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The Graduate Center, City University of New York

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by

WILL FULTON

A dissertation submitted to the Graduate Faculty in Music in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York 2017.
Abstract


by

Will Fulton

Advisor: Professor Jeffrey J. Taylor (Musicology)

This dissertation examines developments in the production practices of black popular music in the recording studio from 1970 to 1990. The year 1970 marked a transition in the recording practice of popular music that had a distinct impact on styles marketed as R&B, soul, and funk. Multitracking in the 1950s and 1960s had paved the way for a transformed production process, one initiated by Les Paul’s and Sidney Bechet’s overdubbing experiments in the 1940s. The collective sound of instrumentalists and vocalists heard on records no longer resulted from live-to-tape recordings of group performances, but was increasingly the product of constructed representations, as separate layered events were cut to multitrack tape.

When mixed together, these overdubbed tracks presented the listener with the impression of collective, interactive performances. Features central to the ethos of R&B music making – vocals in call and response, instruments in apparent rhythmic dialogues, and funky syncopation usually resulting from interactive group dynamism – were increasingly the product of the technologically mediated process of overdubbing, and performed often by one musician singing all of the parts or layering several instruments. By 1990, in part due to the popularity of newly developed drum machines, MIDI sequencers, samplers, and digital synthesizers, to record collectively in R&B-based black popular music was the exception rather than the norm.
This study considers new practices of record production that developed in this era of multitrack recording and electronic experimentation through an examination of four case studies: Stevie Wonder’s recordings in the early 1970s; Prince’s recordings from the late 1970s to the mid 1980s; Michael Jackson’s composition and recording process from this same period; and the mid-to-late 1980s sampling and sequencing processes of Public Enemy’s Bomb Squad production collective. The producers of these recordings, well aware of the collective ethos of earlier black music styles, conceived imaginative ways to imbue overdubbed recordings with the vibrancy of multiple performative voices. One-man band practices employed by Stevie Wonder and Prince, the recording studio experimentation and vocal composition of Michael Jackson, and the layered sampling of Public Enemy’s Bomb Squad represented different innovative techniques that developed in the recording studio. These methods considered and staged features of collectivity in different ways, and in doing so, used recording studio technologies such as overdubbing and synthesizer programming to reimagine collective performance.

Although the historical narrative of black popular music often focuses on large funk ensembles and interactive performance styles during the 1970s, the period represents a shift for many musicians from a social, interactive means of music making to a personal, introspective, often isolated process of sonic experimentation. This process transformed and reinvented the collective interaction and improvisation common in many African American music styles into a technologically mediated process of constructing recordings through layering. Although these musicians continued to perform in traditional collectives in live concerts during this period, the recording studio and the live concert increasingly represented distinct sites of music making, as the studio became a
locus for introspection and experimentation. The tradition of group performance became the muse for increasingly un-collective methods in the recording studio, while producers developed different technological and performative methods to reimagine the collective.
ACKNOWLEDGEMENTS

I am eternally grateful for the support I received from so many people throughout this process. I had the remarkable opportunity to work with the same dedicated, encouraging group of scholars who guided me through my Master’s Thesis at Brooklyn College that I went on to work with as a Ph.D candidate at the CUNY Graduate Center. Thank you to the Brooklyn College Conservatory of Music faculty and the Hitchcock Institute for the Study of American Music. To my committee: thank you first and foremost to my advisor Jeff Taylor, who found my research on Jimi Hendrix many years back to be engaging enough that you suggested it should be my first published article, and who nearly eight years later has seen ideas from that study transform into my dissertation, while encouraging me at every step. Thank you to Ray Allen, my MA thesis advisor and first reader of my dissertation. Your advice and our fiery debates made me a stronger writer. To David Grubbs, dissertation committee chair and an early reader of my Public Enemy research when it was a conference paper seven years back, I greatly appreciate your confidence in me. To Patrick Rivers, one of the many people Jeff said “you two should meet…” about, and whom I have now had the honor of collaborating with for years. Three “co-writes” deep, and this is just the warm-up. Thanks for your advice and guidance.

To Salim Washington: this dissertation stemmed from our conversation. Your voice stayed with me throughout. I thank you. To Stephanie Jensen-Moulton, I am ever grateful. To Bruce MacIntyre, thank you for the numerous times that you stood up for me, wrote recommendation letters, and for keeping me employed throughout my graduate
Thank you to Andy Krikun and Angelina Tallaj, my role models. To the faculty and staff of the Graduate Center, I am grateful. Thank you Allan Atlas, Anne Stone, Norman Carey, David Olan, Joe Straus, and Tonisha Alexander for all of your guidance through this process. To Poundie Burstein, thank you for taking the time to tutor me on theory, and for those extra assignments from Aldwell and Schachter. To my Brooklyn College and GC cohorts (or thereabout) Lindsey Eckenroth, Michael Lupo, Jake (and Rose Chaffee and Quinn) Cohen, and Nick Nelson, thanks for your words of encouragement, reading drafts, and attending my papers.

My research builds on the invaluable work of Albin Zak, Mark Katz, Griffin Woodworth, Patrick Rivers, Andrew Flory, and Tim Hughes on the impact of record production on popular music, and draws significantly on the ideas of the late Samuel Floyd, Guthrie Ramsey, Salim Washington, Anne Danielsen, Brian Ward, and Ollie Wilson. Their work is cited throughout in a way that I can only hope they would appreciate.

I am eternally grateful for those who were willing to be interviewed or provide answers via email: Hank Shocklee, Malcolm Cecil, Bruce Swedien, Susan Rogers, Greg Phillinganes, Bill Stephney, Bill Adler, Chris Shaw, and Russell Elevado. This is the story of your work, and my interpretation is guided by your recollections. Thank you.

I wrote this while teaching at LaGuardia, where my efforts were supported throughout. I am grateful for my esteemed colleagues at LaGuardia Community College, Lisa DeSpain, Tom Dempsey, Michael Rodriguez for your ongoing encouragement and support, and to Hugo Fernandez for counsel.
To my friends, colleagues, and musicians that I have had the honor to work and hang with over the years. Paul Connolly, our Triple Eagle will happen soon. To Brother Chris Landry, Mr. Josh Mancell (and Karen and Lily), Jim and Karen and Shawn Mahoney, J.C. Santalis (and Lisa and family), Gary, Jana, and Rachael Potashnik, Mr. Jay Stewart, superproducer Ski Beatz, DJ Theo for the bagel sessions, Joe Linitz for teaching me the pentatonic, John Aspinwall, Crush Sounds, Kareem Lamar Bunton and young Mr. Mason Bunton, DB Burkeman, AC5, Shiner Massive (Mr. Devore and Mr. Vega) and the lovely Soundsystem crew (Kym Swain, Marsha Bellamy, and the one and only Miss Dionne Wilson), Lenaé Harris, and Carolyn Honeychild Coleman. . . . In the immortal words of Adam (Adrock) Horowitz: “It’s called gratitude, and that’s riiiiiiiight!”

Thanks to my mom Peg Fulton (who read so many drafts), brother Thomas (who read quite a few as well), to Chandler and Elaine Lai Fulton, who could tell I was having fun and encouraged me to keep going, and my sister Margot for the counsel and the Hendrick’s (he writes as a hint). To be in your late thirties and come home and tell your spouse: “I want to go back to graduate school . . . to teach music history,” and receive even reluctant support for such a proposition, well, let’s just say I’m grateful. Thank you Kaysh Shinn. Thank you James. Thank you Gandalf. To my Texas family: Gene, Sook Ja, and Tom Shinn. To Jessica Brantley, Paul Robert, and to the four greatest: Gillian, Lucie, Gabriel, and David.
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Introduction

It’s a collage [of sampled sound] in a musical sense. We looked at the two-inch [multitrack] tape as a canvas. We never looked at it as a linear recording device. Everything was visual to us in the studio!

Hank Shocklee, on producing Public Enemy (interview 2008)

The majority of black music recordings just a few years prior to 1970 were made as live-to-tape recordings of an event. One-track mono recording had captured performing combos, orchestras, bands, and solo acts performing direct to phonograph disc and live to magnetic tape in the early 1950s. But a new technique loomed on the horizon. Sidney Bechet’s 1941 One-Man Band recording and Les Paul’s 1948 dual-sided single “Lover”/“Brazil” had previewed a new era of overdubbing, what Paul would call “sound on sound” (Milner 2009, 125). Rather than recordings of “real-time performance instantiations,” overdubbed recordings were “studio constructed representations” (Kania and Grayck 2014, 86). Inspired by Paul’s experiments, Ampex introduced multitrack tape recorders in the 1950s that allowed for recording parts on individual bands of one tape, and then mixing the results to a one- or two-track (mono or stereo) reel, the final mix which is later used as a master recording for production of duplicates en masse.

These developments had a profound impact on popular music making. As Greg Milner states, “the story of recording music in the postwar era is largely the story of multitrack tape,” and it was “an era in which the division between live sound and its representation would be conceptually and practically blurred” (2009, 156; 128). In the following decades, multitracking and the subsequent development of technologies for electronic manipulation and sequencing of music would have a particularly
transformative effect on styles of post-WWII black popular music (marketed as R&B, soul, and funk) in which the energy of collective performance was paramount.

Up to the 1960s, both the concert performance and recording practice of R&B stressed the interaction of a collective, and group dynamism and call-and-response intercommunication were central aspects of music making. Yet 1970 signaled a pivotal shift for recording practices throughout popular music styles. During that year, Paul McCartney completed recordings on his *McCartney* album (Apple, 1970), Stevie Wonder recorded *Where I'm Comin’ From* (Tamla, 1971), and Sly Stone produced Sly and the Family Stone’s *There’s A Riot Goin’ On* (Epic, 1971). Just a few years earlier, these musicians recorded live to tape, or by overdubbing vocals to the collectively produced instrumental tracks of a band: McCartney with the Beatles; Sly with members of the Family Stone; Stevie Wonder with Motown’s in-house studio band known as the Funk Brothers. Indicative of changing production practices, however, on these three self-produced albums, McCartney, Wonder, and Stone respectively overdubbed most of the instrumental and vocal parts themselves.

Over the following decades, this shift in recording process, and the growing popularity of synthesizers, drum machines, digital samplers and MIDI sequencing culminated in new music-making paradigms. By 1990, these practices had completely transformed the production of black popular music, shifting the recording process from a band-centered model to one that was producer-centered. Further, as Public Enemy co-producer Bill Stephney states, black musical culture shifted from the “band era” in the late 1970s to the “DJ era” in the 1980s (Stephney interview 2016). In these new techniques of music production, the immediacy and interactive performance of live-to-
tape recording were transformed into a technologically mediated process.

**Group Dynamic, Interactivity, and Vocalization in African American Music**

The importance of the group dynamic and interactivity in African American music has been examined by Samuel A. Floyd (1991, 1996), George E. Lewis (1996), Olly Wilson (1999), and Anne Danielsen (2006). Interpolating the ideas of Henry Louis Gates, Floyd finds that Jelly Roll Morton’s live-to-disc recording of “Black Bottom Stomp” exemplifies this interaction, in which “performers contribute to the success of a performance with musical statements, assertions, allegations, questings, requestings, implications, mockings, and concurrences” as they refer to each other’s riffs, expressions, and phrases (Floyd 1991, 281). Anne Danielsen calls this the “conversational mode” of the funk genre, which is particularly significant when individual musicians strive to be heard in large groups of performers “organized as rhythmic dialogues”:

Striving for differentiation among parts becomes increasingly significant as the number of layers and figures increases . . . the performance of a figure does not take place in relation to all of the other figures in a weave, but as part of a dialogue with one another (Danielsen 2006, 52).

These “dialogues” are a central aspect of the group dynamic. Group improvisations in jazz, rock, and bluegrass are commonly described as jam sessions and traditionally rely on the interaction between persons and personalities. Jimi Hendrix says that the social interactivity of jamming is central to the experience of a musician:

Any chance we have, we jam. That’s what playing is about . . . when you’re creating music with other musicians [and] after a while you feel the flow that goes through the music and you can follow each other . . . . Like changes of key and timing and breaks and licks (quoted in Shapiro and Glebeek 1990, 275).

Hendrix calls the key to collective improvisation the interactive “flow,” which Floyd and
Danielsen find to be “conversational.” Further considering the dialogic character of multiple performing persons, instruments are often used to “imitate the effects of the human layrynx” (Ian Hoare quoted in Frith 1981, 17).

This dissertation will examine how such dialogue and conversational interplay are transformed when producers use multitrack recording to layer musical parts. In order to examine this development, I consider four case studies in which the performative collectivity is represented in a process that is both technological and conceptual: 1) Stevie Wonder creates the effect of interactive interplay, such as the call-and-response statement and embellishment of an improvised phrase, on recordings on which he is the solo performer; 2) Prince expanded on these techniques to create a one-man recording industry based on solo production of band tracks, while employing multiple vocal characters through electronic manipulation; 3) Michael Jackson crafted beatboxed demos\(^1\) of vocal representations of instrumental parts, using multitrack tape as a compositional tool and conceptualizing what each member of the performing collective would play; 4) In a reaction against this shift toward individual auteurs, Public Enemy’s group of Bomb Squad producers worked with a collective ethos, not by performing instruments simultaneously, but as a producer collective layering and juxtaposing samples for recordings over the course of studio sessions lasting several weeks. In each of these cases, both the immediacy and interpersonality of group interaction are mimicked and transformed.

While each of these processes of record production use studio technology to

\(^1\) The term “demo” is used as it is in the recording industry, to denote a “demonstration tape” made to showcase a song or performer with the intention of re-recording or remixing the song at a later date toward creating a “final master recording,” often referred to herein as an “album version.”
evoke or reimagine collectivity, they do so using different approaches – what could be described as differently “reimagined collectives.” The most similar in approaches are Stevie Wonder and Prince, both of whom reimagine collectivity using a *solo producer model*. Stevie Wonder creates recordings in which individual vocal and instrumental parts playfully react to previously recorded parts throughout, as he develops interpretive frameworks through multitracking parts that appear to interact (but are actually a series of multilayered reactions). Prince draws from Wonder’s semi-autonomous solo production practices to develop an industry based on solo produced recordings that evoke the sound of group performance. Prince both professionalized performative multiplicity and sought to profit from it, as he developed performed alter egos like Camille for his productions. Both Wonder’s and Prince’s processes use multitracking to create for the listener the false sense of interaction of different performative characters.

Jackson’s approach to composition, particularly for and after *Thriller* (1982), involves recording beatboxed vocal templates for musicians: a *beatboxed collective*. While Jackson employs instrumentalists to realize his ideas, the final product is distinctly shaped by his beatboxed template. Jackson, by the accounts of former musical director Greg Phillinganes, perceived every instrumental part “like a character” (interview 2015). Thus, his compositional approach imagined characters in collective performance, beatboxed templates of how that collective would sound, and created recordings based on these templates (using *studio collectives* of musicians multitracking parts at different sessions).

Public Enemy’s Bomb Squad producers did not play instruments in a traditional sense, but developed their production style “jamming” together by scratching records and
layering sequenced samples to create recordings that carried the ethos of performative collectivity. They are representative of a type of *producer collective* that, while rare in hip hop (where most producers are solo practitioners), is indicative of new practices developed to imbue technologically mediated recordings with the spirit of collectivity.

