songwriter used their preferred DAW and recording set up in order to work independently on their vision of the brass and string orchestration for their respective song/s. This allowed the songwriters to workshop ideas freely without the time constraints and external pressure of me being involved.

2. Each songwriter sent me a demo bounce of their respective brass arrangements as well as the accompanying MIDI data for the purpose of importing those composed parts in to my Pro Tools session.

3. I utilized Pro Tools to edit all brass notes as a full section within the Pro Tools MIDI editor and ensured the structural accuracy of the parts by using the edit window of the software.

4. Next I decided on appropriate voicing of brass instruments for each song and separated the section notes into individual lines/channels.

5. I then converted the MIDI data into legible scores within Pro Tools score editor. This step in the process allowed me to transpose each line for the appropriate instrument.

6. Finally, the notation was exported to Sibelius in order make the final touches to the score editing (including consolidating multiple rest bars to ensure the number of pages were minimised per score) and then emailed each track/score to the brass and string players as PDF files.
Brass overdubs

My roles in tracking the brass overdubs
I had several crucial roles leading up to and on the day of recording the brass beds. Firstly, my primary role was to liaise with all four songwriters and discuss possible options for brass arrangements for their respective songs. After working on proposed brass arrangements on their own, each songwriter emailed me their parts in MIDI form. I then converted that data into notation for our session musicians. At this point of the creative project I was faced with two main dilemmas. First of which, was the fact that we didn’t track any of the rhythm section beds to a click track. This created a syncing issue between audio files and MIDI data. Also, without the luxury of a tempo grid, none of the notes could be efficiently quantized. As a result, I chose to manually program the tempo map so that a computer click track could move with our human variations of tempo. To keep the tempo mapping process easier, transparent, and more time efficient, I chose to limit my tempo changes to a maximum of four per bar, or in other words, only the quarter/crochet notes. Unfortunately this method of manually programming tempo fluctuations is very time consuming and it took an average of four to five hours to program each track.

After having a tidy and accurate grid within Pro Tools to work with, I then proceeded to convert and translate the MIDI data into musical notation. At this point, my next job was to listen to each brass arrangement and determine which specific notes would be within the range of our chosen brass section. It was essential to accurately voice the brass parts before giving these arrangements to the players.

Personnel
The brass section I assembled for this project was made up of players that regularly work together in Brisbane-based ensemble Radio Club Band. Their instruments and roles are listed below:
1. Adam Owens: brass section leader, brass arrangement advisor, and saxophones.
2. John Coulton: trumpet and flugelhorn.
3. David Murtough: trombone and additional trumpet.
Brass section bed recording day reflections

On July 17, 2016, I hired the services of James Fox Higgins and the usage of his recording facility (The Fox Den) to record the brass beds for Soul Sundays. James performed the roles of audio engineer, and co-producer for these brass beds. He chose to hire him for various reasons: 1) James is a former university classmate and was aware of my vision for the album and research; 2) he had previously worked with many of my recording personnel; 3) he shared a similar musical style and influence to many of the songwriters involved; and 4) he operates a recording facility with many pieces of vintage gear which were ideal for this recording project—chief of which was a Tascam MS-16 reel-to-reel recorder that had previously recorded the rhythm section beds.

Brass track reports

“We’ll Get Together”

The opening baritone saxophone line that Dan composed reminded me of the opening anacrusis line heard on a Martha Reeves and the Vandellas’ “Dancing in the Street” (1964). I thought this was a clever and subtle way of appropriating a Motown element. Overall, the combination of the brass arrangement and the collective performance of the horn section brought a new energy and fun factor to the overall mix. I think this is best demonstrated by one specific ensemble line that occurs half way through the second chorus (see bar 61 of the baritone sax chart below). Is this line necessary to the overall score? Probably not. Is it fun to listen to and does it add something special to the track? Absolutely. It is these musical brush strokes that have brought a feel good factor to this Motown-inspired track.
Figure 32: “We’ll Get Together” baritone saxophone chart
“Change”

My vision for the brass arrangement for this track centred on previous experience performing Stevie Wonder’s “Superstition” (1972a). The anacrusis line originally played by the electric piano and organ featured heavily in the brass arrangement. After editing and quantizing the complete MIDI horn parts within Pro Tools, I decided on voicing the arrangement for five instruments: 1) baritone sax, 2) trombone, 3) tenor sax, 4) trumpet 1, and 5) trumpet 2. As we only had three players in our section, I organised two separate (and complete) passes of the song. The first pass included trumpet 1 (the higher trumpet part), tenor sax, and trombone, while the second pass involved the baritone sax and trumpet 2 (the lower part). Finally, in order to give the horn section some depth and extra punch in the top end we asked John to perform a third trumpet part that would mirror the trumpet 1 part up an octave (a parallel octave harmony).

Change

Figure 33: "Change" brass chart
“Masterpiece”
Inspired by the Supremes’ hugely successful “Baby Love” (1964), Mitch Pattugalan’s “Masterpiece” was specifically written to feature a shuffle rhythmic pattern. Whilst writing the chords, melody, and lyrics for this song, Mitch composed a prominent hook for the track and assigned this line to the brass section. From a structural perspective, this hook line appears during the intro, at the end of each chorus, and twice during the double chorus/outro section. After trialling the hook melody with various different virtual instruments, I allocated the hook line to the trombone and flugelhorn. Furthermore, keeping “Baby Love” in mind as my main Motown reference track, I again included the baritone sax and tenor saxophones in the section—these two reed instruments performed the instrumental break during the Supremes’ track. Along with the alto, the three saxophones provided harmonic reinforcement for the flugelhorn and trombone during the long-held chords (see bars 6, 7, and 8 of the brass chart on the next page). In order to maximise our time with the section, I chose to record the flugelhorn, trombone, and baritone sax during the first pass, and then overdubbed the alto and tenor parts during two separate passes—once again this was simply due to Adam being the only saxophonist hired for the session. During the recording of this brass bed additional lines were suggested and added. The same two-note baritone sax motif used in “We’ll Get Together” was replicated during the verses of “Masterpiece.” Also, James felt that we could embellish and highlight the key change at the end of the solo section. He asked the brass players to choose notes from the exiting chordal stack that was originally performed by the keyboardists. The addition of these two brass chordal stacks was simple but gave the track a clear indication of where we were heading musically as an ensemble. Due to time constraints and fatigue, we opted to record the sax solo on a separate occasion.
Figure 34: "Masterpiece" brass chart
“Just You and I”

The composition of this track’s brass score evolved over three stages. Firstly, Kevin Suierveld originally composed the main hook line for vibraphone after I had recommended the instrument to him during a jam/writing session. Dan then translated the line for his Fender Rhodes arrangement and wrote various rhythmic variations of this motif to add some interest to the track. Finally, I transcribed Dan’s variations of the hook line and voiced it for three horns—trumpet, alto sax, and trombone—which were all playing the unison line an octave apart. Outside of this instrumental riff, Dan composed two more brass lines that added even more interest to the recording. The first of which occurred during the last bar of each pre-chorus section (see bars 32 and 33 in Figure 36) and involved the brass players mirroring the ensemble motif originally performed by the rhythm section. The final brass line composed by Dan occurred during the second half of the verse two (see bars 56 and 57 in Figure 36). Despite only being less than one bar in length, this short brass feature provided the song with some musical variation/interest as well as a “response” to Travis’ vocal arrangement at that point of the song.