As this study focuses on the perception of multiple performative voices, and black popular music culture is rooted in jazz and blues traditions in which “musicians try to lend their instruments the same qualities of human speech,” I also consider ways in which technology and vocality are used in conjunction in innovative methods (Deveaux and Giddins 2009, 9). This includes Stevie Wonder’s creation of speechlike textures through electronic modulation of keyboard instruments, Prince’s manipulation of female vocal samples, Michael Jackson’s merging of vocal performance and synthesizer timbres, and Public Enemy’s sampled vocal interjections from recordings.

**Methodology**

My examination of recording studio music making and the technical process of record production is informed by my own professional experience as a record producer, engineer, and record label executive who developed and marketed R&B and hip-hop recordings. My methodological approach for this study involves transcriptions and analysis of published (album) and unpublished (demo) sound recordings, interviews with participants in the recordings, as well as a consideration of the timbre, mixing, and spatialization of recorded sounds. This project expands the currently scant musicological research on the technological practices used in the production of R&B and related genres, and furthers the study of the creative process of black popular music through an examination of the impacts of technology on music making.
My specific case studies are drawn from the larger history of African American musicians who were involved in similar explorations in the studio during this period, including Billy Preston, Marvin Gaye, Rick James, Sly Stone, Leon Ware, Roger Troutman, among others. The chronological scope of my dissertation outlines a transformational period in the practice and aesthetics of many musicians, and the development of techniques that would have a significant impact on the culture of late 20th century popular music. I argue that the recording studio served as a site of freedom from genre constraints, as each recording artist navigated the marketplace and specific commercial expectations placed on African American performers.

This experimentation was facilitated by studio environments that remained outside of record label control: In 1970 Stevie Wonder left Motown’s Hitsville studios, an environment in which label owner Berry Gordy controlled the production system, to work on new ideas with electronic music producers at Media Sound; Prince worked in a series of “Uptown” home studios in the early 1980s before building his own Paisley Park studio complex; Michael Jackson developed demos at his family’s Hayvenhurst home studio from 1978 through the 1980s; Public Enemy’s Bomb Squad producers created their tracks and early demos at their Spectrum City office. Each of these creative spaces became laboratories for the development of new styles and techniques, and precipitated the explosion of digital home studios and digital audio workstations (DAWs) in and beyond the 1990s.

Throughout this study, I have tried to keep the voices, ideas, and recollection of events of the participants central to the musical discussions. I am grateful to have had the opportunity to interview at least one participant (engineer, co-producer, or contributing
musician) in every single recording examined in my case studies. Previously published interviews and in some cases memoirs of participants who were unavailable or deceased provided valuable additional insight. Wherever possible, I considered multiple remembrances of events from different actors to avoid potential mythmaking or misremembering by any single participant.

“Recordists” in the Studio: Creative Practice of Musicians, Producers, and Engineers

The process of music production in the recording studio is generally a collaborative effort between producers, recording engineers, and musicians. Albin Zak terms the members of this creative network “recordists” (Zak 2004, 107). In standard twentieth century popular music industry practice, the engineers and producers work in the “control room” (after the 1960s, one may imagine the elaborate setup as akin to the bridge of the Starship Enterprise, complete with captain’s chairs at the mixing desk). Meanwhile, the musicians and vocalists record in “live rooms” or “vocal booths” on the other side of a window (see Bartlett and Bartlett 2009). This relationship supports a power dynamic in which the producer and engineer maintain control of the recordings.

However, during the 1970s and 1980s, many recording artists also began serving as producers of their recordings. “Recording artist” is a music industry term used to distinguish those performers that are signed to recording contracts to make recordings from hired musicians who contribute to sessions. In the case studies discussed here, recording artists served as lead producer or co-producer, and often recorded many of the instrumental parts in the control room, therefore harnessing literal and figurative control over the production process. In this working arrangement, the engineer (a trained technician and specialist) and the self-produced performer work together in tandem.
Engineer Glyn Johns argues that the recording engineer injects a tremendous amount into the atmosphere. . . . Any record, to my way of thinking, has to give you a mental picture when you hear it. I think the engineer’s job is to present a mental picture in sound that he thinks suits the number and the artist (quoted in Frith 1981, 112).

The way in which the engineer gets a “mental picture” during recordings of live-to-tape performances would be vastly different than the constructed, overdubbed multitrack recordings discussed here. In the shift from collective performance by bands to artist-producers overdubbing tracks, the relationships between the recording engineers and the recording artists become increasingly significant, and were often intimate and collaborative. For example, Stevie Wonder’s engineer and co-producer Malcolm Cecil recalls that when the recording of “Superstition” (Tamla, 1972) began, Wonder walked into the studio and sat down at the drums. And started to, just [drum noises]. And that was all he played, the drum track for like five minutes, and that was it. And he came back and he said, “let’s get a good bass sound, want a real funky bass sound.” So we went out and programmed up a bass sound. And then he put on [sings bass]. And then he says, “I want some clavinet.” And we haven’t heard any melody, we haven’t heard any sound. We didn’t know what this all was yet (Cecil quoted in Sadiq 2015).

In such a case, the recording artist-producer has a concept of what the cumulative recording will sound like, and the engineer gains an increasing “mental picture” while guiding the recording of each tracked instrumental or vocal layer. Public Enemy engineer Chris Shaw describes a similar initial confusion regarding one of the group’s denser recordings, “Welcome to the Terrordome” (Def Jam, 1989):

I remember tracking all of the basics for that, and breaking out all of the [samples] from the drum machine. Just not really knowing what was going on because, it was just basically that guitar loop – ‘bwah-wah-wah.’ And all of a sudden it would stop, and then ‘bwah-wah-wah’ (laughs). Like “what the fuck is going on here?” [co-producer Eric Sadler said] “no man, there’s a lot more stuff that’s gonna go on top.” I was like, “I hope so, it’s
boring.” And it wound up being really one of the more – one of the crazier tracks (Shaw interview 2016).

As additional tracks are recorded, the song recording takes shape as product of the creative labors of the artist-producers, engineers, and contributing performers. In the cases examined in this dissertation, engineers and self-produced recording artists developed close working relationships over the course of several recordings: Stevie Wonder worked almost exclusively with Malcolm Cecil and Robert Margouleff from 1971 to 1974; Prince worked with a number of engineers throughout the 1980s, but worked extensively with Susan Rogers from 1983 to 1988; Michael Jackson worked with engineer Bruce Swedien on recordings from 1978 almost until Jackson’s passing in 2009, and extensively with Matt Forger on demos at his home studio; Public Enemy’s Bomb Squad producers favored a team of engineers (Nick Sansano, Rod Hui, and Chris Shaw) at Greene Street studios from 1987 to 1991. Of this group, Cecil, Rogers, Swedien, and Shaw all offered insight on the recording process to this study in interviews and email correspondence.²

The network of musicians and recordists examined here consists primarily of male African American recording artists born between 1950 and the early 1960s, and recording engineers mostly of European descent with a wide range of ages. With the

² I am aware that I am engaged in the writing of recent history. Many of the participants in this study still maintain active touring and recording careers, including Stevie Wonder and Public Enemy, as well as several of the contributing musicians, producers, and engineers. The extraordinary tragedy of Prince’s death during the writing of this dissertation is a sad reminder of a passing generation of musicians engaged in the pre-1980s culture of black musical production – what Public Enemy producer Bill Stephney calls “the band era.” Their stories are vital to music history. The deaths of Maurice White and Bernie Worrell (discussed in Chapter One), Phelps “Catfish” Collins (discussed in Chapters One and Five), and producer Kashif (mentioned in Chapter Five and the Epilogue) during the course of my research into these topics further underscores the need to celebrate this vibrant band-based culture of black popular musicians working in post-WWII bands. My aim is to offer insight into the innovations in all the case studies, while respecting that this history and its meanings are still a present, unfolding event for many of the participants of this study and their families.
exception of Rogers, the voices of this study are almost entirely male. Sadly, neither music production in the recording studio nor the culture of R&B was egalitarian in terms of gender during this period, and remarkably little has changed in recent years. While women had a critical impact on the sound culture of black popular music during the 1970s and 1980s in myriad ways, and several female producers had a significant effect on musical style (including Sylvia Robinson and Patrice Rushen), within the recording studio the primary “territory which women are expected to inhabit” was “that of singer” (Frith 1988, 155). Further, Tricia Rose notes that women “are in general not encouraged in and often actively discouraged from learning about and using mechanical equipment. This takes place informally in socialization and formally in gender-segregated vocational tracking” (Rose 1994, 57). As a result of this and other factors, recording studio control rooms are historically both white and male-dominated spaces, and the credibility of women producers is sometimes questioned (Swann 2015).

This dissertation considers how, during a period of rapid development of music technology, these (male) performers and their recordists developed specific techniques to negotiate the spirit of performative collectivity that would widely impact black popular music production.

On Black Popular Music and the Collective

I employ the term “black popular music” in this dissertation as it is used by Brackett (2005), Flory (2006), and Banfield (2004). Similarly, “African American Popular Music” was employed by Fink (2001), Roberts (2011), and Woodworth (2008).

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3 Which is not to say that women – real and imagined – did not play a role in these recordings. In addition to Stevie Wonder lyrics co-written by women, and the work of Rogers, Lisa Coleman, Wendy Melvoin and others with Prince, there are also female and androgynous voices that are produced on these recordings in a number of ways by male performers.
In these instances, the term is used to discuss mainstream Motown and post-Motown secular music primarily produced by African American performers for mass consumption. The term “black” in this case is employed to describe the culture of African Americans that emerged in the 1950s in the U.S. As Guthrie Ramsey states, the “present-day idea of an ideologically charged blackness is linked to earlier historical developments in post-1950s American society” (Ramsey 2001, 8). All of the principal recording artists I examine here were born in or just after the 1950s: Stevie Wonder (1950); Prince, Michael Jackson, Hank Shocklee (1958); Chuck D (1960). These principals are self-described as culturally black and most have discussed the concept of black music in published remarks.

The term does not designate a subsection of the music industry. Rather, it denotes the dynamic, contested intersection of black cultural production intended for mainstream consumption and the commercial, mass-produced music industry. It also distinguishes a R&B-centered segment (largely secular groove-based dance music and rhythmic ballads) in the diverse musical landscape of styles and approaches of African American musicians in this period. As Patrick Rivers argues, there “is a diversity to black culture that is not always recognized. Often, black culture is reduced to a couple of practices that are made to represent the totality of black creativity, experience, and values” (Rivers and Fulton 2017b). However, he continues, the 1970s culture of black music featured a wide range of personalities, voices, instrumentation, and lyrics sonically presented on recordings from the decade. Miles Davis, Nina Simone, Sun Ra, Bob James, The Art Ensemble of Chicago, Rahsaan Roland Kirk, and others explored the range of improvised music and jazz. Marvin Gaye, Stevie Wonder, Diana Ross, and the Temptations were breaking away from the soul templates established at Motown. And as the home of soul was evolving, various styles of rhythm and blues were being shepherded by Curtis Mayfield, LaBelle, Kool & The Gang, Jimmy Castor, James
Brown, Esther Phillips, Leon Ware, The Chi-Lites, Marlena Shaw, and a multitude of bands, singers, and producers that were seemingly unhinged in regard to their expression of blackness (ibid.).

Following this decade, as William Banfield states, “Black popular music, while distinctly remaining identifiably ‘Black’ (sound, performers, performance practice, methods, delivery), throughout the 1980s became even more mainstream and was titled Funk/R&B and Urban Contemporary.” (Banfield 2004, 56).

The “mainstream” of popular music became a contested space “not based on a specific sonic or racial category but on the tension between realizing and transcending race through sound” (Roberts 2011, 20). African American musicians increasingly made music that not only crossed over into the “mainstream,” but in fact defined the late-century concept of the pop mainstream. A striking example is Michael Jackson. While described as crossing over from R&B in the 1980s, he virtually epitomizes the mainstream of American music by 1990. My study is positioned in this dynamic space between R&B/soul as a specific genre used to market black music (which has specific performance practices and traditions) and American popular music in general: black popular music.

As a historian primarily of English, Welsh, and Scottish descent identified within American society as “white” who is writing about the cultural production of primarily African American musicians identified culturally as “black,” I should acknowledge what Guthrie Ramsey terms the “identity politics in black music inquiry” (Ramsey 2001, 1). Regardless of whether I remind the reader that race is a social construct and “fiction,” it is necessary to consider my position as an investigator, who is both writing from a place
of social privilege and also lacks the advantage of African American culture in my personal “cultural memory” (Ramsey 2003, 1-3).

I refer to musical styles historically and culturally based in African American communities and social networks, and centered on the work of African American performers. However, there is no explicit qualification made here about the racial formation or perceived authenticity of these acts of cultural production in terms of “blackness” or “African Americanness.” As for my own role, as investigator who is a visitor and cultural outsider to black music, I aim consistently to foreground the views, ideas, concepts, and clarifications of the musicians I am investigating, rather than inject my own potentially mythologizing views regarding music and cultural identity. My thesis is not about black identity, but a consideration of the labors and techniques of black popular musicians – African American performers who cultivated their styles in R&B performance networks working at the contested intersection of genres marketed as R&B/soul/funk/hip-hop and mainstream American popular culture – in the recording studio from 1970 to 1990.

Within this chronological frame, I consider three performers (Stevie Wonder, Michael Jackson, Prince) who performed various styles of pop and rhythm and blues in the 1970s and 1980s (each with features of funk, soul, jazz, gospel, rock, disco, and blues) and one hip hop group (Public Enemy) that incorporated and transformed stylistic features of all the above genres through digital sampling. The central questions of each chapter are the same: how did these recording artists negotiate the group dynamic in the era of studio experimentation? How did the participants conceptualize collective
performance? What specific techniques did they develop to infuse the recordings with the feeling of group dynamism and multiple performative voices?

While collective performance is considered by some musicians in this study in relationship to the ethos of community (see Bailey with Zimmerman and Zimmerman 2014; Chuck D and Jah 1997), and scholars have connected the collectivity of black music making to West African musical practices (Floyd 1995), the term “collective” is not employed here as an idealized concept. Rather, as I will show in Chapter One, I use the term to identify a practice of post-WWII music making in which performance benefits from the simultaneous energy, interjected riffs, and articulation of different musicians creating musical grooves together. It serves to describe the “group dynamic” between players, and to consider how what Banfield calls the “engaging group dialogue,” “rhythmic dynamism,” and the ethos of collective improvisation inherited from jazz are reconciled in the technologically mediated recording practice of modern black music (2004, 42-5).

The term “collective” doesn’t reflect equal partnership in creative works, however. In black popular music, the business structures related to groups is usually hierarchical in terms of copyright ownership and creative control. These structures commonly reflected earlier practices of bandleaders during the big band era. For example, Philip Bailey states that “Earth Wind & Fire’s vision was a group collaboration” and “a collaborative spirit still existed,” with several recordings being the product of jam sessions in the recording studio (Bailey with Zimmerman and Zimmerman 2014, 89). Yet Maurice White owned the name and copyright for Earth Wind & Fire outright, while the band was made up of salaried employees. Similarly, James Brown,
whose recordings with various bands clearly benefited from collective performance and composition, was notorious for strict top-down business practices, including fines, and often faced walkouts from musicians who felt they were poorly compensated (see Smith 2012, 232; George and Leeds 2008, 120). Not all groups were equally collective in terms of writing and recording music. Nonetheless, instrumental groups and singers were performatively interactive in recordings – a collective recording practice.