Figure 35: The Soul Sundays brass section (from left to right): Adam Owens, Dave Murtough, and John Coulton
Figure 36: “Just You And I” brass chart
“Chemistry”

Brett’s brass composition for this song had been conveniently composed prior to our recording project. Also, he had recorded a live recording of his original score with a full ensemble, which eventually acted as an accurate demo version for my proposed production of the song. Brett composed this brass score for an assessment item in conjunction with his degree in jazz performance. As the orchestration assessment was aimed at a small jazz ensemble, Brett opted for a two-part brass section consisting of a trumpet and alto saxophone. After listening to the demo version, I envisioned a section that was slightly mellower sonically. As a result, I proposed replacing the trumpet with a flugelhorn, however I kept the alto saxophone in the instrumentation as I enjoyed how that specific saxophone sonically-blended with the existing bed of keyboards. It was my opinion that a tenor saxophone would be lost in a mix that was already dominated by several chordal instruments. For the most part, this simple brass arrangement added a pleasing texture to the recording and also supplemented the harmonic tones already provided by the organ and Wurlitzer. The addition and introduction of a trumpet line performed by Dave in the outro section of the song built up the intensity of the track.
Figure 37: "Chemistry" alto saxophone chart (page 1)
Figure 38: "Chemistry" alto saxophone chart (page 2)
String overdubs

String overdub preparation and overview
Following on from the brass arranging, charting, and recording process, the string overdub production method shared many similarities. Dan Wolsner composed string arrangements for both “Just you and I” and “We’ll get together” and had again emailed me his string ideas in MIDI form. My initial involvement in the pre-production process was to import the MIDI data in to the Pro Tools sessions. Because Dan had originally performed these parts as a keyboardist, my next job was to delete any notes that had been accidentally played and determine which exact notes were going to be played by which string instrument. During this process, I was well aware that I had only four “voices” (two violins, a viola, and a cello) to assign lines to so I had to be quite critical with the proposed parts from Dan. In regards to the other tracks, Mitch composed string parts for his songs “Masterpiece” and “Real Love.” In conjunction with Briony’s own Ph.D. research, she composed and orchestrated strings for “Always” and “The Least That You Can Do (Smile).” Briony invited me to collaborate with her string quartet at her university recording studios at the Queensland University of Technology, Kelvin Grove Campus. We tracked the six string beds over two separate sessions. Further specific details are discussed below.
String overdub recording sessions
QUT string bed recording session #1: October 2016

Table 5: Production roles for string sessions

<table>
<thead>
<tr>
<th>Name</th>
<th>Role/Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vincent Perry</td>
<td>Producer, MIDI editor, and chart arranger</td>
</tr>
<tr>
<td>Dan Wolsner</td>
<td>Songwriter, artist, and string arranger</td>
</tr>
<tr>
<td>Josh Tuck</td>
<td>Engineer and Pro Tools operator</td>
</tr>
<tr>
<td>Briony Luttrell</td>
<td>String coordinator, arranger, chart proof reader, and cellist</td>
</tr>
<tr>
<td>Flora Wong</td>
<td>Violin 1</td>
</tr>
<tr>
<td>Sam Andrews</td>
<td>Violin 2</td>
</tr>
<tr>
<td>Kieran Welch</td>
<td>Viola</td>
</tr>
</tbody>
</table>

Table 6: String session technical specifications

<table>
<thead>
<tr>
<th>Instrument/ purpose</th>
<th>Microphone brand and make</th>
<th>Specific details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violin 1</td>
<td>AKG 451B</td>
<td>Close microphone pointing down on the violinist from above</td>
</tr>
<tr>
<td>Violin 2</td>
<td>AKG 451B</td>
<td>Close microphone pointing down on the violinist from above</td>
</tr>
<tr>
<td>Viola</td>
<td>Neumann TLM 103</td>
<td>Close microphone pointing down on the violinist from above</td>
</tr>
<tr>
<td>Cello</td>
<td>Neumann TLM 103</td>
<td>Close microphone on a short boom stand pointing at the cello bridge</td>
</tr>
<tr>
<td>Mid-room left</td>
<td>Neumann KM184 P48</td>
<td>ORTF stereo pair approximately in the middle of the room</td>
</tr>
<tr>
<td>Mid-room right</td>
<td>Neumann KM184 P48</td>
<td>ORTF stereo pair approximately in the middle of the room</td>
</tr>
<tr>
<td>Ambient room left</td>
<td>Crown Audio PZM 6D</td>
<td>Wide stereo pair on staging at the back of the room</td>
</tr>
<tr>
<td>Ambient room right</td>
<td>Crown Audio PZM 6D</td>
<td>Wide stereo pair on staging at the back of the room</td>
</tr>
</tbody>
</table>
Reflections of the first strings session

“We’ll get together”

On the evening of the session, I was quite content with how “full” the quartet was sounding in the context of mix. However, whilst listening to the string beds during the editing and comping phase, I personally thought that we could have double (or triple) tracked certain sections. The intro and verse sections sounded less vibrant than the outro section. I initially thought that I could sonically enhance the verses and intro sections by recording an additional string instrument, such as a double bass playing an identical part to the cello but down an octave. However, I reminded myself that there would plenty of opportunities to utilize some outboard EQ, compression, and tape saturation during the mixing stage, for the purpose of thickening the sonic quality of the string beds. Furthermore, I was sure (based on some demo bounces featuring some preliminary mixing with plug-ins) that a tasteful usage of reverb would add some lush ambience to the string beds.
Figure 39: "We'll Get Together" string chart
“Just you and I”

The overdub process for this track was fairly simple and straightforward. Dan had orchestrated strings to complement his brass and keys parts. After editing Dan’s string bed and extrapolating individual lines, I charted his string bed ideas for four violins, one viola, and one cello and then emailed the Sibelius file to our string coordinator. Briony applied her “simplify and duplicate” method to this string arrangement; by condensing my six string parts in to four (two violins, one viola, and one cello) she made the arrangement much more economical to record (we could now track all parts together in one pass). Briony’s improvement of the string arrangement was best noticed during the pre-chorus. Originally, Dan had only composed a viola and cello part. However, Briony improved the pre-chorus section by duplicating the viola part for violin 2. She also duplicated it again, but this time up an octave for violin 1. This “simplify and duplicate” technique became a recurring theme with other string beds on the album.

Figure 40: Nonsemble Strings (from left to right): Flora Wong, Sam Andrews, Kieran Welch, and Briony Luttrell
Just You and I

Kevin Suierfeld & Travis Lee

Violin I

Violin II

Viola

Violoncello

Figure 41: “Just You And I” string chart
VERSE 4

"make our way through the DAY"

Figure 42: "The Least That You Can Do (Smile)" violin 1 chart
QUT string bed recording session #2: Monday 8/11/2016

At the start of the session, Josh Tuck, our in-house engineer, set up all the recording equipment and properly prepared the space with the correct amount of music stands, chairs, microphone stand and leads. Shortly after the players arrived and were seated, the quartet allocated a small (but integral) amount of time to mingle, catch up, and feel comfortable in the space. We had all finished for the day with our respective day jobs so I made it my goal as producer and client to make sure everyone was in good spirits before starting the proposed recording work. Also, this time was used to ensure their seating arrangement provided proper line of sight between players. During the initial forty-five minutes, the section collectively rehearsed parts for the three tracks. This time was also used to point out and correct discrepancies in the notation as well as pencil in specific details for bowing. In an effort to improve the readability of the charts, Briony chose a Sibelius font that replicated a jazz handwritten notation—something that I personally found much easier to read than the default Sibelius 7 font.

The microphone set up was a carbon copy of the previous string recording session (October 2016). Josh made minor adjustments to the height of the microphones that were close-miking the two violins and viola. No EQ or compression was used in the signal chain. By simply using clever mike placement and methodical mike selection, Josh pulled some lush and clear string tones that were very suitable for my taste and my sonic vision for the production. All instrumentalists could individually control their headphone volumes as well as assign their own separate headphone mix where they sat in the room. This meant that Josh and I could dedicate the majority of our attention and energy to listening to their performances and give constructive feedback to the players.
Track by track reflections

“Always”

We decided to start the session by recording the string beds for “Always.” Because this was the easiest arrangement of the three tracks, I personally thought this would be an ideal song for the players to “get their eye in.” From an instrumental standpoint, “Always” was the sparsest of all the tracks on the album. Given that the recording had no organ arrangement, the string section had ample room in the sonic spectrum to be expressive and play a much more prominent role. This string arrangement was completely composed and orchestrated by Briony from scratch with very minimal involvement from me. In an effort to maximise concentration levels, our string section leader decided on recording the song in two separate passes: the first would capture all the orchestrations from when the section enter the song at the first pre-chorus through to the end of the string instrumental section; the second pass would begin from the third and final pre-chorus and finish at the end of the track. From an instrumentalist point of view, this method of splitting the track in half was a good decision made by Briony as it gave the players some respite before attacking the more syncopated second half of the track. I was initially impressed how “punchy” the string arrangement was during the verse section. Their inclusion during the verse reinforced the rhythm section and added harmonic weight to the piano channel/part. In an attempt to thicken the sound of the section, we decided on double tracking the entire string bed except this time with one change to the rooms acoustics. Before we double-tracked the strings bed for “Always,” we opened the room’s curtains in order to capture and exploit the natural ambience of the room. By removing the curtains we allowed the instruments to resonate in the room more freely. The room mikes were able to capture the sonic reflections that were bouncing off the giant glass window facing the players. As an added bonus, there was certainly a musical vibe change in the room and several of the players commented on our much they enjoyed hearing the change of acoustics in the room. Vibe changes aside, I very much enjoyed the extra ambience this double track brought to the recording and from a mixing engineer’s perspective, I was confident that this additional strings bed would give the mixing process some much valued depth during the final mixing stage.
Figure 43: “Always” string chart
“Real Love”

On first glance, the string chart for “Real Love” was certainly a challenge to perform. However, Briony had simplified and condensed many of Mitch’s proposed string orchestrations so our quartet had much more focused parts to execute. All of Briony’s suggested changes were fantastic and were a noticeable improvement from Mitch’s initial string composition for the song. I was most impressed by Briony’s changes to the bridge section (see bar 57 of string chart below).

Figure 44: “Real Love” string chart (page 3)
“Masterpiece”

While the players skim-read and practiced their respective parts, Briony requested some production guidance from me and then proceeded to fill in some extra notation instructions on their charts. For instance, we discussed which specific notes needed to be slurred. I instructed the players how to approach any quavers with a swung feel instead of a country feel. This prevented any chance of the violins being perceived as fiddle parts. As the track’s producer I understood the value and role of this specific string bed. The original brief I had for this song was to compose and produce a “Baby Love” inspired pop recording and I was confident that this string bed was going to add some Motown “sugar” to the track.

From a compositional perspective, it is obvious that Mitch, the composer of the original string parts, was trying to achieve contrasting feels between the verses and choruses. The long held minims and semibreve notes of the choruses are in stark contrast to the punchier quarter notes of the verse sections. Surprisingly, the players interpreted these verse orchestrations with a similar attitude and energy that was originally conveyed by the rhythm section instrumentalists. Furthermore, the string section (violins, viola, and cello) seamlessly blended with the existing string instruments in the recording (rhythm electric guitars). I was especially impressed how the strings reinforced some of the interesting ideas for Dan’s organ performance.

![Figure 45: Our string section leader and cellist Briony Luttrell](image-url)
Figure 46: "Masterpiece" string chart
Mixing

Mixing session reflections: 11/12/2016 and 12/12/2016

On December 11 and 12, 2016, I returned to James Higgins’ studio (The Fox Den) to mix the tracks for *Soul Sundays*. James performed the job of primary mixer and Pro Tools engineer while my role was to act as producer and oversee the whole mixing phase. I represented the singer-songwriter’s of each track and made the final decisions on each mix. I intentionally did not invite my band members as I wanted minimise the number people involved during the mixing sessions. Because I didn’t have to operate any of the gear, I was free to analyse James’ mixing process and take notes on how he refined the tracks. Where possible I took down handwritten notes of details pertaining to EQ, compression, reverb, and delay settings during the session. We utilised 20 channels on James’ mixing console. 16 channels were dedicated to mixing down the instruments and the final four we use for effects returns. These final four channels were useful as we were able to equalize the reverb and delay returns. I hired a 1960s AKG BX20E spring reverb unit for some authentic ‘60s effects. Each track was summed and printed to tape via James’ Teac ¼ reel-to-reel recorder.

Specific details pertaining to each channel and the outboard gear we used are listed in Table 7 on the next page.

Figure 47: James' 1980s Tascam mixing console

See my mixing observations on p. 120 for specific mixing details.
Table 7: Mixing console and outboard gear details

<table>
<thead>
<tr>
<th>Channel #</th>
<th>Instrument/effects details</th>
<th>Alternative instruments</th>
<th>Compressor make/model details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kick</td>
<td></td>
<td>JLM Audio LA500A Opto</td>
</tr>
<tr>
<td>2</td>
<td>Snare</td>
<td></td>
<td>Fostex 3070 VCA channel 1</td>
</tr>
<tr>
<td>3</td>
<td>Drums bus (overheads, toms, congas, tambourine, and room) L</td>
<td></td>
<td>FMR Audio RNC1773 channel 1</td>
</tr>
<tr>
<td>4</td>
<td>Drums bus (overheads, toms, congas, tambourine, and room) R</td>
<td></td>
<td>FMR Audio RNC1773 channel 2</td>
</tr>
<tr>
<td>5</td>
<td>Lead vocals</td>
<td></td>
<td>Avalon VT-737ap</td>
</tr>
<tr>
<td>6</td>
<td>Bass</td>
<td></td>
<td>Fostex 3070 VCA channel 2</td>
</tr>
<tr>
<td>7</td>
<td>Guitars bus L</td>
<td>Naomi Summers' lead vocals for &quot;Always&quot;</td>
<td>ART PRO VLA II channel 1 (second unit)</td>
</tr>
<tr>
<td>8</td>
<td>Guitars bus R</td>
<td></td>
<td>ART PRO VLA II channel 2 (second unit)</td>
</tr>
<tr>
<td>9</td>
<td>Keyboards bus (acoustic piano, electric piano, and organ) L</td>
<td>Keyboards bus (electric piano and soft synth brass) L for &quot;The least that you can do (smile)&quot;</td>
<td>TL Audio C-3021 Crimson series channel 1</td>
</tr>
<tr>
<td>10</td>
<td>Keyboards bus (acoustic piano, electric piano, and organ) R</td>
<td>Keyboards bus (electric piano and soft synth brass) R for &quot;The least that you can do (smile)&quot;</td>
<td>TL Audio C-3021 Crimson series channel 2</td>
</tr>
<tr>
<td>11</td>
<td>Backing vocals bus L</td>
<td>Acoustic piano L for &quot;Chemistry&quot;</td>
<td>ART PRO VLA II channel 1</td>
</tr>
<tr>
<td>12</td>
<td>Backing vocals bus R</td>
<td>Acoustic piano R for &quot;Chemistry&quot;</td>
<td>ART PRO VLA II channel 2</td>
</tr>
<tr>
<td>13</td>
<td>Strings bus L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Strings bus R</td>
<td>Tambourine for &quot;Chemistry&quot;</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Brass bus L</td>
<td>Percussion L for &quot;The least that you can do (smile)&quot;</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Brass bus R</td>
<td>Percussion R for &quot;The least that you can do (smile)&quot;</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>AKG BX20E Reverb return L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>AKG BX20E Reverb return R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Delay return L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Delay return R</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After we had patched all the channels from computer in to the console and wired all the outboard gear, we began mixing the tracks. We decided to start with “We’ll Get Together” as it had the largest number of channels involved. Also, James was most familiar with “We’ll Get Together” as he was present when we recorded the rhythm section beds for the track. We intentionally avoided using any digital plug-ins or any digital outboard gear. This meant that any EQ that we wanted to apply to any channel was done via the console and any compression that we wanted to apply to the individual channels was achieved via outboard compression units.
Mixing observations

1. In hindsight, I’m relieved that it was just James and I mixing the tracks. It is my belief that we would have been distracted if my band members were present during the sessions.

2. Because James had not written any of the material on the album he was able to remain objective during the mixing process. When asked about his mixing approach James simply answered, “I’m just mixing to make each song sound good.”