Many commentators have argued that technology has had a profoundly negative impact on black popular music. Nelson George (1988) and Donald Clarke (1995) grimly describe a world in which computers have replaced musicians, producers and productions have replaced composers and songs, and “bass was replaced in the pop chart by a computer chip” (Clarke 1995, 502). While a more sympathetic view of technology’s impact on R&B has been offered by Mark Anthony Neal (1999), commentators have generally reserved more optimistic readings of technology’s impact for hip hop, which has been seen as a site where the disenfranchised have reclaimed and repurposed technologies, resulting in a form of self-empowerment (see Rose 1994).

Although arguments critical of technology’s impact on black popular music are not without merit, they presume a constant, idealized practice rather than a continually developing musical process. In addition, they fortify the notion that African American musicians have had a passive rather than active role in the development and innovation of musical technologies. Indeed, as Alexander G. Weheliye comments, too often such arguments “reinforce the idea that Afro-diasporic populations are inherently Luddite and therefore situated outside the bounds of Western modernity” (Weheliye 2005, 2). For African American musicians and producers, this period was one of extensive
technological innovation that had a profound impact on popular music and modern musical culture in general. The development and influence of these innovative techniques has yet to be properly examined.

Social catalysts played a significant role in the development of modern black popular music, during a period that transitioned into what Mark Anthony Neal calls the “post-soul aesthetic”: “an aesthetic center within contemporary black popular culture that at various moments considers issues like deindustrialization, desegregation, the corporate annexation of black popular expression, the general commodification of black life and culture, and the proliferation of black ‘meta-identities’” (Neal 2001, 2-3). Within the frame of this black popular culture, performers negotiate a marketplace in which taxonomies of racial and sexual identity (and specific expectations for African American performers) exist in a dynamic relationship with post-soul individualism. My case studies represent the negotiation of that dynamic within the creative cocoon of the recording studio, where technology is employed both as an agent of transformation and as an agent of self-empowerment by musicians seeking increased control over their music.

Technological shifts during this period from band-based recording to the prominence of the solo producer practice must also be understood as occurring within the rising neoliberal culture as well. Dale Chapman states: “Since the late 1970s, Western governments have set in motion a series of structural realignments in the global economy, deregulating industry, opening labor markets and facilitating the increasing mobility of financial capital. In doing so, they rely upon an ideological framework that privileges social atomization over collectivity, and that conceives of the isolated individual as an autonomous, self-directing economic unit” (Chapman 2013, 452). As will be shown in
later chapters, what Chuck D of Public Enemy terms the shift from “we” (with its cultural relationship to the collective ethos of black nationalism) to “me” (solo actors in neoliberal culture) becomes a point of contention toward the end of the century (quoted in Combat Jack 2014).

Music Recording and Studio Technology

My research builds on the growing scholarship on music production and the impacts of recording technology on popular music, including Butler (2006), Cateforis (2011), Flory (2006; 2016), Katz (2004; 2012), Hughes (2003), Milner (2009), Moorefield (2005), Rivers (2014), and Zak (1997). In his seminal work on multitracking recording as composition, Albin Zak describes “a recording as containing three distinct compositional layers: the song, the arrangement and the track or ‘sonic artifact,’” and

[ultimately . . . the layers merge. The track subsumes the other two layers and is dependent on them for their existence. . . . The different types and stages of creative activity are not entirely separate; they exist in a continuum that may be very fluid indeed (Zak 1997, 30-1).

Zak accurately posits multitrack recording as a compositional practice and new form of music making, and describes cases in which “songwriting and track arranging are often indistinguishable from the process of track creation” (1997, 34). Following Zak’s lead, I refer to recorded songs as “recordings” rather than “songs,” “compositions,” or “arrangements” throughout, as popular music recordings subsume all of these elements. Zak’s discussion of the increased role of studio engineers and producers in the creative process, and the valuable contributions of Simon Zagorski-Thomas (2014) and Ruth Dockwray and Allan F. Moore (2010) to the studies of recorded sound, spatialization, and representational spaces within recordings have been instrumental in expanding the
discussion of popular music beyond that of social texts and song compositions. My project extends this research to consider how innovative techniques were used in recording studios to evoke collective practices common in black popular music.

As this study centers on the practice of producing music in the recording studio and the impact of new electronic technologies on studio composition, I preface the discussion of the music with a survey of relevant recording studio technologies and production techniques. In order to familiarize the reader with specific instruments discussed in my case studies, I offer an overview of the development of synthesizers, digital samplers, and DJ turntable use in hip hop, highlighting the techniques and instruments that appear in following chapters.

*Multitrack Tape and Recording Consoles*

In the mid 1960s, most recording studios were either using four-track or eight-track tape machines. Sixteen-track machines soon followed. Malcolm Cecil installed the first sixteen-track machines in New York and Los Angeles studios circa 1970 (Cecil interview 2015). In the 1970s, twenty-four-track machines (recording on two-inch tape) became common, and remained the standard through the 1990s. High-end studios in the 1980s began offering forty-eight tracks by syncing two twenty-four-track machines. The synchronization of the machines took up to a minute, however, and Prince and other impatient musicians rejected the use of forty-eight tracks because it would cause delays in recording (Rogers 2016; Elevado 2016). Thus, the case studies discussed in these chapters recorded either on sixteen-track (Stevie Wonder, Prince) or twenty-four-track machines (Michael Jackson, Prince, Public Enemy). Figure I.1 shows a twenty-four-track, two-inch Studer tape machine. Note the twenty-four input meters above,
illuminated.

Figure I.1 Studer twenty-four-track machine.
Source: uaaudio.com.

These multitrack tape machines are wired to source inputs and playback outputs on recording consoles, so that the sound information can be recorded from sources (such as microphones and instruments) to tape, as well as replayed back from the tape to speakers. This part of the recording process is called tracking. At the end of the recording process, the tracks are mixed to a two-track stereo master recording on a separate tape reel (in and before the 1960s, these mixes were one-track, mono). Recording consoles have individual strips for each channel (see Figure I.2).
Figure I.2 Toft ATB Console detail, input channel. Source: toftaudio.com.

Figure I.2 shows a common channel configuration on a mixing console. The volume slider and “assign” controls (where the output of this track will be routed to) are at the bottom. Above the volume slider, there is a “mute” button (which silences the track), “solo” (once these are depressed, only the soloed tracks are audible), and “pan” (for panoramic) dial, which allow for the track’s position in the stereo field (left, right, center) to be adjusted. The green dials are “aux” (for auxiliary) sends. When these knobs are turned to the right, the output of the track will be “sent” to various signal processors.
(such as a reverb), which are explained below. Turning an aux send dial to the right that is routed to a corresponding echo effect, for instance, will cause the track to be sent to the echo. If that echo is activated on a separate “aux return” channel, the echo will be audible on this track. The six black dials above are “EQ” (equalization) adjustments that can boost or cut specific frequencies in the track (a more advanced version of “bass” and “treble” dials on a stereo receiver), and the purple dial on the top sets the input level for the recording.

**Signal Processors**

Various electronic signal processors were introduced in recording studios in the 1960s and 1970s, the most common of which are reverb and delay. Short for reverberation, “reverb” signal processors artificially create the indirect reflections of sound. If a sound that is “dry” (does not have much reflection) is sent to an auxiliary channel connected to a reverb meant to simulate the reverberation of a large cathedral, the result will be a long-sustaining, reverberating sound (see Figure I.3).

![Reverb diagram](https://columbia.edu)

**Figure I.3** Reverb diagram.  
Source: Columbia.edu.

Reverb controls include the size of the virtual space, the type of room being
simulated (wood, stone, etc.), and the length of the reverberation. For distinct repeating echoes of a sound (as in, “hello”-“hello”-“hello”), a signal processor called a “delay” (which will delay a sound by a set amount) or simply an “echo” effect is routed. The controls for delays include speed of return (these are often coordinated with tempo of the recorded song, such as eighth note, quarter note, or triplet) and number of echoed repeats.

To show how all of this impacts an average recording session, engineer Susan Rogers offers a concise description of signal processor setup and practice for her work with Prince:

For every session, I selected and patched in a variety of reverb, delay, and other outboard sounds. We dialed them in as needed. We relied on the Lexicon 224 [reverb] (I liked the chamber sounds the best, but I also used their wood rooms. I am not a fan of hall sounds). I liked the Quantec Room Simulator a lot. It allowed the experienced engineer to customize every parameter. I always customized our reverb sounds by adding pre-delay, changing the shape of the curve, changing the diffusion, etc. This is the engineer's opportunity to be musical and contribute her own "ear" to the work. When we worked at Sunset Sound in LA, we had the luxury of using real echo chambers, too.

Prince loved delays. We always had the Lexicon PrimeTime, PCM 41, PCM 42, and even tape slap [delay modules] when needed. Delay is something I go to as often as reverb because of the clarity it affords.

When these effects were always patched in at the console, adding them was simply a matter of turning a knob. I always gave Prince his favorites but would add new patches or devices as well, to keep his sound evolving. I would tweak the patches as the song took shape; what works for a ballad doesn't work for a dance track (Rogers email 2016).

The impact of adding reverb and delay effects to specific tracks at different levels in conjunction with varied equalization of sounds results in perception of depth, location, and proximity for the listener.
As shown in Figure I.4, the combination of panning and the use of effects and equalization of sounds are intended to impact the listener’s perception. The greater the level of indirect sound, the farther from the listener a sound is generally perceived, whereas the greater level of direct sound will be perceived as closer. Lower-frequency sounds tend to sound like they come from a physically lower place, while higher-frequency sounds tend to sound like they emit from a higher spatial position (see Huber and Runstein 2005; Bartlett and Bartlett 2009). This consideration of stereo spatialization and depth perception is a key aspect of audio mixing, as is the control of sound dynamics.
using audio compression. Unlike reverb and delay and modulation effects, which are usually added through an auxiliary channel send, dynamic range compression is applied directly to the signal, and functions as an automatic volume control (see Figure I.5).

![Audio Waveform](image)

**Figure I.5** Dynamic range compression on digital audio waveform. Top: uncompressed audio; bottom: that same audio waveform following compression. Illustration by author.

Figure I.5 illustrates dynamic range compression on a digital audio waveform. The top image is uncompressed audio, with significant variation in the dynamic range. The compressed audio, shown below, exhibits a more even, uniform dynamic range; the quieter sounds are made louder while the louder sounds are limited. Compression can be used to increase the impact of sounds, or to artificially create the perception of impact, as explained by Public Enemy engineer Nick Sansano:

[We had] this whole idea of how to get things to jump through the speakers; how to make a hierarchy, so what are we listening to, what’s driving this track. Is it kick drum? Is it vocal? Is it both? And it wasn’t a clarity of hierarchy but sonically, it was more about getting full-frontal assault wherever you possibly could by using what I thought at the time
was too much compression, too much dynamic range manipulation. It was not pure, of course, we were fabricating the impact of these things. And we were making up for the fact that [in] early sampling and early drum machines, the resolution was pretty bad. We had to bring this hyper-reality to these drums and samples. We’re making our own manipulated world of hyper-rhythm and hyper-impact that has nothing to do with the natural flow of things (Sansano interview 2016).

As Sansano describes, the impact of sounds can be manipulated through signal processing to create something that is not representative of source material. The manufacturing of sonic environments through the compression, modulation, and spatialization of sounds becomes increasingly important to the recording process as live-to-tape recording practices (the recording of real-time events) are replaced by overdubbing (the creation of studio-based representations). This transition was further impacted by the expanded use of electronic instruments such as synthesizers and samplers.

*Synthesizers, Drum Machines, and Digital Samplers*

The 1970s and 1980s saw numerous developments in synthesizer technology, as well as a wide expansion of the use of synthesizers in various music genres. Monophonic analog synthesizers (which employed voltage control) developed in the 1960s and early 1970s, such as Moog and ARP synthesizers, became popular with musicians, but were large and difficult to control, as there was no way to save or replicate a sound patch (called “patches” because they were originally created from the wiring of different synthesizer modules) that had been previously developed by a user (see Holmes 2008).

A number of digitally controlled polyphonic synthesizers were introduced in the late 1970s, including the Yamaha CS-80 and Oberheim OB-X (both of which play a role in this study). While still employing voltage control to produce sound, they were able to
store preset sounds as algorithms.

**Figure 1.6** Yamaha CS-80 (1976) and Oberheim OB-X (1979).
Top (l: CS-80; r: OB-X); bottom: OB-X detail.

As shown in Figure 1.6, the OB-X offered digitally stored preset sounds (note the four “group” choices (left) and eight “program” choices (right) in bottom row of the OB-X detail), as well as the ability to further shape sounds through filtering, modulation, and envelope controls. In the 1980s, synthesizers like the Yamaha DX-7 were introduced that were both digital in terms of sound production and control, and could be used in conjunction with other devices through the transmission of binary MIDI (Musical Instrument Digital Interface) messages. While these and a range of other electronic instruments flooded the market in the late 1970s and 1980s, no two instruments would have more of an impact on the sound and practice of black popular music and the development of the 1980s “Urban Contemporary” R&B radio format than the Minimoog
and the Linn LM-1 (see Figure I.7).


Unlike the cumbersome studio modules Robert Moog developed in the 1960s, the Minimoog was compact and portable, readily offering a synthesizer bass sound that became popular through its use in recordings by Stevie Wonder and keyboardist Bernie Worrell (of Parliament/Funkadelic) in the 1970s. By the mid 1980s, the “Moog bass” sound had all but replaced the electric bass on R&B recordings.

In developing the LM-1, Roger Linn had solved the problem faced by previous manufacturers of drum computers: the inability to believably synthesize the characteristics of live drum performances. Linn created a device that stored short digital samples of individual drum hits (a bass drum, snare drum, cymbals, and other percussion sounds performed by drummer Art Wood) on a computer chip, that could be both tuned and sequenced into drum patterns. In addition, the LM-1 had a “shuffle” function that “made the space between sixteenth notes slightly irregular, to give the drums a more human feel” (Milner 2009, 313). Like the Minimoog, Linn’s LM-1 and subsequent models became extraordinarily popular with producers (including Stevie Wonder, Prince, and Michael Jackson), and the machines edged out acoustic trap drums in recording studio practice throughout the 1980s. Digital samplers, particularly user-programmable
models that allowed users to add their own sampled sounds, remained unaffordable for the majority of music producers until the late 1980s. While the high-end Fairlight CMI would play an important role in 1980s recordings by Michael Jackson and Prince, for up-and-coming producers, two of the first samplers available at consumer prices were the E-Mu SP-1200 and Ensoniq Mirage.