3. James made some interesting comments regarding the blending of strings. He referred to the strings as the: “majestic icing of the mix.” James also theorised, “Strings should be the diamond chandelier hanging from the roof.”

4. On the subject of drum mixing James added some “snap” to the snare drum channel. He achieved this by increasing the frequencies 4.5 KHz and 1KHz by 1dB via the console channel EQ. This change of EQ added body and “woodiness” to the sidesticks and some add presence and bite to the snare drum backbeats.

5. I especially enjoyed hearing the tape machine being introduced in to the audio signal path. The tape saturation “glued” individual channels together and helped create balance in the total mix. Furthermore, the tape saturation tightened up the bottom end and rolled off some harsh high-mid frequencies. There was still clarity in overall mixes and the tape machine tastefully mellowed out the higher frequencies.

6. James’ shaping of the piano on “Chemistry” was quite elegant. He crafted this silky piano tone via EQ, compression, reverb, and the delay settings. His superb mixing partnered with Dan’s performance added a certain level of quirkiness and sonic variation to a track dominated by organ and long-held chords.
Mastering

For me, the mastering stage is the most misunderstood and mysterious phase in the production process. This comes as no surprise because (up until the commencement of this research/recording project) I had never hired a mastering engineer. Thankfully, there was already scholarly research that had explored this profession. As previously mentioned in Chapter 2, Rick Clark’s *Mixing, Recording, and Producing Techniques of the Pros* (2011) provided me with a plethora of wisdom from some the industry’s leading engineers. The author had even dedicated an entire chapter of his book to mastering.

In his chapter overview, Rick Clark commented:

> Mastering is the final refinement that helps give a finished recording the best sound it can have. A good mastering job can make a well-engineered recording sound perfect on the radio and audiophile systems. Listen to Dire Straits, Steely Dan, Sting, U2, or any number of classic releases to underscore that point (p. 181).

Audio guru Bob Ludwig also reflected on the topic of mastering and shared:

> Mastering is the final creative step in the record-making chain. The purpose of mastering is to maximize the inherent musicality on a given master recording. … A good mastering engineer has to have the knowledge and insight to know whether preparing the recording for the pressing plant and iTunes requires doing a lot, very little, or even nothing creatively to the master. … Mastering is the last chance to make something sonically better. The first rule of mastering is like the doctor’s “first, do no harm” credo. … In short, the engineer wants to make a great-sounding record that a consumer can put on and not feel the need to change their playback level or adjust their tone controls while listening. … Anyone who owns a Pro Tools rig considers himself a mastering engineer. It takes years of constant learning to become a really good mastering engineer. … I feel I am still learning every day, and I’ve been doing this a lot of days! (pp. 181–185)

Andrew Mendelson joined the conversation and also provided some insight in to his chosen profession:

> The mastering stage is essentially a bridge between the studio world and the consumer world. My primary goal is to make sure the vision of the artist and the producer will translate as intended outside the production world. … Mastering is among the most exciting yet misunderstood processes in music production. Mastering is both an art and a science, drawing upon musicality and emotion, technique, and methodology (pp. 185–186).

Jim DeMain thoughts were are also very insightful and he stressed the importance of listening. He noted:
Part of the mastering engineer’s job is creative problem solving. … Obviously, having an accurate, reliable monitoring setup is the most important thing you can have as a mastering engineer. You can have all the latest bells and whistles in compressors and EQs, but if you can’t hear what’s really happening in the recording before you, then all that other stuff doesn’t really matter. Ultimately, you’re making final decisions on people’s work they’ve spent hours and hours working on up to this point. … Your ears are the most important piece of gear you own, and learning to truly listen is the most important this you can do (pp. 191–192).

The unifying message I drew from this book chapter was that mastering is a profession that often takes decades to (please pardon the pun) master. Furthermore, at the centre of every mastering session is an engineer who is primarily utilizing their most valuable asset: their ears. In order to listen effectively and ultimately refine a track, an audio engineer must have a reliable monitoring set-up.

Mastering session reflections
Thursday, 4/05/2017
After a four-month break from creative work, I hired the services of Matthew Gray Mastering to complete the final stage of refinement of Soul Sundays. Keeping the theme of hiring industry professionals from South-East Queensland, I chose to hire Matthew as he is based in Brisbane. He came highly recommended from several of my colleagues and has established himself as one of the supreme mastering engineers in our region. It was my intention to sit in on the session, observe his engineering methods, and document what occurred during the session. I was largely excited about witnessing the process, as this was the first time I had hired a specialist to perform the role of mastering engineer.

Track listing
Deciding on a track listing was one of the initial jobs to complete in the session. Matthew explained that deciding the track listing would help us to better understand the “flow” of the record. I had previously discussed a possible track listing with James during the mixing sessions. I always viewed this album primarily as a vinyl release with an A-side and a B-side. With this in mind, the final track listing was going to be crucial in order to ensure there was sufficient surface on both sides of the proposed vinyl for the eight tracks. Furthermore, because the four male singer/songwriters had each contributed two songs each, the most democratic method of listing them on the
record (in my mind) was to separate their respective songs to either side of the vinyl. My initial list was as follows: 1) “We’ll Get Together,” 2) “Masterpiece,” 3) “Always,” 4) “Chemistry,” 5) “Change,” 6) “Real Love,” 7) “Just You and I,” and lastly 8) “The Least That You Can Do (Smile).” Because the guitar intro of “Always” seemed out of place following the orchestral sounds of “Masterpiece,” Matthew and I swapped Travis’ two songs and ended up with this alternative track listing:

SIDE A
1. “We’ll Get Together” featuring Dan Wolsner
2. “Masterpiece” featuring Mitch Pattugalan
3. “Just You and I” featuring Travis Lee
4. “Chemistry” featuring Brett Orr

SIDE B
5. “Change” featuring Dan Wolsner
6. “Real Love” featuring Mitch Pattugalan
7. “Always” featuring Travis Lee and Naomi Summers
8. “The Least That You Can Do (Smile)” featuring Brett Orr

Mastering method
Below is the series of creative steps Matthew took during the session:
1. Lined up all the tracks (in the correct track listing) in Pro Tools on one continuous stereo channel.
2. Compensated the bias between the left and right channels.
3. Began to introduce outboard gear in to audio signal chain.
5. Used a spectrum analyser plug-in to better understand the frequency characteristics of each track. The plug-in was also used to reduce excessive tape hiss on each track.
6. Introduced a de-esser in to the signal chain in order to compress specific sibilant frequencies.
7. Adjusted stereo limiting (via an outboard compressor/limiter) to each track in order to maintain equal volume throughout album.
8. “Wrote” the mastered audio files to soundBlade software for the purposes of finalising the transitions between the tracks.
9. Cropped any excess audio at the beginning and ends of tracks.
10. Applied smooth fades to the beginning and ends of tracks.
11. Exported the files for iTunes and CD releases with appropriate track details.

Session observations
Matthew chose to use Pro Tools for playback and audio manipulation jobs. Sonic Studio soundBlade HD was his chosen software for the purpose of capturing the completed masters. Matthew assigned a slightly different signal path for the digital masters and vinyl masters. One of things that I most impressed by was his in-house Duntech monitors, which were some of the clearest and most honest sounding speakers I had ever heard. After a short period of playing back some audio files, he noticed that the left side of the mix was consistently duller than the right side and approximately 0.8 dB softer in volume. This imbalance in equalization and volume gave the impression that each mix was slightly leaning to the right. It was obvious that this imbalance was created because James Higgins and I did not calibrate his reel-to-reel recorder properly during the mixing stage. Thankfully, this wasn’t an issue for our mastering engineer. Matthew’s method of correcting these two sonic discrepancies was to implement a subtle increase of treble frequencies. Also, after greatly increasing the master volume, we noticed that there was a considerable amount of tape hiss in all the tracks. The tape hiss was so substantial and audible that Matthew had to reduce the “noise” frequencies in some cases by 7 dB. Matthew’s approach to mastering this collection of tracks largely revolved around managing the sonic clarity of the frequencies as well still retaining some old-school grit (tape hiss) in the audio.

On the subject of mastering for a vinyl release, Matthew explained to me that as part of preparing the audio for vinyl pressing we needed to allow for more headroom than we had allowed for with the digital masters. This meant the vinyl masters remained more dynamic in volume compared to the digital files. Also, by keeping the vinyl audio more dynamic, we could ensure that the vinyl-pressing engineer will have additional headroom to work with during the pressing stage. If we over-limited the audio we ran the risk of potentially overheating the vinyl-cutting tool.
Of all of the tracks on the album, “Chemistry” was easily the most challenging to master. Due to its sparse instrumentation, the noise floor was most prevalent and required the most tape hiss reduction. Also, creating balance in the stereo master was extra tricky due to Brett’s dynamic lead vocal performance. Matthew reflected, “[laughing] This is the kind of track where I wish the vocals and the music were on separate threads!” The “narky” frequencies he removed (via EQ reduction) from the lead vocal also robbed some mid-range frequencies from the rest of the instruments. Matthew countered this EQ issue with some very subtle multi-band compression. I was especially impressed by Matthew’s ability to tame the harshness of our band’s brass section (throughout the album).

**Final thoughts on the mastering session**

All things considered, I am thankful that I had saved the appropriate funds to hire a professional mastering engineer. By choosing to hire Matthew I was booking someone who already had the equipment and infrastructure (outboard gear and studio space) to complete the task at hand. The introduction of his ears, specialist expertise, and years of industry experience greatly improved the sonic quality and presentation of the tracks. At this final stage of refinement, it was imperative to hire someone who was already accustomed to having his work scrutinized across the globe. And because he was not emotionally invested in the project, he was able to remain objective and solely focused on the task of refining the audio to a release ready standard. For future projects, I will be much more selective of the reel-to-reel recorders during the recording and mixing stages. Finally, despite the large financial investment on my part, I am very confident that the tracks on the album all reached their full potential after this mastering session.
CHAPTER SEVEN: RESULTS AND CONCLUSIONS

Overview

The following chapter features the various outcomes and conclusions I have experienced during this research project. I have interviewed key members of my ensemble and synthesized their thoughts and reflections of the album production. I have also included some of their individual responses to the research questions to provide other perspectives of the project. Please note that I have attempted to find answers to my initial sub-questions before responding to the primary research aim/s.

Research sub-questions and answers

Sub-question 1:

Is it possible to recreate the ensemble dynamic/relationship of the Funk Brothers?

In short: no. Without their instruments and putting their musical contributions aside, the Funk Brothers were people—regular people who were brought together and employed for the purpose of recording behind Motown’s many artists and vocal groups. The documentary Standing in the Shadows of Motown (2002) best demonstrates the importance and value of the everyday individuals who made up this house band. Whilst being interviewed for the film and after performing alongside the surviving Funk Brothers, Meshell Ndegeocello acknowledged:

I think it’s very important for people of my generation to not only know history but also experience it and allow it to change them. I have so much respect and so much to learn from these people that came before me. I mean the people are great people—not just great musicians. I think that’s what I’ll carry with me. Just being able to converse and talk to people who have done so much to influence what I do and what I want to be. The people bring the place alive and I think that’s very important. Hitsville wasn’t this building—it was the people that were in the building and I think that’s been made very clear (Justman, 2002).

It is important to note that my band of musicians were a completely different group of people. Furthermore, unlike Motown and Berry Gordy I did not employ my rhythm section instrumentalists nor did I pay for their respective musical performances (a topic which I will discuss in further detail later in this chapter). They individually
(and kindly) donated their time for the benefit of my academic research as well as the opportunity to contribute to a new body of musical work. It is safe to say that I was reasonably naïve when I proposed this sub-question and upon reflection it was unfair of me to expect that my band could recreate the personal and musical relationships of a completely different group of people.

However, after re-analysing my rationale for this sub-question and what I thought I was aiming to research, I believe I was actually trying to examine the house band model in the context of a modern recording production. Inspired by the camaraderie and musical relationships of Motown’s house band, I wanted to investigate if it was possible to create my own Funk Brothers-inspired ensemble—not a re-creation band. It my belief (and the belief of many of my collaborators) that we developed our own ensemble dynamic/relationship whilst recording the album. The energy and character of our recordings was built upon the foundation of our live rhythm section’s collective energy and vibe. Furthermore, that ensemble dynamic is evident throughout all the tracks on the album and is the common thread that allows them to coexist on the same record.

Several of my collaborators shared similar views of our recording as live band and the significance of creating a collective energy in a rhythm section. One of our band’s songwriters and keyboardists, Mitch Pattugalan discussed the importance of interpersonal communication during the writing and recording sessions. He reflected:

> It was really cool to have those people in the room that you can bounce off. That’s something I’ve never had when I’ve been writing. …It was cool coming from a very “one-man-wrecking-ball” kind of thing to then having five, six, seven people in room that are all contributing at the same time (Pattugalan, 2016).

On the importance of brotherhood and camaraderie, Mitch mentioned:

> It’s not only [an] ensemble when you’re doing takes. It’s…the whole project, even outside [the studio]. Telling each other, “Take a break, man. Go get some water.” You know? “Have you eaten?” That’s as much of it as, “Are you playing the right chord?” It’s [about] looking out for your mates (Pattugalan, 2016).

After being asked the same question, our band bassist Tim voiced similar views to Mitch and commented:
Yes, but it’s impossible to make it sound like them [the Funk Brothers]. But in terms of [recreating] a similar dynamic and vibe and unity and togetherness… [it is] definitely possible. And I think that’s something that we’ve been striving for a long time. Even at uni [during our undergraduate years together] we were talking about that approach (Hatch, 2017).

**Sub-question 2:**

How integral is vintage recording equipment in recreating the Motown sound?

The answer to this sub-question directly relates to the previous passage. This research has revealed to me that the fabled “Motown sound” is not exclusively just a assortment of musical textures or tones created by gear, but more of a collective feeling or a vibe created by a group of people.

Yes, there are certainly specific instrumental choices that can certainly produce a sense of nostalgia for the listener. For instance, there are few instruments that can instil an uplifting and soulful feeling better than a Hammond B-3 organ or the humble tambourine! But again, behind these revered (and highly valued) instruments were regular people who performed on the highly successful Motown records of the 1960s and ‘70s. Our album production was no different.

The key word pertaining to this sub-question is “integral.” Do I think that it was integral or essential for our band members to perform with vintage instruments and recording gear? Probably not. If we had chosen to use only modern gear, I personally think that we would have still produced a modern soul record. However, if the question was, “did the collection of vintage instruments and recording gear positively affect our musical performances during the recording of the tracks?” I can confidently answer, “absolutely.” There was an undeniable feeling of authenticity that was created whilst using gear that was manufactured during the era that we were paying homage to. Furthermore, based on our band’s experience working on Soul Sundays, I believe that old gear affected how my colleagues performed his/her respective parts. Mitch Pattugalan noted:

The vintage keyboards and gear all sound great. They’ve got their tone. But, if we had modern keyboards or guitars, we would have different sounds, which would force our players to play differently or want to play differently. [If] you take Motown parts and put them on a tone
that’s too clean or maybe too advanced, your player is not going to want to play it in that way. That’s why sound selection for this [project] has been really important. …If you’re a guitarist and you have a really gnarly spring reverb, you’re going to hit those shanks pretty hard. [Imitates playing a guitar shank with spring reverb]. If it was maybe dry and super clean, you might do a little muted part—it would affect the writing process (Pattugalan, 2016).

Tim also expressed similar views when questioned about his usage of a vintage Fender Precision Bass during the album production. He reflected:

It was a vintage P-Bass. It put things in context right from the start. As soon as you hear that tone, it takes you to the ‘60s. You can’t get away from it. That’s part of what the ‘60s sound was. …It was definitely an enjoyable experience. Aside from just the sound of the gear, there’s something to be said for using the gear. Like waiting for the engineer to change something before we started recording. Those little things change a recording in ways that you even think about (Hatch, 2017).