In order to compete with Linn’s drum computers, developers at E-Mu crafted a drum machine with user-programmable sampling capabilities. The 12-bit SP-1200 sampling drum machine and the 8-bit Ensoniq Mirage (one of the first keyboard samplers) became popular with hip hop producers (including the Bomb Squad). Due to their low memory, neither had high fidelity, as they used a low bit-depth (smaller amount of binary code) to sample the sound frequencies (see Figure I.9).
Figure I.9 Audio waveform and digital samples at 16 and 8 bits.
Source: Columbia.edu.

As shown in the above diagram, lower bit rate results in a poorer sampling of audio frequencies, resulting in a lower quality replication of the original sound. But for many hip hop producers, the inherent grit and noise of the low-bit sound became a coveted aesthetic (see Rivers 2014). As was the case with many of the developers involved with digital samplers, who had conceived them as tools for studio engineers and record producers, the use of the SP-1200 by hip hop beat makers to sample not individual drum hits but loops came as a complete shock to its creators (Milner 2009, 331-3). For hip hop producers in the late 1980s and early-to-mid 1990s, the sampler was always used in conjunction with the turntable.
The Turntable as Instrument and Production Tool

Turntables became a central part of hip hop culture during the rise of DJ-based music events in the 1970s, and the experimental techniques of Kool Herc, Grandmaster Flash, and others led to the development of “scratching” and “cutting” techniques now described as turntablism (see Rivers 2014; Katz 2012). While there were a variety of models used in the early years, by the mid-1980s the Technics SL-1200 (and later variations such as the SL-1200MK2) became the standard for use in DJ setups. As Public Enemy producer Hank Shocklee describes, even after the rise of samplers, the turntable remained “the mothership,” meaning the heart of hip hop’s musical culture, well into the 1990s (Shocklee interview 2008). DJ setups generally involved two SL-1200 turntables separated by a mixer (see Figure I.10).
In making hip hop recordings, producers would search for sounds or loops to incorporate from vinyl records. These would either be digitally sampled from the turntable into the aforementioned Ensoniq Mirage, E-Mu SP-1200, or another sampler, or scratched in from the turntable directly onto a track of multitrack tape. On the bottom of
Figure I.10, basic scratch manipulation of a record is shown; the record is rubbed forward and backward percussively, manipulating a desired recorded sound. A layered hip hop track circa 1990 might feature several elements that have been digitally sampled and sequenced, as well as several scratched sounds. The impact of samplers and turntables on musical style, and the rift caused between hip hop producers and R&B musicians is considered in Chapter Five.

Chapter Outline

The following chapters are organized with a chronological scope, although there is some overlap, and chapters Three and Four consider two very different contemporaneous approaches to music production by Prince and Michael Jackson in the late 1970s and early 1980s.

Chapter One, “The Development of Rhythm and Blues as Genre, Performance Tradition, and Recording Studio Practice,” offers historical background on R&B as a marketed popular music genre and performance tradition prior to and beyond 1970 in order to contextualize this current study. Considering the way in which recordings were commonly made collectively, I review the transition to overdubbing in the 1960s, and the development of new recording practices in the 1970s. The recording practices of James Brown and the J.B.’s are examined as an example of collective performance in the studio, while a consideration of Earth Wind & Fire’s overdubbing techniques in the 1970s is offered in contrast. I examine how these practices of interactive performance played a critical role in the performing tradition of rhythm and blues.

Chapter Two, “‘Control over the Individuality’: Stevie Wonder and the Technological One-Man Band,” explores Wonder’s art of studio recording as
composition toward a greater understanding of the paradoxical relationship of individuality and collectivity in his signature style. Examining recordings from the early 1970s, I consider how Wonder negotiates the collective spirit of an ensemble in songs where he performs all or most of the parts, and redefines the spontaneous group dynamic of improvisational “jamming” in the age of multitrack recording. Tim Hughes (2003) has contributed significantly to Wonder scholarship, as has Terry Rowden (2009). Yet their studies only begin to consider his recording and performance techniques, and the line of inquiry advanced here. Drawing insight from interviews with Wonder’s co-producer Malcolm Cecil, this chapter considers Wonder’s recordings as representational spaces, in which communal interaction is evoked in aural scenes through multitrack recording.

Chapter Three, ““Produced, Arranged, Composed, and Performed by Prince,”” examines how Prince developed an industry based on largely solo recording in the late 1970s and early 1980s. Through an analysis of recordings on which Prince performed every instrumental and vocal part, I show how Prince’s recordings transform collective R&B practice while continually reflecting the isolation of the solo musician in his studio. My study of Prince is indebted to the scholarship of Griffin M. Woodworth, whose invaluable dissertation (2008) explores Prince’s relationship to traditions in African American music. However, Woodworth does not focus on the ways in which technological autonomy impacted Prince’s music, which is the central concern of my project. I explore ways in which Prince used recording techniques such as pitch-shifting vocals to explore identity play while challenging identity and genre typology.

In Chapter Four, ““Sounds Human Ears Have Never Heard”: Michael Jackson’s Vocal Composition and the Beatbox Collective,” I show that Jackson’s sonic exploration
and demo recording process from the late 1970s and early 1980s represents a type of vocal composition that transforms collective practice. While Jackson is widely recognized for his immense influence in popular music, researchers have largely focused on his public persona, and there is surprisingly scant scholarship on his studio work. Shifting the focus to Jackson’s recording and compositional practice, this chapter examines his creative process and beatbox composition as it reimagines the collective processes of funk and R&B.

Chapter Five, “‘We Don’t Like Musicians’: Public Enemy’s Bomb Squad and the Producer Collective,” examines the studio techniques of Public Enemy’s production team the Bomb Squad (consisting of brothers Hank and Keith Shocklee, Eric Sadler, and Chuck D) in the 1980s. The Bomb Squad’s collaborative process developed in part as a polemic reaction against the shift toward individual (“me”) auteurs, and as a return to the ethos of the collective (“we”). While hip hop music making is generally described as a tradition distinct and separate from R&B-based music making, I argue that both the sound aesthetic and creative process of the Bomb Squad is rooted in the collective practice of R&B performance, although traditional notions of musicianship (playing guitars, drums, and keyboards) are replaced by performance on samplers and turntables.

Employing analysis of examples using traditional notation as well as waveform transcription and sample arrangement techniques introduced by Rivers (2014), I suggest that the production team is a redefinition of the collective paradigm, and explore the process used to create the dense soundscapes of the recordings. In many ways, these recordings represent a development critical to my study: the sampling and recontextualization of collectively produced recordings to create new recordings that
evoke collective interaction.

The concluding epilogue, “Solo Producer and Collective Practice in Early 21st Century Black Popular Music Production,” addresses the impact of the recording developments I have charted, and the wide-reaching influence on popular music of the techniques exemplified in my case studies. This type of studio-based music making has become common practice with the emergence of affordable home recording equipment in the 1980s and digital audio workstations (DAWs) in the 1990s. I consider ways in which new studio performing collectives emerged, such as D’Angelo’s band the Soultronics in the 1990s, that self-consciously sought to reclaim the ideals of collectivity in the recording studio. Finally, I consider the increasingly politicized concept of black music in the early 21st century, and address how 21st century practices of distanced collaboration exhibited in the work of Beyoncé can be seen as a type of technologically aided collectivity.
Chapter 1: The Development of Rhythm and Blues as Genre, Performance Tradition, and Recording Studio Practice

The explosion of jump bands and electric blues after the Second World War and the subsequent rise of independent record labels to support the new styles of African American dance combos, vocal groups, and balladeers culminated in the development of the rhythm and blues genre categorization (replacing the previous designation “race records”) by then Billboard magazine writer Jerry Wexler in 1949. This genre titling in part was “reflective of changing attitudes toward racial nomenclature, but it also helped to indicate stylistic shifts” in the musical style and audience as well (Flory 2015). In the wake of the Great Migration, “it was the increasingly urbanized, increasingly non-southern black audience – especially its youth – which first began to reject the gritty, rural, downhome sounds of the old blues in favour of the eclectic mixture of ineffable dance beats, sweet harmonies, bustling good humour, romance and ribaldry, which characterized R&B” (Ward 1998, 40).

The marketing of R&B recordings, radio formats, and concerts would help define the developing practice of African American dance bands, Gospel-influenced quartets, and crooners touring the chitlin’ circuit clubs in the south and midwest and recording for independent R&B record labels through the 1950s and 1960s (see Heilbut 1997). For the most part stylistically indistinguishable from music termed “rock’n’roll” in the early-to mid 1950s (with many African American performers marketed in both categories during a period of genre integration), gospel-influenced “soul” (also termed R&B/soul or soul/R&B) became distinct from “rock” by the 1960s (a period of genre re-segregation) (see Brackett 1994; 2000; 2005). As anyone familiar with the diverse styles marketed as
R&B in the 21st century can attest, the term is more of a euphemism for black popular music than indicative of specific stylistic features. The prevalent use of the term for black secular vocal recordings (both up-tempo songs and ballads) intended for an African American audience in and beyond the later 20th century would both provide an intercommunal space for culturally black musical expression, as well as sustain the structural segregation of the race records genre classification.

African American performers have negotiated this racialized climate ever since. Many musicians marketed under the category of R&B – including case studies discussed herein – would reject the descriptor, as it systematically isolated the way in which their music was sold, critically judged, and received by audiences. It functioned like a “separate but unequal” for the genre marketing of music, compartmentalizing different styles outside of the pop mainstream, with critical impact on financial negotiations and reception of the music. As Brian Ward states:

The marginalization and oppression of peoples of African descent in America has always been more than a purely legal, political, economic, and social phenomenon. It has always involved an integrated system of thought, categorization and action which constitutes the fundamental grammar of American racism . . . recording and broadcasting industries did not only reflect the prevailing racial assumptions, they internalized them . . . and, in so doing, helped to perpetuate them. Racial conventions permeated the structure of the music industry at every level (1998, 27-8).

R&B can be seen as a lens through which all black popular music is understood, as well as a metagenre through which new styles are filtered. Recordings marketed as soul in the 1960s and 1970s, the rise of funk and disco in the 1970s, and 1980s post-disco club styles all have roots in the postwar performance tradition. The national culture of R&B played a critical role in the development of modern cultural identity for African Americans: “Black popular culture, especially the music distributed by an increasingly
sophisticated recording industry and a deeply penetrative broadcast media, was a crucial factor in (re)creating some of the black unity, that incipient black nationhood, which the various mass migrations . . . had strained and sometimes ruptured” (ibid., 7).

Although the realities of segregation allowed for the development of a national, if regionally differentiated, black musical culture, by no means did the protean styles of black popular culture grow in isolation. Rather, as Michael Eric Dyson argues, “[p]aranoia about purity is the real enemy of black cultural expression. . . . Creolisation, syncretism and hybridisation are black culture’s hallmarks. It is precisely in stitching together various fabrics of human and artistic experience that black musical artists have expressed their genius” (Dyson 2004, 369). Thus an incredibly diverse range of African American performers drawing on country, psychedelic rock, folk, classical music, and other influences (as well as jazz, gospel, and blues) were bracketed on “R&B,” “Soul,” and “Black Music” charts throughout the later 20th century, as well as those “crossing over” to “Top 40” sales charts otherwise dominated by white performers. Berry Gordy sought to rupture this division in the 1960s, and Motown marketed popular music by black artists for the mainstream stylistically rooted in soul and R&B. Essentially, Gordy envisioned black popular music for all (the marketing slogan for Motown was “the Sound of Young America”), rather than R&B intended for the black demographic.

Yet in the second half of the 20th century (and still today for most remaining retail outlets of commercial music), the majority of American record store shelves were organized with a large, prominently located “Pop/Rock” category, and a smaller

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6 And further from Ward: “African-American music has always been characterized by its willingness and seemingly endless capacity to fuse many varied, often apparently incompatible, influences into a succession of styles which have reflected and articulated the changing circumstances, consciousness and aspirations of black Americans . . . black American music has been the classic dynamic hybrid” (Ward 1998, 7).
“Soul/R&B” or later a “Soul/R&B/Hip Hop” category (as well as sections for “Jazz,” “Classical,” and other genres) (see Brackett 2005). Even though styles originating in black cultural locales have been prominent in American music since the 19th century and, with Gordy protégée Michael Jackson a key figure, would come to define the specific genre of “pop: a late 1970s originated amalgam of rock, funk, disco, and R&B” (Roberts 2011, 20), African American recording artists often struggled for inclusion on pop radio formats and related commercial venues.  

Changing Practices of Record Production, 1950s-1960s

The explosion of R&B in the 1950s and 1960s occurred during dramatic developments in recording technology and practices, as well as conceptual advances in popular music record production. White R&B songwriters Jerry Leiber and Mike Stoller were among the first to recognize the role of the popular music producer in the recording studio in the 1950s. The two began to oversee the recording process for their compositions in the studio; Stoller recalls that the business was changing, and he increasingly “conceived” songs “as records” (quoted in Moorefield 2005, 5). In a precursor of sampling, the two producers employed shorthand with musicians for the way different instrumental parts on a song should be played, based on sounds heard on other recordings. For example, “more Fats” would mean, play triplets, after Fats Domino’s

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7 Exemplifying both the contextual use of “black pop” and the extent to which “crossover” remained a fixture in popular music discourse through the 1980s, critic Robyn Burn wrote in the Florida newspaper Sun Sentinel in 1986: “The face of black pop music is changing. And it’s the sound of the American street that’s helping to create it. The ’80s have witnessed the style and sound of black music escalate to the forefront of modern music and shift in unexpected directions. The crossover success of Michael Jackson and Lionel Richie marked not only the possibility of black artists gaining momentum on the charts but the probability that more would arrive at such status. As the pop charts stand today, there are two black acts in Billboard magazine’s Top 10 and five in the Top 20” (Burn 1986).
trademark piano style. It was “not about the notes, but how the notes were played,” as well as what interesting timbres would create the sonic artifact of the recording (ibid., 6-7).

The postwar availability of magnetic tape recorders at affordable prices was transformative as well. Most of the independent labels specializing in R&B “maintained a tape-based recording studio, giving them the freedom to control their own recording process and adding to the consistency and uniqueness of their output” (Flory 2016).\(^8\)

Recording artists also benefited from the affordability of the technology:

> Among the first purchasers of tape recorders were musicians eager to copy and replay the new music emerging after World War II. Musicians had not been major users of sound recording technology up to this time. . . . Recording equipment [before tape recording] was monopolized by the six or seven ‘major’ recording companies (Millard 2002, 158).

This would allow musicians new agency to experiment with styles outside of recording sessions controlled by the record labels, helping them to develop new techniques.

For Chuck Berry in the 1950s, it was a songwriting tool, as well as a method for creating the demos (demonstration tapes) for songs he would record for Chess:

> The cheap, portable tape recording therefore became an important factor in the new popular music, and the creation of new singing stars, in the 1950s and 1960s. The influential rhythm and blues artist Chuck Berry had an interest in the technical workings of the phonograph and the radio, which provided his musical education. . . . The most important tool in his song writing was a tape recorder which he used to perfect his songs. He bought a wire recorder in 1951. A $79 reel to reel tape recorder from Radio Shack was his next purchase, and this was used to make the takes that got him a recording session with Chess records and brought him a string of classic rock’n’roll songs (ibid., 159).

Berry was able to hone his songs through repeated listenings, considering how they

\(^8\) See also Ward 1998, 61.
would sound on the radio. His 1950s exploration of autonomous, self-controlled demo production was prescient of the explosion of home studios in coming decades.