When questioned about how the vintage gear affected his musical approach during his involvement in this album production, he explained:

I suppose with any successful recording it helps to have a direction right from the start. And I guess that’s what it gave us. It gave us a much better idea what it was going to sound at the end right from the start (Hatch, 2017).

After completing the recording of the rhythm section beds, Tim purchased a second-hand Fender Precision Bass. When questioned about whether or not this project was the reason for buying the instrument, he happily answered:

That was the direct reason! [Laughing] I enjoyed the experience so much. …After we put the flat wounds on it. That had a lot to do with it as well. That was a genius move putting the flat wounds on it instead of the round wounds ‘cause it gave that sense of playing the double [bass] as well, which added a very subtle jazz element that isn’t normally in my playing. But it’s in people like James Jamerson’s playing, which is definitely a vibe you want to go for.

Tim’s comments validated my obsession with vintage gear. My technostalgia and fixation with replicating Motown tones resulted in me purchasing the same brand, the same model, and even the same gauge of strings that were used by Motown’s most discussed bassist, James Jamerson.

Our band percussionist, Kevin Suierveld also described his engagement with older instruments and vintage gear as a positive experience. Whilst discussing the differences between analogue and digital keyboard tones, Kevin emotively reflected:

…Straight away you have the sound that you had you in head. You don’t have change it later, you don’t have to have to edit it. No EQ or compression [is required]. …The sound is there
immediately. There’s no screwing around, especially with the Rhodes. …Everybody at some point [during the recording of the rhythm section beds] laid their hands on that just to play for second because they were like, “We’ve all used the Rhodes plug-ins on our computer.” …We’ve all bought keyboards that emulate a Rhodes sound. But never has it felt as good as this (Suierveld & Lee, 2017b).

Kevin’s comments highlighted the importance of a tactile and physical connection between an artist and their instrument—something that I believe is not unique to popular musicians. Furthermore, Kevin’s other reflections of the recording process emphasized how using older gear can surprisingly encourage more productivity in during a session. He noted:

I think it completely limited us in what we’re used to. If we [had] gone the completely digital way, there would have been a thousand overdubs every single day. We would have laid down things individually most likely. There’d be all kinds of things that would get in the way of what we actually set out to do, which was just to create a vibe in the room, and I think we would [have] absolutely lost that vibe. We might have captured a different vibe. I’m not saying that it could be the worst thing in the world. …I’m just glad that nothing broke because then we would have had the downside of vintage gear too (Suierveld & Lee, 2017b).

Sub-question 3:
What aspects of today’s audio technology are superior to 1960s technology in recreating the Motown sound?

“Superior” was not truly the word I wanted to use. After contemplating this line of enquiry for an extended period of time, the question I was actually trying to ask was: “What aspects of today’s audio technology are more convenient and/or time efficient than 1960s technology in recreating the Motown sound?” With this revised sub-question in mind, it was far easier to answer it and discuss some notable research outcomes.

Firstly, during the initial tracking of the rhythm section beds we were limited to one 1-inch reel of tape due to financial reasons (each reel cost approximately $220). So in order to record all ten proposed songs we made the conscious decision to erase the tape after completing each individual song. For this to happen and in order to minimise effort and expenditure, we transferred each song on separate channels to my laptop, via two digital interfaces so we could continue post-production work in Pro Tools (my preferred D.A.W.). Once each song was transferred to the computer in
digital form, we could easily create a separate Pro Tools session for each track. Furthermore, now that the files had been converted to the digital realm, we could easily store, save, and transfer files amongst the artists involved in the project. Also, now that the files were on my laptop, I no longer needed to hire a tape machine on a daily basis so as a result I dramatically reduced the cost of the post-production phase. Financially, compared to the reel-to-reel tape recorders of the past, it was much more affordable and convenient working with modern computer software and digital interfaces.

Vocal production was another area of project that was greatly aided by modern audio editing techniques and methods. More specifically, the method of vocal comping within a digital audio workstation was vastly different to the comping techniques implemented by our Motown audio engineering counterparts. Given the age of those involved (generation Y musicians), it is no surprise that our singer/songwriters were comfortable and experienced with comping vocal performances via digital audio workstations. When questioned on his views on the topic of vocal comping in the digital realm, Mitch reflected:

I think that that’s a superior way than getting a single take. If you can’t get it done in a single take, then get a better singer in the room! [Laughing] That’s the compromise. But, myself, not being that “better singer,” I would love to make use of vocal comping. …I’ve got the musical ideas out there but I’m a better producer than a vocalist (Pattugalan, 2016).

After contemplating this specific comment, I asked myself, “Are we not as technically proficient than our Motown vocal counterparts?” The simple (and blunt) answer is: no! And I could argue that the technology and recording methods of today have made recording a vocal performance easier to deliver and capture. I could also say that the recording gear of today has allowed us to develop in to complacent and lazy musicians. That being said, the ease of modern vocal editing methods has permitted our project’s singer/songwriters to experiment more freely without the time and technological restrictions of the past. And by creating digital playlists for each vocal channel, we can track different passes of the same section (verse, chorus, bridge, etc.) and decide on which pass we prefer at a later stage. Furthermore, copying and pasting any repeated parts (such as backing vocals) was very simple and in most cases only involved the clicking of a few hot keys on my keyboard.
While we’re on the topic of modern vocal production, the other major technological advantage we had available to our collaborators was auto-tune software. Let me make it abundantly clear that when I originally proposed this album in 2013, I made the conscious decision to avoid auto-tuning any vocals on Soul Sundays. Inspired by 1960s vocalist such as Stevie Wonder, Marvin Gaye, and Smokey Robinson, I envisioned vocal performances that embodied authenticity and honesty. Furthermore, I have on numerous occasions discussed the beauty of an imperfect, passionate vocal performance. However, during the mixing process, we (James Higgins and I) encountered one specific track with one lead vocal delivery that forced me to use auto-tune in order to salvage a track; I’m referring to Travis Lee’s lead vocal performance on “Just You and I.” In Travis’s defence it was recorded on a day where he had already tracked vocals for two other tracks. Vocal and mental fatigue heavily impacted his performance and as a result there were numerous occasions where he did not have the energy to execute and sustain notes. Despite the pitchy notes, on an emotional level, his lead vocal track was superb! Because of this, James and I decided to use auto-tune for only this vocal channel and only with instances that required “repair.”

When asked this same sub-question (sub-question 3), Kevin had similar views regarding the positives of modern recording gear. He passionately acknowledged the benefits of writing and producing tracks with his Native Instruments Maschine (MPC and MIDI controller) and its accompanying software. Furthermore, he also highlighted the portability of today’s recording gear:

My Maschine is just the ultimate production tool and anybody thinks it’s not hasn’t had the time to play it. MIDI for me is what changed my life. …I think everything is a lot more forgiving in the pop audio world nowadays. …We have our Maschines, we have our keyboards, we have our comping and cutting and pasting possibilities, we have portability—we can take it anywhere we want! …I’m talking about just grabbing your laptop and a two-channel audio interface and bring them in to the forest to go record tribal music. You couldn’t do that in the 1960s. I think that everything that we have got gear wise has just contributed to speed (Suierveld & Lee, 2017b).

Kevin’s views reinforced my views of hybrid recording set ups. My technostalgia aside, this project has truly been a marriage of vintage and modern audio technology. Furthermore, you could argue that digital recording technology (computers and digital interfaces) formed the audio backbone of the production—performing the important
tasks of storing, editing, and syncing audio—and freed up the vintage equipment (vintage instruments, reel-to-reel recorders, and outboard effects) to simply provide the sonic texture of the album. This specific outcome will no doubt influence my approach to my future recording projects.

Sub-question 4:
By taking what we’ve learnt from Motown and what this company achieved in the city of Detroit, can we bring together talented musicians, songwriters, engineers, and producers in the Brisbane region and replicate the Motown sound?

Firstly, after reassessing this sub-question, I can admit that it is overly complicated and needs to be unpacked into separate issues. On the subject of Motown business practices, I have learnt first-hand how integral the house band were to its success as a record label. Based on my research, it is also obvious that there was a wealth of musical talent that resided in the city of Detroit throughout the 1960s. Furthermore, the production of my doctoral album has convinced me that despite our small population and relative geographical isolation from other Western nations, we have an enthusiastic, gifted, and well-informed community of R&B/soul musicians based in the Brisbane region. My chosen personnel for the album production were completely made up of creative individuals residing in various locations throughout South-East Queensland and Northern New South Wales. Also, I can proudly proclaim that this project was a collaboration of both domestic and international artists—the most notable have been Dan Wolsner who was born and raised in Sweden, Kevin Suierveld (who was born in The Netherlands, attended high school in an international school in Malaysia, and is now a permanent Australian resident), and Travis Lee who was schooled in Queensland but was born in Port Moresby, Papua New Guinea. It is my firm belief that our international musicians have profoundly influenced the direction of this creative project. On a personal level, they have each provided me with a much more worldly perspective on popular music writing and recording. It is truly difficult to measure the value that they have brought to my research and to the group’s music making.
In regards to replicating the Motown sound, again, I will reiterate what have stated earlier in this chapter. The Motown sound is something that was (largely) created by the Funk Brothers—group of musicians that did not participate in this research. My house band that I assembled for our album was successful in creating our own unique sound and our own ensemble dynamic. However, it is my opinion that the sonic textures that we implemented during the production of our eight tracks were directly appropriated from various Motown records. After interviewing all the notable artists that appeared on Soul Sundays, I am now aware that my collaborators also drew inspiration from various R&B records produced by other American labels.

These interviews uncovered some valuable perspectives from my fellow band members. One of my collaborators believed that we had successfully replicated the production methods of Motown but not their sound. When asked this sub-question, Kevin answered:

Yes, we can. But we only did it on two tracks [“Just you and I” and “Always”]. …“We’ll Get Together,” for me replicates what Motown was doing at Motown, but it doesn’t replicate the sound. …Most of the tracks [that’s] what we did—bar Brett’s tracks really because we didn’t have everybody there—all the other ones really replicate the Motown way. Not the sound, but the way (Suierveld & Lee, 2017b).

Conversely, Tim’s views on the matter were much more pertaining to the financial aspects of the recording project in question. When asked, “Is it possible to make a Motown-inspired album in Brisbane?” he replied:

We definitely have the facility to do so; we have the tools at our disposal. I guess the question is… it’s a bit of a different financial climate to what it was. I mean, think about the amount of people they [Motown] were employing on one album. You’ve got to know that you’re making money off the album to put the time in and put that financial investment in to it (Hatch, 2016).

Tim’s insight reminded me (yet again) that I didn’t actually recruit and employ any of the members of my rhythm section. Unlike Berry Gordy, I asked my close friends and colleagues to kindly donate their time in order to research the process of making a Motown-inspired album. The very fact that I did not pay them to perform during these initial (and crucial) sessions changed their whole approach to the creative process of being a recording artist. They certainly were not paid employees of a newly formed independent record label founded and financed by me. Therefore it was unfair of me to expect my chosen band members were going to operate in a similar fashion to our Motown counterparts. With the absence of payment, the musical contributions made
by my fellow rhythm section instrumentalists were motivated by a shared love of collaboration, the joy of creating new music, and the opportunity of developing as recording artists. These sentiments were shared by most of my collaborators. In my interview with Mitch, he reflected:

I just want to say thank you for having the experience. …It’s not often that—if ever—you get a chance to record and be in the same room with such great musicians and …write and collaborate. But also, arrange for strings and brass and have these unusual live-tracked instruments that we don’t really have access to in our modern home recording studios. To hear the product and hear it mixed down, it’s great and its testament to work you’ve put in. Not only all of us. Yeah, we’re all playing on it. But like we were saying before: “It takes a lot of work to turn a good song in to a great track.” And I think that you’ve shown us that in many ways (Pattugalan, 2016).

In my opinion, Mitch’s kind words in a way answered this sub-question. At the risk of sounding arrogant, ultimately the success (and completion) of this research project largely depended on my leadership and my ability to assemble a group of musicians that were going to be able successfully work as a unified ensemble.

Primary research aims and answers

In what ways can I appropriate Motown musical practices in order to enhance my musical productions? Furthermore, what lessons can be learnt from the instrumentalists that made up the Motown backing band? Ultimately, can amazing, ensemble dynamic and great songwriting overcome any deficiencies in audio recording equipment?

There are various Motown musical practices that I can use to enhance my music productions. For instance, I am going to always track my drum parts in the context of a full rhythm section for any future projects—especially for R&B/soul tracks. This research has taught me the immense value of tracking as a live section. Also, the production of Soul Sundays demonstrated the many positives of recording in a home studio. Any “home studio” can be a “professional studio” provided you have the right collection of recording artists available and you have a record method that everyone is comfortable using.
The most important lesson that I have learnt from the Funk Brothers is that you should always play for the song and always play for each other. When there is camaraderie in an ensemble, there is a better chance that the band will perform as an ensemble. And “ensemble dynamic” can easily transform into ensemble energy when the band is on the same page and enjoying each other’s company—both personal and musical.

The so-called “audio recording equipment deficiencies” that we used during our recording project are simply older or vintage technologies. When we tracked the rhythm section beds, I hired a 1980s 16-channel tape machine. After I learnt how to operate it, the only challenge I had to “overcome” was the limited channels (of which there was more enough to record a 6-piece band) and the limited record time per tape reel (of which there was more enough for at least 5 takes per track). Because we used the tape machine as our recorder we did not need to use a computer. Not relying on a computer was quite a liberating, exciting, and fun experience. In my opinion, if any piece of audio gear can make you feel excited and help you have fun then it is not “deficient.” If anything, the vintage recording gear we hired enhanced our ensemble dynamic. Lastly, a great song really is a great song regardless of what gear you choose to record with.
Future research

Traditional grip research

After 22 years of drumming with matched grip, I am now very interested in exploring the benefits of traditional grip. My preliminary research on the topic has revealed several positive outcomes for my development as a drummer. Several drumming magazines have already interviewed leading drum set educators in order to gauge the validity of traditional grip in today’s contemporary music industry. For the most part, these experts of the field mentioned the various positives. Jeremy Hummel of *Modern Drummer* shared:

…I use traditional grip sometimes when the backbeat needs a certain swagger. For example, the song “Let’s Groove” by Earth, Wind & Fire is around 124 beats per minute. The backbeat plays an integral role in the driving feel of the song, yet the snare has a slightly relaxed swing to it (Moderndrummer.com, 2012).

John Natelli of *Drum! Magazine* added to the discussion when he noted, “As far as usefulness is concerned, purveyors of traditional grip sing its praises for its ability to assist in the sensitive execution of quieter passages…” (Natelli, 2015). Mike Sorrentino (also of *Modern Drummer*) makes the point that this grip could potential add different tones to a drummer’s sonic palette:

…I think learning traditional grip is a great way to study a different approach to the instrument. Traditional feels totally different than matched, so it will stimulate different ideas. Plus, it will increase the number of sounds you can pull out of a drum due to the different angles and stick movements that are possible (Moderndrummer.com, 2012).

Conversely, Marc Dicciani presented a very different opinion on the topic when he theorised:

Drumming is an extremely complicated and difficult skill to develop to a professional level. It also has a dynamic and forever-evolving set of physical, neurological, and musical challenges that will only increase over time. The technique, coordination, and musical mastery required
to perform in most settings today far exceed those that were required fifty years ago, and it’s not going to stop here. The circumstances and equipment limitations that gave rise to traditional grip no longer exist; we have to accept that and move on (Moderndrummer.com, 2012).

Mike Michalkow of Drumeo validated both sides of the argument when he professed:

No matter what style of drumming you play, it is always good to learn all the stick grips. Learning both matched grip and traditional grip will only further your control and feel for the drum sticks (Michalkow, 2017).