**Jimi Hendrix, Sly Stone, and the Rise of the Self-Produced Performer**

By the mid-1960s, multitrack recording became common in most recording studios. The extent to which this, and home studio experimentation, changed the popular music production landscape in the latter part of the decade is exemplified by the multilayered overdubs on the Beach Boys’ *Pet Sounds* (Capitol, 1966) and the Beatles’ *Sgt. Pepper’s Lonely Hearts Club Band* (Capitol, 1967), as well as similarly innovative recordings of Jimi Hendrix and Sly Stone.

Jimi Hendrix started his career as a backing guitarist for several R&B performers, including Little Richard, Ike and Tina Turner, and Wilson Pickett. His first recordings were cut live-to-tape with the Isley Brothers in 1964. In the next few years, he contributed guitar parts to singles for a number of recording artists, and began overdubbing lead and rhythm guitar, bass, and even drum tracks at Studio 76, an eight-track Manhattan recording studio, in 1965 and 1966 (see Shapiro and Glebbeek 1992; Roby and Schreiber 2010). This was a cost-cutting measure for Studio 76 producer Ed Chalpin, who could pay one musician for multiple overdubbed parts. When Hendrix moved to London and began recording as a bandleader in early 1967, he continued

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9 Evidence suggests that overdubbing was considered by African American musicians earlier than is commonly discussed. While Les Paul is the best known as an innovator for his use of multitrack tape overdubbing for “Lover” in 1948, Sidney Bechet had released *Sidney Bechet’s One-Man Band* in 1941, performing saxophone, clarinet, piano, bass, and drums live to phonograph master while another phonograph played his previous tracks. In 1948, Huddie “Lead Belly” Ledbetter presciently asked Frederic Ramsey if he could overdub his own harmonies on a version of “Good Night Irene,” saying: “I’m gonna end up with ‘Irene,’ and I want to sing back with myself. Can you do that?” Since Ramsey only had one phonograph recorder, he could not (quoted in Milner 2009, 102).
experimenting with multitracking parts, tape speed variation, and other recording innovations with recording engineer Eddie Kramer. These techniques included experimentation with “reverse” guitar recording (reversing the tape so that forward-recorded parts sound backward) on a reel-to-reel tape deck in a London apartment in 1967. The resulting recording “Are You Experienced” features over a minute (from 1:48 to 2:53) in which the entire multitracked band sounds in reverse (see Jimi Hendrix Experience 1967). This is the first usage of this technique on all instruments in a popular music single, and the product of Hendrix’s tape experimentation at home.

When bassist Noel Redding abruptly left the band during the recording of Electric Ladyland in 1968, Hendrix built on his earlier experience as a studio musician at Studio 76, performing bass tracks in addition to multiple guitar tracks (including those reversed and otherwise modulated), electric sitar, and lead and backing vocals at the Record Plant in New York, which had a new twelve-track tape recorder (see Fulton 2011). Hendrix, credited with the line “Produced and Directed by Jimi Hendrix” on the album, crafted vast psychedelic epics like “1983… A Merman I Should Turn to Be” that he referred to as “sound painting[s]” (McDermott et al. 1995, 67). Unlike his work with the Isley Brothers and other R&B performers just a few years earlier, these were not recordings of live-to-tape performances, nor could they be replicated in live performance.

Extensive experimentation at the mixing console was a key factor in Hendrix’s process. Though technically untrained as a recording engineer, Hendrix would experiment toward reaching a preconception of what a recording should sound like, often with novel results. Record Plant engineer Jack Adams explains:

Jimi knew nothing about the mixing console. . . . But he was brilliant alright. . . . On remixing, he’d have such a set idea of what he wanted a
record to sound like he’d remix a song 300 times. No fooling. We’d remix a song for ten hours, all night, all week. I’d get tired and say to hell with it, I’m going home. He’d smile and ask if he could phone me up if he had a question (quoted in Shapiro and Glebbeek 1990, 276).

Hendrix invested a sizeable portion of his income to build state-of-the-art Electric Lady studios with the intention of experimenting at length in the studio without concern for budgetary constraints (recording studios charge hourly rates). It was the only studio at that time owned by a recording artist. Tragically, he reportedly recorded there only once in August 1970, and passed away less than three weeks after it opened.

Sly Stone (b Sylvester Stewart 1943) would also undergo a similarly dramatic shift in recording practice and innovative uses of recording technology. Sly and the Family Stone’s breakthrough second album *Dance to the Music* (Epic, 1968) epitomized the interactive energy of a performing collective. Guitarist and Sly’s brother Freddie Stone describes band members’ license to craft their own parts on songs: “It wasn’t necessarily about playing the traditional guitar part or the traditional bass part or the traditional horn line. It was about giving the musicians the freedom to create a part that they thought was appropriate” (Freddie Stone quoted in Kaliss 2009, 62). The album’s tracks were cut live to eight-track tape in September of 1967, with the gospel fervor (evident in the exuberant title track) benefiting from the energy of collective performance.

In sharp contrast, by the time their fifth album *There’s A Riot Goin’ On* (Epic, 1971) was recorded in 1970 and 1971, Sly was playing most of the instruments himself. While the album’s artwork features photographs of the Family Stone performing collectively in concert at Madison Square Garden, group members performed little on the actual recording. Working in a mobile studio housed in a Winnebago, Sly overdubbed
instrumental and vocal tracks to a drum machine track, played on a Maestro Rhythm Ace.

The album’s “endless” overdubs “actually threatened to wear out the magnetic oxide coating on the recording tape” as Stone called in various musicians (band members and otherwise) to contribute parts to be used or rejected during mixing (quoted in ibid., 99). Engineer Tom Flye describes: “[Sly] was so innovative in the process of recording. . . He was the first guy to record piecemeal, one track at a time, using this click track. ‘Cause quite often, he’d play all the parts, and would need the coordinating guidance of the clicks” (ibid., 113-4). Sly’s album credit, “All Songs Written, Arranged, and Produced by Sylvester Stewart & Sly Stone,” humorously paired his birth name and stage name, while also underlining the point, as if to say: “made by me and me (alone)!”

Hendrix and Stone were working in a relatively new level of creative autonomy – particularly as African Americans – in being self-produced recording artists. Phil Spector had brought the concept of a record producer mainstream attention by the mid-1960s, and the term became prominent throughout the industry, if ill-defined:

The function of the producer had undergone a radical transformation in the sixties, and by the seventies it was clear to most people in the music business that production had become a major part of any recording project. Thus, artists such as James Brown and Jimi Hendrix credited themselves with production, and artists began to produce other artists. . . . The term “producer” came to mean anything from wide-ranging technical expertise and arranging skills . . . to simply being a figurehead with a big name (Moorefield 2005, 45).

Motown’s Black Pop and Record Production Process

The most influential African American producer of the 1960s was Motown’s Berry Gordy. Gordy was intent on producing polished and orchestrated black popular music recordings for the mainstream audience, while still maintaining a base of
popularity with African American listeners. He spent the 1960s expanding his Hitsville recording studio, and was known for overdubbing orchestration, mixing, and remixing recordings extensively toward creating the perfected sonic statement. The result was a pop sound that major labels tried to imitate; Greg Milner states that “if there was one label that collectively institutionalized a radio-ready aesthetic, it was Motown” (2009, 155). However, not all recording artists at this time saw multitrack overdubbing as a benefit. In 1968, singer Otis Redding argued for the togetherness and implicit authenticity of Stax’s live-to-tape approach:

Motown does a lot of overdubbing. It’s mechanically done. At Stax the rule is: Whatever you feel, play it. We cut everything together, horns, rhythms, and vocal. We’ll do it over three or four times and listen to the results and pick the best one. If somebody doesn’t like a line in the song, we’ll go back and cut the whole song over. Until last year, we didn’t even have a four-track recorder. You can’t overdub on a one-track machine (quoted in Vincent 1996).

Studio house bands (and session players who were often hired to work together) were common in the 1960s. The backing tracks on most Stax recordings were played by members of Booker T and the MGs, the Bar-Kays, and the Mar Keys in Stax’s Memphis studio for singers like Sam and Dave, Otis Redding, Wilson Pickett and others. In Detroit, Motown’s session players, unofficially named the Funk Brothers, were recording instrumental rhythm tracks daily at Gordy’s Hitsville studio A for overdubbed use by the Temptations, Stevie Wonder, or any number of label singers.¹⁰ Several R&B studio musicians were frustrated jazz players, and all contributed improvisation, songwriting (many times uncredited), and specific rhythm and articulations that benefited the

¹⁰ Other notable house bands at the time included Alabama’s Muscle Shoals Rhythm Section, Phil Spector’s and Brian Wilson’s Los Angeles session players The Wrecking Crew.
reimaging the collective: chapter 1

James Brown and the Rise of the Funky R&B Bands

In contrast to Motown’s production process, James Brown almost never overdubbed instrumental or vocal parts on his recordings, even into the 1970s. Rather, he generally produced records as a live-to-tape bandleader, counting off changes and calling solos to his bands during live jam sessions that then were released as singles. His records, particularly starting with “Cold Sweat” (1967), featured an increased syncopation and emphasis on rhythmic interplay between players that was soon described as funk.

Brown’s funk style and his precisely performed grooves upped the ante for live performance of black popular music, and inspired a new standard for a number of bands. The 1970s saw a host of hard-touring, tightly rehearsed large groups within the genre matrix of R&B/soul/funk, including Earth Wind & Fire, the Ohio Players, the Commodores, and Parliament/Funkadelic. Ricky Vincent posits the roots of these related styles, highlighting the collectivity and individualism of jazz expression: “While funk and soul developed most directly from rhythm and blues, the ideals of funk and soul came from jazz” (1996, 42).

George Clinton considers that before Parliament/Funkadelic the term “funk” represented a style that was “something you heard in a lot of records, jazz musicians used it, blues musicians used it, but nobody said ‘we gonna play the funk’” before:

11 Significant to the idea of the humanness of live performance, Funk Brothers’ bassist James Jamerson describes his inspiration for his bass lines and their rhythms in body movement and speech patterns: “I picked up things from listening to people speak. From the intonation of their voices, I could capture a line. I look at people walking and get a beat from their movement . . . there was this big, fat woman walking around. She couldn’t keep still. I wrote it by watching her move” (quoted in Vincent 1996, 127-8).
as a concept for genre, that’s what we wanted: to make it special. . . . It wasn’t blues, jazz, or rock and roll. I saw how rock and roll had been changed so thoroughly from Chuck Berry, Little Richard, and even Muddy Waters ‘til black people didn’t even know it was theirs! They were sayin’, “that’s white music!” . . . and we just gave it away! If it wasn’t for Jimi Hendrix, we wouldn’t have no claim to it. He actually singlehandedly took the shit back (quoted in Mao 2015).

Trombonist and former Brown bandleader Fred Wesley explains the components of funk:

If you have a syncopated bass line, a strong, strong, heavy back beat from a drummer, a counter-line from a guitar or a keyboard, and someone soul-singing on top of it, in a gospel style, then you have funk. . . . [It] takes musicians in complete control of their instruments, completely in touch with each other (quoted in Vincent 1996, 13-14).

The majority of up-tempo recordings marketed as R&B after the early 1970s incorporated elements of funky syncopation and rhythmic counterpoint. Funk became a prevalent aesthetic in black music, even more than a distinct genre. Thus, Stevie Wonder, Prince, Michael Jackson, and Public Enemy all made funky records, yet none were specifically marketed as funk performers.

In the 1970s, the recording studio became a locus for funky R&B songwriting, as bands developed song ideas from collective jam sessions. James “Diamond” Williams of the Ohio Players describes: “We used to go in there and jam groove, the best of which [sic] we would turn into a song” (quoted in Vincent 1996, 18). Similarly, Maurice White states that Earth Wind & Fire would “have skeletons of songs, but there was a lot of improvisation in the studio. We were very free, very spontaneous” (Maurice White quoted in ibid., 18).

Bandleaders like George Clinton recall humming riff ideas or other parts to musicians in the studio (Mao 2015). But there were often later disputes over songwriting
credits and publishing royalties (Schmidt 2013). In the case of James Brown, his dance moves and vocalizations were loosely interpreted by band members during jam sessions. This process relied on part composition by each member of the performing collective, as Bootsy Collins remembers:

You looked at his body movements, [imitating] “uh, ah, aaa, aaah.” It wasn’t no notes, it wasn’t no melody . . . nobody would sit us down and say it goes like this . . . you just had to figure it out (quoted in Vincent 1996, 81).

For Brown, the recording studio became a laboratory. It was during the studio playback that he could tell what had worked in a recording by the pattern of speaker vibration:

I had discovered that my strength was not in the horns, it was in the rhythm. I was hearing everything, even the guitars, like they were drums. I had found out how to make it happen. On playbacks, when I saw the speakers jumping, vibrating a certain way, I knew that I had it: deliverance. I could tell from looking at the speakers that the rhythm was right (quoted in ibid., 74).

Alan Freed (Brown’s road manager who would go on to work with Prince and then D’Angelo) reports witnessing just such a eureka moment during the 1970 recording of “Get Up (I Feel Like Being A) Sex Machine”:

Brown called for another take . . . a mysterious metamorphosis had taken place. . . . He had transformed a simple groove into a piece of gold. . . . But more significantly, the arrangement focused entirely on the polyrhythms of the Collins brothers and Starks. Everyone crammed around the monitors for the playback. Thirty seconds into the song the exhausted musicians started dancing in place. . . . By the end the entire crew was cheering – actually yelling and screaming! (quoted in George and Leeds 2008, 61)

This moment represents a specific point of aesthetic shift for the group, as the new band members (bassist William “Bootsy” Collins, his brother Phelps “Catfish” Collins on guitar, and drummer John “Jabo” Starks) imbued the organized collective with increased
temporal independence. It is also representative of the collective process of a funky band in action, and the interaction of different simultaneous musicians performing rhythmic dialogues (see Example I.1).

As Wesley describes funk style, here Bootsy’s “syncopated bassline” interlocks with Catfish’s “counter-line from the guitar” while Jabo provides a “strong, heavy back

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12 The drum rhythms and guitar chords are adapted from the transcription in Slutsky and Silverman 1997, but my hearing of the guitar and bass parts differ considerably from their transcription. They argue that there are two guitar parts, but I hear only one; they notate octave jumping in the bass, which I do not hear.
beat.” Rhythmic stresses occur in what Danielsen calls “rhythmic dialogues.” The bass’s E-flat tonic on beat four-and-a of measure three anticipates the kick drum on beat one of measure four. Starks’s stressed open hi-hat on one-and of each measure counters the bass and guitar strikes on beat two, creating a rhythmic push-and-pull. While Jabo, Catfish, and Brown and Byrd’s call and response occur at regular intervals, Bootsy’s whole-step motive bVII-I is played in shifting positions on the beat; alternating between on-beat and off-beat stresses. In addition, he sometimes rushes the beat in performance, and other times lays back.

Producer Hank Shocklee, whose Bomb Squad producer collective would sample several recordings of these very JBs musicians (and other Brown groups) for Public Enemy, points out that this coveted aesthetic – what Charles Keil (1987) calls “participatory discrepancies” – is lacking from MIDI rhythms:

A drum machine is still rocking divisible by [sixteenth notes]. So, thus you’re always going to line up on that beat. But funk doesn’t allow that. Sometimes the bass player’s playing laid back, sometimes the guitar player’s a little rushed. Those things give it that other dynamic (Shocklee 2008).

For Bootsy, the recording would be a turning point. He recalls how it was the result of the collective energy of different musicians working together: “With ‘Sex Machine,’ it was some organic stuff that bumped into each other and said, ‘Wow, I like you.’ ‘Yeah, I like you too.’ ‘Well, let’s funk some stuff up.’ And that’s what happened” (quoted in Noz 2011).

Vincent finds this collectivity to be the ethos of the funk aesthetic: “Funk music was and is always played together, so that the musical energy can generate among players and listeners. . . . Funk returned the ideals of the African ensemble just as technology
began to push American music toward artificiality” (1996, 14-19). For Vincent (and many of the musicians he interviewed), funk is the product of musicians working a groove in syncopated, often polyrhythmic “togetherness”: individuals interacting in a collective performance (ibid., 81). However, the funky recordings of 1970s black music weren’t always as interpersonally collaborative as they may have appeared to fans and listeners. As shown above in the case of Sly and the Family Stone, iconography on album covers and the experience of concert performances can provide an image of what one is hearing that is quite different from the actual process used to make a recording.

Overdubbing Practices in the Funky 1970s: Earth Wind & Fire

This disparity between critical reception of funk “togetherness” and increasingly overdubbed recording practices is exemplified by Earth Wind & Fire in the 1970s. As Robert Walser finds, “[m]uch of the power of Earth Wind & Fire’s music results from its affirmative strength and celebration of community” (Walser 2004, 273). Indeed, the band was conceived (with an actual written “Concept”) by Maurice White to function as a large ensemble that synthesized multiple genres and celebrated human community (see Bailey with Zimmerman and Zimmerman 2014, 1). Walser cites the band’s “September” (1978) as representative of their collective performance style: “The voices soar over the groove. . . . Vocal syncopations against the groove and persuasive call-and-response patterns create a rich social environment” (Walser 2004, 274). While I agree wholeheartedly with Walser’s hearing of “September” as a “social environment,” the recording itself is the result of various stages of collective and individual recording toward the representation of a social environment. This is exemplified by the chorus
vocals, as audible at 2:36 (see Example 1.2).


Listening to this polychoral section of layered voices singing joyously in harmony, and the interlocking parallel-octave passages of Chorus Vocals I and II culminating in a powerful open 9th chord at the end of each eight-measure cycle, the

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13 Initially the product of a jam session during an Earth Wind & Fire sound check, the groove for “September” was developed by guitarist Al Mackay in an eight-track home demo. Mackay presented his demo to Maurice White, who wrote lyrics with Allee Willis. The instrumental backing track was recorded first, in keeping with Earth Wind & Fire’s practice. The vocals were recorded by White and Bailey in separate sessions (see Bailey with Zimmerman and Zimmerman 2014, 183).
listener is likely to imagine the members of Earth Wind & Fire in a chorus singing together in the studio. The promotional video for the song, lip-synced to a live performance with most band members participating in vocal choruses, would confirm this hearing: that we are listening to a group performance.

But singer Philip Bailey reports that the actual practice of recording was quite different: “Once we saw that the other guys in the band weren’t accomplished singers . . . it became easier for Maurice and me to sing most of the vocal parts ourselves and to double-track everything in the studio” (quoted in Bailey with Zimmerman and Zimmerman 2014, 110). The rich, textured polychoral chorus of “September,” like the layered vocal choruses on most of the well-known recordings of Earth Wind & Fire, is the sound of Philip Bailey stacking vocals on multitrack tape in a studio by himself to instrumental backing tracks that had been recorded separately. To do so, he and Maurice White developed a specific technique:

The way that we injected variety into the overdubbed vocal parts was to approach them with different attitudes. One version might be noticeably edgy, while another would be sexier, more breathy. We would then merge these multitracks of the various “attitudes” to create a single unified vocal sound (quoted in ibid.).

Thus, Bailey would imagine a chorus of individuals in the studio (and their respective vocal “attitudes”), then set out to create the rich timbral diversity of that chorus through multitracking. This would certainly complicate the idea that a listener is hearing a truly “social environment” in the “persuasive call-and-response patterns” of the vocals. Rather, the recording of “September” is the conceptualization and aural staging of a social environment.
Conclusion

In the recording practices that developed for R&B-based popular music, the rise of studio experimentation and the change in process from live-to-tape recording to increasingly overdubbed studio constructions largely occurred between the mid 1960s and mid 1970s. Shifting practices in the late 1960s work of Hendrix and Stone show how radically record production changed within just a few years, while the history of Brown’s recording of “Sex Machine” exemplifies how a live-to-tape recording can benefit from the interactivity and group dynamism of a collective.

As the example of Earth Wind & Fire’s recording of “September” reveals, new techniques were developed in the recording studio to evoke different people performing together collectively; Bailey was consciously layering individual tracks of different performative vocal “attitudes” in order to represent a collective performance. While as a listener, I had always imagined that I was hearing a group vocal performance in the chorus of “September,” I now understand that I heard this because Bailey intended me to: he imagined a collective when overdubbing his vocal parts, and I imagined one while listening to the recording. This complicates Walser’s hearing of this chorus as a “social environment,” as well as Vincent’s assertion that this is music that is “always played together.”

A similar complication arises when Vincent affectionately describes the recordings of Stevie Wonder:

His records cover the United Funk Age with a glorious glossy coat of soul, and also stand out as standards of excellence and standards in terms of . . . total jam factor. His funk sessions were and are spectacles to behold. . . . If one uses Howard Harris’s definition of funk as “togetherness in motion,” Stevie brought together the entire black music legacy . . . and made diverse, digestable music that funk bands far and wide aspire to.
Vincent does not mention here that Wonder overdubbed either all or the majority of the instruments and vocals on most of his best loved funky recordings of the 1970s (such as “Superstition” and “Higher Ground”). Therefore, the “togetherness in motion” is not that of a group of individuals working together collectively in a “total jam,” but a solo producer-musician using multitrack recording to jam alone. As Timothy Hughes comments, Wonder became “the first individual to succeed in generating the ‘robustly collective’ sound of a large funk band entirely by himself” and therefore “had to unravel the paradox of collective individuality” (Hughes 2003, 3). In doing so, Wonder reimagined collective performance.
Chapter 2: “Control Over the Individuality”: Stevie Wonder and the Technological One-Man Band

So now that we’ve done the first [synthesizer] part, we’re going to do a second part, and after that a third part. Now, the reason we’re doing this, even though this is a polyphonic keyboard, we’re doing it monophonically so that we have more control; I have more control over the individuality of each part. If I decided to bend a particular note that I didn’t bend the first time, it gives it its own kind of character.

Stevie Wonder, reconstructing the process of recording “I Wish” (Wonder 1991)

Explaining the process of layering individual synthesizer performances to create the complex texture of the song “I Wish” (Tamla, 1976), Stevie Wonder uses the telling phrase: “control over the individuality.” In a literal sense, he is describing the method used to build the instrumental backing track by recording each part separately so that the parts can then be blended during the mixing process (and therefore controlled individually). But the phrase also accurately describes the complex relationship of control and individuality that defines many of his recordings. Using multitracking, Wonder creates the effect of a group performance through layering his own instrumental and vocal performances, each of which he controls (as the performer) while they assert their performative individuality (such as, in a call-and-response relationship). Further, Wonder describes each of his performances as having their own “character,” suggesting an association between the synthesizer tracks and a respective personality.15

In the 1970s, beginning with Where I’m Coming From (Tamla, 1971), Wonder

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15 This is not to say that Wonder is consciously anthropomorphizing each track. “Character” here may also be taken to mean inflection. Yet there is often an intended characterization in individual performances that suggests interaction among a group.
recorded a series of albums for which he performed most of the instruments and vocals using multitrack recording as a technological “one-man band.” On these recordings, Wonder recreates, as an individual performer, the interaction common in many styles of African American music, especially gospel, R&B, and jazz. This represented a new era in studio-based composition, one initiated by Sidney Bechet’s and Les Paul’s early overdubbing experiments in the 1940s. Wonder created recordings by playing along with himself, with layers of live performance reacting to recorded tracks on magnetic tape.

This involved not only performance of all of the parts, but also the recreation of the call-and-response (and statement-and-embellishment) interactivity that is common in collective music making. What may seem to the listener to be a complex interaction of individual voices is in fact a series of Wonder’s performances, each responding to the character of the parts previously recorded. Yet, who are the individuals represented in his performance? To what extent is Wonder depicting a collective of individuals? In “Higher Ground” (Tamla, 1973), for instance, the apparent interaction between musicians is actually several tracks of Wonder. While many African American musical forms thrive on performing interaction of a collective of musicians, Wonder translates, and even reinvents, the group dynamic of collective interaction into a series of technologically mediated reactions.

This chapter explores Wonder’s art of studio recording as compositional practice toward a greater understanding of the role of individuality and collectivity in his signature style. My examination of five recordings from the early 1970s – “Do Yourself

16 The term “one-man band” is conventionally applied to live solo multi-instrumentalists, and is gendered male here in this chapter as it represents that colloquial usage. For more on this phenomenon, see Chapman 2013. Wonder uses the technology of multitrack recording to create the sound of an interacting band with multiple layers of instrumental and vocal performance.
A Favor” (1971), “Love Having You Around” (1972), “Jesus Children of America” (1973), “Maybe Your Baby” (1974), and “Livin’ for the City” (1974) – is informed by interviews with Wonder’s former co-producer Malcolm Cecil. On these recordings, Wonder negotiates the collective spirit of an ensemble on songs where he performs all or most of the parts, and redefines the spontaneous group dynamic of improvisational jamming in the age of multitrack recording. Wonder’s technique of crafting one-man band recordings was shaped by a process that was developed at Motown in the late 1960s, and which continued during (and beyond) his early 1970s work with Cecil and his colleague Robert Margouleff.

This creative process was shaped by Wonder’s quest for creative autonomy, which was both fueled and complicated by his disability, as well as his struggle to wrest creative control from the Motown production system. Though Wonder may have performed all the musical parts, the role of the albums’ associate co-producers, Margouleff and Cecil, complicate the image of these recordings as the result of Wonder as sole creative entity. In fact, Wonder created recordings in the early 1970s as part of a studio collective of producers (Wonder, Cecil, and Margouleff) that produced, engineered, and mixed a virtual collective of Wonder’s layered instrumental and vocal performances.

Wonder recorded four albums with Cecil and Margouleff: *Music of My Mind* (Tamla, 1972), *Talking Book* (Tamla, 1972), *Innervisions* (Tamla, 1973), *Fulfillingness’ First Finale* (Tamla, 1974). Each prominently featured Wonder as sole performer. These four albums contain a total of thirty-seven recordings. Of these, Wonder played all instrumental parts on twenty-one songs, and the majority of instrumental parts on all but
As Paul Théberge notes, this type of studio one-man band was an “extremely rare” occurrence in popular music during the early 1970s (1997, 222). While Wonder did have many guest musicians, and seemed to have no set need to perform every part, his work in the recording studio during this period displayed a greater level of autonomy for the composer/performer in the recording era, while inviting questions about the nature of the “individual” within these recordings.

Wonder’s multitracked one-man band performances evoke the group dynamism and dialogic interaction of individuals in collective performance. While what Danielsen identifies as the responsive flow between musical “figures in dialogue” is clearly evident in Wonder’s music, he is often responding to recorded tracks of himself. Further, the conversational, referential nature of collective improvisation explored by Floyd is also evident in Wonder’s recordings, yet he is often the sole performer. The circumstances that led to Wonder’s one-man band recordings stemmed from his quest for creative autonomy as a recording artist in the Motown production system, a quest that was complicated (and likely fueled) by his blindness.

Disability Performance Contexts and the “Myth of Autonomy”

The liner notes for Wonder’s 1972 album *Music of My Mind* contain the following dramatic statement:

“This album is virtually the work of one man. . . . The sounds themselves come from inside his own mind. The man is his own instrument. The instrument is an orchestra (Wonder 1972a, author not identified).

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17 The vast majority of the non-Wonder instrumental contributions on these sixteen songs consist of overdubbed brass, woodwind, and percussion parts from one or two musicians, while the rhythm section and lead instruments are performed by Wonder. Wonder performs lead vocals on all songs, and all voice parts on twenty-three of the thirty-seven recordings on these albums. See Wonder 1972a, 1972b, 1973a, 1974.
In this portrayal, Wonder’s relationship to the music takes on a mystical quality, as he is enigmatically described as “his own instrument” that is “an orchestra.” This is consistent with earlier histories of blind performers marketed for their extraordinary talents,\(^{18}\) the promotion of disabled musicians in one-man bands, as well as the record label’s previous positioning of Wonder as the “eighth wonder of the world” (Ribowsky 2010, 71). The album cover text announces Wonder as “virtually” the sole creative agent—a musical autonomist.

As Joseph Straus has shown, autonomy is related to deep-seated American ideals of “individuality, independence, and self-sufficiency” (Straus 2011, 177). However, the concept of autonomy has come under strong criticism from disability scholars and activists, who dismiss it as a myth and prize instead “not self-sufficiency but self-determination, not independence but interdependence, not functional separateness but personal connection, not physical autonomy but human community” (Longmore 2003, 222). Indeed, interviews with Wonder’s creative partners and filmed documentaries clearly show that his performance on recordings has always been assisted, rather than autonomous. Carrie Sandahl comments “there’s really no such thing as a solo performance,” and “[d]isability performance contexts make this even more apparent” (Sandahl 2004, 579). In the case of Wonder’s music, the performance context of the recording studio serves as a site for the type of “complex power relations” common between blind musicians and their assistants (Lubet 2011, 70).

\(^{18}\) For example, Alex Lubet describes the marketing of blind African American blues performers, noting that “the word blind” is commonly used in the professional names of blind performers such as Blind Lemon Jefferson (2011, 11). Donald Kirtley refers to the “blind genius,” which he calls one of the “three major stereotypes of the blind in American culture” (1975, 99). Regarding the marketing of blindness in the career of Thomas “Blind Tom” Wiggins, see Jensen-Moulton (2006).
Figure 2.1 Wonder (left) adjusting a knob in the recording studio. He is assisted by Robert Margouleff. Malcolm Cecil, standing, at right (1973). Still from *Innervisions* promotional film (Tamla/Motown, 1973).

Figure 2.1 shows Wonder in 1973, with the assistance of Margouleff, moving his hand to find and adjust a volume control knob. This exemplifies the extent to which Wonder remained reliant on mediators in the recording studio, and exhibits what could be called as the problem of autonomy for a disabled musician. While this music could be described as largely autonomous in a performative sense, as Wonder is often playing all of the instruments and singing all of the voice parts, his ability to perform autonomously on these recordings is inextricably linked to the assistance of his co-producers. Wonder strives for creative autonomy in the recording studio while remaining reliant on the assistance of his associate producers. In this way, he continually negotiates what Martha

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19 I am employing and extending the concept of the “myth of autonomy,” as discussed by Straus (2011, 177).
Fineman has called the “specter of dependency” on his sighted partners.  