After this preliminary research, I am already convinced that I can add to this discussion. Furthermore, I am specifically interested in how traditional grip can benefit my drumming in the soul and R&B genres.

“We’re gettin’ the band back together”

The most obvious “future research” that will follow this project will be simply recording another album with the same personnel. The best way to develop and evolve as a band is to continue to work together and constantly write new material. Recently, I have been immensely inspired by Leon Bridge’s Coming Home (2015). For me, the most impressive element of this album is that the whole record centred around the same songwriting team and same core rhythm section on every song. As a listener, I could feel the same collective energy on every track. If I was to produce another album, I would like to write a whole new collection of songs as a band. Also, to reduce production costs, I would like to produce the next album in a shorter period of time and with more band members present during the initial beds.

Figure 50: Leon Bridges and his band during the production of Coming Home (2015) at Niles City Sound, Forth Worth, Texas.
**Concluding thoughts**

1. Music recordings are some of the best resources for developing an artist’s musical vocabulary and for developing music production skills. In order to grow as an artist, I need to continue to research both written and recorded resources. My goal as a researcher is to grow my library of books and records throughout my career.

2. The best method of appropriating some vintage vibe in a modern recording production is to use vintage gear. However, it wrong to think that by simply purchasing vintage gear you will become a better and/or more “authentic” musician. Also, older pieces of recording gear (especially collectors’ items) can be very expensive to purchase and often require specialist servicing, which can also be quite expensive. Quality vintage gear comes at a premium. I will continue to explore my “technostalgia” and slowly build my collection of vintage instruments and recording gear over the coming years.

3. Bands will only develop in to better ensembles if they spend extended periods of time collaborating together. In a recording studio setting, I feel much more confident when I am surrounded by like-minded musicians that I have grown with personally and musically. I plan on recording many more albums with my band! I am confident that our collective energy and character will only improve if we regularly produce music together.

4. As a result of this doctoral research, I have a much stronger understanding of my heritage as a popular musician. Because I am more aware of the history of R&B/soul record production, I have become a more informed R&B/soul producer and musician. Furthermore, after extensively analysing the drummers of Motown, I have transformed in to a more authentic R&B/soul drummer.

5. Lastly, the truth is I have always been an “artist.” However, this research has informed me of the type of artist I want to be in the future and has better prepared me for a career in music making.
APPENDICES

Soul Sundays album credits

Produced by Vincent Perry
Rhythm section engineering: Vincent Perry, James Fox Higgins, and Tim Hatch
Brass engineering: James Fox Higgins at the Fox Den
Strings performed by Nonsemble (Flora Wong, Samuel Andrews, Kieran Welch, Briony Luttrell)
String engineering: Josh Tuck at QUT Creative Industries Precinct, Kelvin Grove
Additional vocal production and engineering by Andy Ward at QUT Gasworks Studios (Tracks 1, 4, and 8)
Mixed by James Fox Higgins and Vincent Perry at the Fox Den
Mastered by Matthew Gray Mastering

Track credits

Track 1: “We’ll Get Together” (Wolsner, 2017b)
Music and lyrics by Dan Wolsner
Co-produced by Vincent Perry and Dan Wolsner

Dan Wolsner: lead vocals, backing vocals, brass composition, string composition, and piano
Mitch Pattugalan: organ
Glen Hunt: electric guitars
Tim Hatch: bass
Kevin Suierveld: congas
Phil Mairu: tambourine
Vincent Perry: drums and additional tambourine
Adam Owens: tenor and baritone saxophones
John Coulton: trumpets
David Murtough: trombone
Briony Luttrell: string orchestration and cello
Flora Wong: violin
Samuel Andrews: violin
Track 2: “Masterpiece” (Pattugalan, 2017a)
Music and lyrics by Mitch Pattugalan
Co-produced by Vincent Perry and Mitch Pattugalan

Mitch Pattugalan: lead vocals, backing vocals, brass composition, string composition, and piano
Travis Lee: backing vocals
Erin Matthews: backing vocals
Dan Wolsner: organ
Glen Hunt: electric guitars
Tim Hatch: bass
Daniel Hitzke: vibraphone, glockenspiel, and tubular bells
Vincent Perry: drums and tambourine
Adam Owens: alto, tenor, and baritone saxophones
John Coulton: flugelhorn
David Murtough: trombone
Briony Luttrell: string orchestration and cello
Flora Wong: violin
Samuel Andrews: violin
Kieran Welch: viola

Track 3: “Just You And I” (Suierveld & Lee, 2017a)
Music and lyrics by Kevin Suierveld and Travis Lee
Co-produced by Vincent Perry, Kevin Suierveld, and Travis Lee

Travis: lead vocals
Erin Matthews: backing vocals
Naomi Summers: backing vocals
Dan Wolsner: electric piano, brass composition, and string composition
Mitch Pattugalan: organ
Glen Hunt: electric guitars
Tim Hatch: bass
Kevin Suierveld: congas
Vincent Perry: drums and tambourine
Adam Owens: tenor and alto saxophones
John Coulton: trumpet
David Murtough: trombone
Briony Luttrell: string orchestration and cello
Flora Wong: violin
Samuel Andrews: violin
Kieran Welch: viola

**Track 4: “Chemistry”** (Orr, 2017a)
Music and lyrics by Brett Orr
Produced by Vincent Perry

Brett Orr: vocals, electric piano, organ, and brass composition
Dan Wolsner: piano
Glen Hunt: electric guitars
Tim Hatch: bass
Vincent Perry: drums and tambourine
Adam Owens: alto saxophone
John Coulton: flugelhorn
David Murtough: trumpet

**Track 5: “Change”** (Wolsner, 2017a)
Music and lyrics by Dan Wolsner
Co-produced by Vincent Perry and Dan Wolsner

Dan Wolsner: lead vocals, backing vocals, brass composition, synth brass, and electric piano
Mitch Pattugalan: organ
Glen Hunt: electric guitars
Tim Hatch: bass
Kevin Suierveld: congas
Vincent Perry: drums and tambourine
Adam Owens: tenor and baritone saxophones
John Coulton: trumpets
David Murtough: trombone

**Track 6: “Real Love”** (Pattugalan, 2017b)
Music and lyrics by Mitch Pattugalan
Co-produced by Vincent Perry and Mitch Pattugalan

Mitch Pattugalan: lead vocals, backing vocals, string composition, and piano
Travis Lee: backing vocals
Erin Matthews: backing vocals
Naomi Summers: backing vocals
Dan Wolsner: organ
Glen Hunt: electric guitars and backing vocals
Tim Hatch: bass
Vincent Perry: drums and tambourine
Adam Owens: soprano saxophone
Briony Luttrell: string orchestration and cello
Flora Wong: violin
Samuel Andrews: violin
Kieran Welch: viola

**Track 7: “Always”** (Suierveld, Lee, & Perry, 2017)
Music and lyrics by Kevin Suierveld, Travis Lee, and Vincent Perry
Co-produced by Vincent Perry, Kevin Suierveld, and Travis Lee

Travis: lead vocals and backing vocals
Naomi Summers: lead vocals and backing vocals
Mitch Pattugalan: piano
Glen Hunt: electric guitar
Tim Hatch: bass
Kevin Suierveld: congas
Vincent Perry: drums and tambourine
Adam Owens: tenor saxophone
John Coulton: trumpet
David Murtough: trombone
Briony Luttrell: string arrangement and cello
Flora Wong: violin
Samuel Andrews: violin
Kieran Welch: viola

Track 8: “The Least That You Can Do (Smile)” (Orr, 2017b)
Music and lyrics by Brett Orr
Produced by Vincent Perry

Brett Orr: lead vocals, backing vocals, electric piano, and synth brass
Travis Lee: backing vocals
Glen Hunt: electric guitars
Tim Hatch: bass
Kevin Suierveld: congas
Vincent Perry: drums, tambourine, cowbell, shakers, timbale, and triangle
Briony Luttrell: string arrangement and cello
Flora Wong: violin
Samuel Andrews: violin
Kieran Welch: viola
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