This “specter of dependency” is raised by Wonder’s creative relationship with electronic musicians Cecil and Margouleff. With the assistance of Cecil and Margouleff, Wonder was able to incorporate a wealth of electronic sounds, expanding the use of synthesizers in popular music as a whole (Lodder 2005, 70). Terry Rowden argues that “it was the synthesizer that made it possible for [Wonder] to invent himself as the prosthetically enhanced and up-to-date cyborgian soulman” (Rowden 2009, 111). It should be noted, however, that Wonder sought out this technology himself after hearing a number of experimental records that had been recorded in New York in the late 1960s that used the Moog synthesizer, including Wendy Carlos’s *Switched on Bach* (Columbia, 1968) and *Zero Time* (Atlantic), a 1971 album recorded by Cecil and Margouleff under the name Tonto’s Expanding Head Band.

*Malcolm Cecil and Wonder’s “Layers of Moments”*

Cecil and Margouleff built the massive TONTO synthesizer (an acronym for The Original New Timbral Orchestra) from Moog and ARP components (see Figure 2.2) in the late 1960s and early 1970s. They engineered and co-produced four albums with Wonder, as well as two-hundred and forty additional completed Wonder recordings that remain unreleased (an astounding total of two-hundred and seventy seven recorded songs in less than four years) before parting ways in 1974 following a financial dispute.

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20 Fineman (2004, 34): “Dependency is a particularly unappealing and stigmatized term in American political and popular consciousness. The specter of dependency is incompatible with our beliefs and myths. We venerate the autonomous, independent, and self-sufficient individual as our ideal. We assume that anyone can cultivate these characteristics, and we stigmatize those who do not.”
When Wonder first asked to be shown TONTO, Cecil recalls: “He asked: ‘Is this the instrument that made those sounds [on Zero Time]?’ He wanted to touch it. He ran his hands over it, and soon realized that he would need help” (Cecil interview 2012). Wonder knew he would require assistance when he discovered that TONTO spanned over ten feet in length, and was composed of a complex series of electronic components. His work with co-producers Cecil and Margouleff was an interactive process, and the associate producers shaped the sounds (albeit to Wonder’s taste) through additive and subtractive synthesis, as well as by physically modulating sounds during recording. Cecil reports that the process of manipulating sounds and shaping instrumental timbres often involved...
himself or Margouleff turning the filter and envelope knobs while Wonder played the keys. Wonder would exclaim “right there – don’t change it” when the tone was right (ibid.). Cecil recalls that “most of the time” just he, Margouleff, and Wonder were in the studio (Cecil interview 2015). The three can be seen as a distinct collective of recordists (a type of band themselves) who produced Wonder’s music.

Figure 2.3 TONTO’s joystick controller for dynamics and tuning. Photographed by author in 2012.

Cecil’s involvement in Wonder’s instrumental performance was particularly intimate due to the technical limitations of the Moog synthesizer regarding tuning and dynamics, and Cecil’s addition of a control joystick to overcome these limitations (see Figure 2.3). He recalls:

I invented the joystick [for TONTO]. The joystick overcame two defects, musically, with the Moog keyboard. One, the out of tuneness [the early Moog could not stay in tune beyond two octaves], and two, the lack of touch sensitivity. So, in the vertical direction, we hooked it up to the filter to give touch sensitivity, and we didn’t have a spring on it, so it would stay where you left it, and in the horizontal direction it would shift the pitch. And there was also a trim which enabled you to move the center, and change the tuning. And so, that’s what I invented to keep us in tune.
In the early days, I would play the joystick, and Stevie would play the keys, and we were able to keep it in tune that way. I could see whether he’s going up or down [on the keys]. Remember, it’s all monophonic. And it’s all at the same intensity. So I could watch, see his phrasing, and I’ve got a good feel musically. I’m a musician! And I was able to work with Stevie, so the two of us produced these lines (ibid.).

Thus, Wonder’s “orchestra” is more aptly described as an intimate collaborative process between Wonder and his two associate producers, while the rhythmic and harmonic interaction between instruments and voices was usually the result of his performance alone.

Cecil recalls that Wonder was “produced at Motown, and he hated it” (Cecil 2012). Wonder sought to be his own producer, and in so doing, to gain creative agency over his work. Production of a recording amounts to control over the creative process. Arguably the greatest level of agency is one in which the musician performs all of the instruments and voices, thereby having nearly absolute control over the individual performing parts. Wonder is credited as producer on the four albums on which he collaborated with Cecil and Margouleff; they are credited as associate producers, and for programming and engineering the synthesizers.

Cecil made clear that they never discussed the philosophical ramifications of the one-man band, emphatically stating: “we didn’t talk about it, we just did it!” (2015). However, he illuminated what led to the interactive character of the vocal and instrumental tracks on Wonder’s recordings, and provided an analogy to a Charles Mingus recording that features call and response between instruments:

It was based on the idea. . . . It’s the same sort of thing as Charlie Mingus. Charlie Mingus did a piece called “Wednesday Night Prayer Meeting.” Like a prayer meeting is what we had. “Wednesday Night Prayer Meeting” is an instrumental version of what we were doing in the studio with the [call-and-response] vocals. We were trying to get Stevie to do
things that are natural to him. None of that stuff was written, none of that stuff was prepared ahead of time, it was just tracked as backgrounds. It would be like, “OK, yeah, let’s open up another track, and he’d go down and he’d respond to himself. And that was the idea, it was call and response. That was the purpose of it, and the idea was to not make it so that it was some sort of set background thing like the Motown, three girls trip, or any of that type of thing. The background vocals, it’s all about call and response (ibid.).

To Cecil, a jazz bassist with little previous interest in rock or R&B, keeping the layers of call and response improvisational is what gave the recordings their “spontaneity and liveness,” and “the same thing applied to the vocals and the instrumentals, we used the same approach: a real loose feel, and having fun!” (ibid.). Stylistically, he attributed this to a jazz influence:

> It was all jazz-like, spontaneous stuff that was more jazz than it was rock & roll or R&B. The whole idea was spontaneity and liveness and to-and-fro. Nothing predictable. Predictable, but not predictable, in the sense that he sang the same things over and over again, but you never know what’s coming next. You never know which side it’s coming from [left or right panning], you never know which voice it’s going to be – [whether it will be] one of the higher ones, one of the other ones (ibid.).

Yet it became apparent in my interview that even if Wonder, Cecil, and Margouleff “didn’t talk about” why they were creating tracks like this, they did perceive Wonder as representing a type of aural scene of characters (that of an African American church service):

> The idea was exactly that to have interplay so that it sounded like multiple people standing around. A bit like a black church service, where the pastor stands up and says something, and the congregation either echo it, or egg him on, say things (ibid.).

Whereas Wonder performs the parts of the “multiple people” in Cecil’s description, Cecil and Margouleff clearly had a creative impact on the recordings as well. On Wonder’s one-man band recordings produced with Cecil and Margouleff, I suggest the jovial, social
interactions and mutual encouragement of the group of studio recordists (Wonder, Cecil, and Margouleff) shape the mood and performance choices of Wonder’s virtual band of performers. As jazz recordings (at least those recorded before the 1970s) captured musicians playing together in the moment, Wonder’s one-man band recordings capture what Cecil tellingly describes as “layers of moments” (individual tracks on multitrack tape):

And, yes, that moment was frozen and then we played it back, and we had another moment that happened, that was on top of it. Layers of moments, and every one of them, in its own right, was an integral part. We never went back and punched anything in (ibid.).

The recording therefore captures each “moment” in real time. It reflects the convivial interactions of the recordists, and results in the layering together of performances of Wonder moments that collectively simulate the call-and-response interactivity of jazz.

To Cecil, Wonder “broke up the winning team” when he parted ways with him and Margouleff in late 1974. In his view, Wonder just wanted to prove “he could do it without us” (ibid.). Cecil’s desire to be properly recognized for his contribution to Wonder’s recordings is certainly valid, but his resentment may have prevented a sensitivity to the daily struggles of a blind musician for autonomy. Other factors were likely at work as well. At the peak of the black consciousness movement, Wonder was seen (rightly or wrongly) by his inner circle of associates as an African American musician beholden to white co-producers who appeared to have a paternalistic relationship with him in the studio (see Ribowsky 2010).21

21 The power dynamic is complex for Cecil as well, as a hired engineer who worked for a rich, famous performer (who ultimately had power to hire and fire his creative partners), and one who felt slighted both in terms of artistic credit and financial compensation. Economically speaking, Wonder is in control and power in the relationship.
In any case, Wonder was already experimenting with one-man band multitrack recording before working with Cecil and Margouleff (evident on *Where I’m Coming From*), and continued to do so after they parted ways (evident on *Songs in the Key of Life*). The call-and-response representations of communal interaction should be viewed as an important part of how Wonder viewed composition in the recording studio, facilitated by newly available technologies and fueled by his quest for creative autonomy. This quest for autonomy was shaped by his relationship with Motown Records, where Wonder began recording at age eleven, and whose strict assembly-line approach to music composition and production severely limited creative control for recording artists.

From 1961 to 1970, Stevie Wonder recorded seventeen albums for Tamla, a division of Motown, and had a successful run of singles, including “Fingertips Part Two,” “Signed, Sealed, Delivered,” and “For Once In My Life.” During this early period, he received a “musical education” on various instruments in the label’s Detroit studio from members of Motown’s in-house band the Funk Brothers (Ribowsky 2010, 62). Wonder would spend considerable time (while not touring) in the recording studio over the course of this nine-year period. The Funk Brothers’ Eddie Willis describes: “All he wanted to do was be in the studio. He never wanted to go home. . . . So he was there a lot, always learnin’, always learnin’” (quoted in ibid., 56).

Although Motown did not yet have the capabilities for multitrack recording in 1961, Wonder recorded his vocals separate from the band through a commonly used technique known as “pingponging,” in which the mixed version of an instrumental track played on one tape machine, and recorded with a vocal overdub on another. Later 1960s Motown recordings were made using multitrack recording, but performing artists
generally had no creative input on the composition or recording of the instrumental tracks, and usually recorded vocals over a previously recorded instrumental. As Wonder neared the age of twenty-one, clashes with Berry Gordy and the label began over his increasing desire for creative freedom. Wonder’s early albums were produced and co-written by Motown’s in-house creative staff, with the Funk Brothers performing the backing instruments. He wanted more creative control over his music, and was interested in using multitrack technology to capture his increasing talents at performing different keyboards and drums.\(^{22}\)

By 1970, Wonder had begun experimenting with new musical styles, as well as using multitrack recording to create the effect of a band. The 1971 album *Where I’m Coming From* – the last album Wonder would record at Motown’s Detroit studio – was the product of this experimentation, and the first album on which Gordy allowed Wonder to act as producer and perform most of the instruments. This is one of many Wonder projects during this period that was the result of the creative partnership with Motown vocalist and songwriter Syreeta Wright. The two met in Detroit in 1968 and were married from 1970 to 1972. Wright contributed lyrics and background vocals to several Wonder albums, while Wonder produced Wright on multiple projects, including *Stevie Wonder Presents: Syreeta* (Motown, 1974). *Where I’m Coming From*’s second track “Do Yourself a Favor” could truly be seen as a “rough draft” for his new musical direction in terms of Wonder’s multitracked one-man band performance, his representation of jamming interaction, and sonic experimentation (Werner 2004, 79).

\(^{22}\) Andrew Flory (2006) has examined how Marvin Gaye’s 1970s creative process was similarly developed as a reaction to strictures of the Motown production system.
“Do Yourself a Favor”

On “Do Yourself a Favor,” Wonder performs drums, Hammond organ, Hohner Clavinet, and vocals. Wonder accentuated the Clavinet’s guitar-like qualities with Fuzz Box distortion and the Wah-Wah pedal, two effects processors developed for use with the guitar in the mid-1960s, and popularized by Jimi Hendrix and Eric Clapton. The Fuzz Box amplified the harmonics of the sound, through what is commonly described as overdrive or distortion, while the Wah-Wah pedal is a foot-controlled effect that boosts a specific harmonic overtone based on the position of the foot. Also called a spectral glider, this has a vowelizing effect (as the name “Wah-Wah” implies) and is used in blues to simulate talking or crying. In later recordings discussed here, Wonder uses similar effects on multiple instruments.

In “Do Yourself a Favor,” the Clavinet (the core harmonic instrument) is panned to the right, while the Hammond organ (the central improvisatory instrument) is panned to the left. The stereo field is similar to other rock recordings of the period that use the panning of instruments to simulate the positions of different band members onstage. In the second chorus, which begins at 2:08, Wonder’s harmony vocal appears. The two voices begin in unison, but fall out of unison by the end of the chorus, which introduces the beginning of the “jam” or collective improvisational section of the piece, at 2:44. On the appearance of the harmony vocal, which is panned left, the lead vocal is panned to the right, accentuating their interactivity during the loose jam section.

Yet unlike Hendrix’s description of jamming being communicative and occurring

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23 The author has not been able to find details about the recording of this album (such as engineering staff involved). In a personal conversation in 2015, Motown scholar Andrew Flory noted that such details for Motown could be particularly hard to find, as personnel records on recordings made at the Detroit studio were not well-kept.
between people, the communication occurs here between different recordings of Wonder; in Steve Lodder’s words, Wonder is jamming “with himself” at the end of “Do Yourself a Favor” (2005, 62). The Clavinet would have been recorded first, based on the practice described by Cecil (2015), as it provides the core harmonic riff. Then Wonder would record the bass, then drums, organ, and finally the vocals. The spontaneous interaction between instruments and voices which occurs in a group of musicians performing together is therefore displaced. It is transformed into an organized, technologically facilitated series of reactions, which occur over a period of time as Wonder responds to his performances prerecorded on tape.

These reactions are particularly noticeable during the sixteen measures beginning at 3:21. While the lead vocal, panned right, repeats a hummed vocalese phrase, the harmony vocal, panned left, interjects responsively. Wonder, on drums, closes the hi-hat tighter on the sixteenth-note pattern, accentuating the hi-hat “pops”: moments where he lifts his foot and briefly allows it to pop open. The organ, following the dynamic change from half-open to closed hi-hat, moves from legato chords to short staccato notes, with occasional chords. The syncopated pattern of hi-hat pops recurs in a specific two-bar pattern in the larger four-bar cycle, clearly stated and repeated. At first, the organ plays a few accented chords that sustain clearly but the pattern is irregular during the first two revolutions of the four-bar cycle. Thus Wonder, while recording the organ, is listening to his recorded hi-hat pattern, and trying to match the pattern with the organ chords. Then, at the third four-bar cycle (beginning at 3:39), the accented organ chords match the hi-hat pops precisely, locking the groove in, as shown in Example 2.1.
Example 2.1 Stevie Wonder, “Do Yourself a Favor,” organ and drumset ostinato (begins at 3:39). Transcribed by author from the Where I’m Coming From album (Tamla, 1971).

This is similar to the type of jamming communication between players described by Hendrix, in which one musician will notice a specific inflection of another’s performance, and match it or embellish on it. Yet Wonder is reacting to an inflection of his pre-recorded self. In the following year, he developed the creative partnership that allowed for the expansion of his sonic exploration, and to further explore this technique of layering individual performances in apparent dialogue.

New York and TONTO

When Wonder turned twenty-one, he relocated from Detroit to New York in search of creative freedom to explore ideas outside of Motown’s Hitsville system. Wonder met Cecil and Margouleff in May of 1971 at Media Sound, the Manhattan recording studio where Zero Time was recorded, and immediately began recording demos. On these tracks and almost all others produced by Wonder, Cecil, and Margouleff, Wonder recorded the primary harmony keyboards (either Hohner Clavinet, Fender Rhodes, Wurlitzer, or piano) and scratch vocals (usually a melody in “la la la” syllables) together, after which he overdubbed a Moog bass using TONTO (Cecil
Once they had recorded a number of demos this way, Cecil reports that they sought to bring in an outside drummer. To Cecil’s recollection, they “didn’t particularly want Stevie on drums” at first (ibid.). Veteran drummer Bernard Purdie was called in to record over Wonder’s tracks, but Purdie couldn’t follow Wonder’s “sense of time,” which involved tracks speeding up and slowing down throughout recordings (ibid.). Stevie’s keyboard and bass tracks were not at a steady tempo; Purdie was unable follow the tempo shifts, and therefore could not record over the tracks. The use of a “click track,” industry term for an electronic metronome, which would become common practice in recording studios, was not considered at that time for use with Wonder. Cecil recalls:

Bernard was used to laying the time down, not following somebody else’s time. And he was absolutely right, they weren’t in time in the sense that he [Purdie] saw time. So, after that experience, Stevie was sort of stung by that. And as soon as Bernard left the studio, Stevie said “Hey man, there’s some studio drums here,” and in those days, every studio had a drum kit, and so Media Sound had this drum kit. Stevie had messed around on drums with his band. He used to like to sit down and mess around with the drums. But, he wasn’t really, per se, a drummer (ibid.).

Cecil professed no particular knowledge of Where I’m Coming From, Wonder’s previous album, and seemed to have not known that Wonder had already recorded drums on recordings for some Motown recordings in Detroit. But it was clear to him that Wonder “knew exactly what the vagaries were [in the timing],” and that when Wonder recorded drums along with his keyboard tracks, he would remember tempo shifts, fills, or other changes in previously recorded layers:

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24 “Scratch vocal” is a recording industry colloquialism for an initial vocal track that is recorded simultaneously with the instruments, and then is later replaced.
He knew exactly where the stuff was going. So, he didn’t have to learn them, he didn’t have to sit there and say “go back, I got to redo it.” He knew exactly what he was doing, and he knew what he wanted to hear. And he knew where it would get in the way if he played a fill, and where there was room for a fill. And he wasn’t the sort of drummer . . . he didn’t have to be technically perfect. He would just play! It was all feel stuff (ibid.).

Clearly, Wonder came to Cecil, Margouleff, and Media Sound in 1971 experienced at recording along with his own tracks, as exhibited in “Do Yourself a Favor,” and this was the result of repeated practice recording Where I’m Coming From and other projects at Motown. He was not only able to follow his previous time shifts, but conceptualize how the parts should performatively “interact.”

As was the case with Jimi Hendrix, and later Prince, Wonder’s previous training in the recording studio facilitated his ability to seamlessly layer multiple tracks of his own performance. The fact that Wonder understood the tracks with this level of intimacy is significant regarding the perceptive interactivity of riffs and drum fills. Wonder had developed a technique that transformed the simultaneous interaction of an instrumental collective into a series of reactions to his own previously tracked performances. He could anticipate his own tempo shifts and fills recorded on previous tracks that would normally result during group performance from interactive play. With Wonder on drums, and Cecil and Margouleff collaborating as associate producers, they recorded songs with Wonder usually performing all of the vocal and instrumental tracks himself. This paradigm was expedient and economical, as they neither had to pay additional musicians, nor train them in learning the songs.

According to Cecil’s description of their practice, Wonder would record the keyboard (Clavinet, Wurlitzer, Fender Rhodes, or piano) and scratch vocal together, then
overdub the synthesizer bass (using TONTO’s Moog components), then drumset, then synthesizer overdubs, with the final vocal tracks recorded last. While Wonder sometimes had a chorus lyric or a few words in the scratch vocal stage, the majority of the lyrics were written last for a prerecorded track (sometimes in collaboration with Wright or another lyricist) in keeping with the melodic and syllabic arch of the scratch track.25 Remarkably, according to Cecil, there were no demo version recorded for any of Wonder’s songs; what began as Wonder’s keyboard and scratch vocal performance ended up as the final recording.26

“Love Having You Around”

The first album to be released from this collaboration was *Music of My Mind* (1972), and the album’s opening track “Love Having You Around” exemplifies the call-and-response representations of collective interaction. Wonder performed drums, Moog bass, Wurlitzer electric piano (amplified, two tracks), and vocals (one lead, one backing vocal, vocoder vocal, and chorus vocals) on the recording, accompanied only by Art Baron on trumpet solo. The interaction of performers that Floyd (1991) saw as a common

25 This is in keeping with the practice of many popular musicians. Paul McCartney describes using “Scrambled Eggs” as a melodic placeholder for the line “Yesterday” (Vincent 2015). This is also evident in the demo of Michael Jackson’s “Beat It” (recorded 1982; Jackson 2001), which is examined in Chapter Four. When prompted by an interviewer to explain why he went from humming a melody to singing lyrical phrases on an early home demo of “The Girl is Mine,” Jackson replied “Because certain words come into your head at a certain time. The feeling for the melody . . . certain words come with the melody at the same time it’s created” (Jackson 1993). Regarding Wonder’s process, Cecil recalls that Wonder sometimes had a few words, but never the entire lyric (Cecil 2012, 2015). Syreeta Wright and her sister Yvonne contributed lyrics to a number of songs during this period. Two songs discussed in this chapter, “Love Having You Around” and “Do Yourself a Favor” credit Syreeta as co-writer, while the others were written entirely by Wonder.

26 In my 2015 interview with Cecil, I asked “Did you end up redoing tracks?” To which he responded, “No, no, no. The tracks that we did were always finals. We never re-did anything. We just went on to the next one.”
feature of African American music, in which improvising musicians refer to each other’s riffs, expressions, and phrases is evident on multiple levels in the opening vamp to “Love Having You Around,” yet all of the parts are performed by Wonder (see Example 2.2).


In the opening vamp, there are three vocal tracks, one of which is processed through TONTO’s synthesizer components using a vocoder. After the lead vocal begins with a sincere “Please!” in measure two, a second vocal (panned to the right) responds humorously with “Mama, mama, mama” in measure four. The lead vocal mockingly embellishes this as “Mama, mama, baby…baby, baby, baby,” which in turn is then mimicked by the vocoder vocal (panned to the left) in measures six and seven. This same pattern of statement and embellishment also occurs in the two Wurlitzer electric piano tracks. After the Wurlitzer track panned to the left speaker introduces an ascending phrase in measure two, a second Wurlitzer track, panned right, repeats the same phrase in

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27 The vocoder is a synthesizer module that uses the vocal envelope of sung performance to shape a synthesizer filter. The performer sings words into a microphone while simultaneously playing notes at a synthesizer keyboard. Although the pitches from the vocal performance are not recorded, the voice dynamics, embouchure, and vowels shape the filter output of the synthesizer in conjunction with the keyboard performance. The resulting effect is a pitched robotic voice. While Cecil stated that he devised a specific technical process to accomplish this, he chose not to explain how it was done, but that for all intents and purposes it could be called a “vocoder” (Cecil 2015).
a higher octave in the following measure, then embellishes it in an extended improvisation.

Here, Wonder displays multiple recorded personalities, both vocally and instrumentally. The song’s choruses (which can be heard at 1:04, 2:08, 3:11) feature stacked harmony vocals that sound as if they include female backup singers. However, as Cecil notes, these are actually pitch-shifted tracks of Wonder:

It’s all Stevie [on the vocal tracks]. What we did with that [high-pitched voice] was we slowed the tape machine down. For each of those separate voices, to get a different character, we ran the tape machine at a different speed, to put him in a different vocal space so his voice would not sound exactly the same (Cecil 2015).

Wonder, Cecil and Margouleff developed the pitch-shifting technique in order to make Wonder’s tracks sound like a chorus of different men and women. Cecil emphatically states that making the layered voices evoke a chorus of singers was “the whole idea!” (ibid.). Wonder used multitracking on a number of recordings during this period to create choirs of background voices, for example, on “Living for the City” and “They Won’t Go When I Go.”

To specifically alter the timbre of back-up vocals in order “to vary the sound” and create higher pitched tracks, they recorded vocals at lower tape speeds, then reset the tape speed (Cecil 2012).

“Love Having You Around” benefits from the layering of vocal and instrumental tracks in dialogues, and the apparent interaction of performative characters. Just as Earth Wind & Fire’s Bailey considered different vocal “attitudes” in the layering of his vocal tracks, Wonder and his creative partners were crafting various practices to evoke the

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28 The creation of a responsorial relationship with background vocals through multitracking had precedents in R&B. As reenacted in the motion picture Ray (Universal, 2004), Ray Charles used this technique in a similar manner to record the background vocals on the 1961 Atlantic recording “I Believe in My Soul” following an argument with his back-up singers, the Raylettes.
ethos of a performing collective, from the manipulation of vocal timbres to the playful improvisatory statement and embellishment relationships between musical phrases. Later recordings, such as “Jesus Children of America,” further show that Wonder’s technique of multitracking his own performance was an important part of the process of composition and sonic production.

“Jesus Children of America”

Recorded in 1973, “Jesus Children of America” (from *Innervisions*) displays the use of Moog synthesizers to build an interlocking band of players. Here, Wonder performs all instruments and voices: drums, tambourine, Moog bass, Fender Rhodes electric piano, two Moog leads (with Wah-Wah footpedal), tambourine, and vocals (one lead, several chorus vocals). “Jesus Children,” the lyrics of which take aim at the perceived falsehoods of organized religions, is harmonically grounded with Fender Rhodes chords, with a rhythm section of drums and Moog bass. Wonder then adds two Moog leads, one panned left and one right. The leads and the Moog bass riff around similar phrases, evoking the sound of conversational interaction throughout.

As the intensity of the song builds through the first verse-chorus cycle (at 0:47), there is also a call-and-response relationship between the lead and backing vocals that continues through the second verse (starting at 1:06). Danielsen’s concept of figures in “rhythmic dialogues” common to African American music is useful here. The dense texture of “Jesus Children” is built of interacting parts: the lead vocal interlocks with the backing vocals, which imitate a gospel choir (created again through the variation of tape speed to evoke different vocal timbres), while the two Moog leads interject phrases, supported by the drums and Moog bass, which also operate in tandem. As the song
progresses, the tempo increases, and Wonder modulates from A-flat to E-flat pentatonic minor (at 2:11), a key common to his funk songs, notably “Superstition” and “Higher Ground” (see Fulton 2015a; Lodder 2005). In the closing vamp, a jam section beginning at 3:36, the simulation of collective improvisational communication is evident, particularly between the two Moog leads and the bass (see Example 2.3).
Example 2.3 Stevie Wonder, “Jesus Children of America,” closing vamp (begins at 3:36). From the *Innervisions* album (Tamla, 1973), transcribed by author.

Featuring no single soloist, the Moog leads and bass interject phrases with and against each other as Wonder again translates direct interaction into the technological framework of multitrack recording. The effect of multiple personified voices is accentuated by the use of the Wah-Wah effect on the Moog leads. Throughout the vamp, short phrases appear in the bass and are then reiterated by the Moog leads, exhibiting the same playful, reactive communication common in interactive jam sessions. Wonder repeats and varies short motives played by the bass and the Moog leads, reacting to the
prerecorded track with additional layers of performance and mimicking the interactive sound of collective improvisation (see Example 2.3). At the start of the vamp, the phrase identified above as Motive 1A is stated in the bass and repeated in the Moog track panned right. Motive 2A, first stated in the bass, is then imitated with a slight rhythmic variation in the following measures.

This pattern of the Moog tracks imitating phrases stated by the bass, as well as the right Moog track imitating the left, continues throughout the vamp. The dialogue between the Moog leads and bass, as well as the relationship between the structured responsorial choir and lead vocal, recall the “heterogeneous sound ideal” of African American music described by Olly Wilson in which “responsorial” phrases “exist simultaneously on a number of different architectonic levels” (Wilson 1999, 159). Wonder is clearly jamming with himself at the end of “Jesus Children.” Like “Higher Ground,” which appears on the same album and also features multitracked, heterophonic E-flat pentatonic minor riffing (performed on the Clavinet), “Jesus Children of America” sonically evokes the collective with seemingly interacting voices as well as voice-like instrumental timbres.

Wonder creates performative individuals, vocally and instrumentally, who appear to interact throughout the recordings. Performing the roles of preacher and choir (including higher pitched, female voices), soloists in dialogue, and the rhythm section, he technologically recreates the interactivity common in many African American musical styles. Carrie Sandahl explores this type of individual representation of a collective in terms of an “interpretive framework embodied through performance” (Sandahl 2004, 583). Wonder’s one-man band evokes the communal ethos of collective improvisation and gospel call-and-response techniques. In doing so, Wonder creates an aural
interpretive framework through multitracking.

“Maybe Your Baby”

These interpretive frameworks are particularly evident in recordings that feature a playful call-and-response relationship between lead and backing vocals, and include pitch-shifted tracks. This technique was sometimes used on one harmony part, but in “Maybe Your Baby” from *Talking Book* (1972) it is used for all of the backing vocals, creating a helium-voiced effect. The pitching of voices in “Maybe Your Baby” evokes different gender roles, as Wonder creates a group of chorus women reacting to a man’s story. In the recording, Wonder performs drums, Moog bass, Hohner Clavinet electric piano (two tracks, with filter footpedal through TONTO), and vocals (one lead, multiple “pitched” chorus vocals); Ray Parker Jr. added lead guitar parts during a separate session. Wonder doesn’t truly sound feminine in the chorus vocals, but rather the pitched vocals sound manipulated, affected, and androgynous.

The protagonist here declares that something is wrong, and that the “world is turnin’ on” him, because his “baby” left. This monologue receives a mocking, repeated chorus response from the female characters, “Maybe your baby done made some other plans,” first heard at 1:04, advising the protagonist that she has found another lover. At 3:50, Wonder’s lead vocal encourages the backing vocalists to “say it again,” reinforcing the sense that he is depicting multiple characters. Wonder then confounds the identity of a pitched vocalist’s character at 5:01, as one of the chorus vocals playfully states “I’m a little boy.” This “interpretive framework” allows for a presentation of seemingly

29 Cecil recalls that Parker recorded his guitar on a separate occasion from the tracking of the rest of the parts, and was not involved in the creative process otherwise (Cecil 2015).
interacting identities, or performative characters, through the prosthesis of technology. Within this aural soundscape, Wonder’s male and female characters are juxtaposed in a narrative. As disabilities scholar Lennard Davis states, in the “dismodern era,” “identity is not fixed but malleable”; on songs such as “Maybe Your Baby,” Wonder develops an aural space in which identity is truly performative (Davis 2002, 26).

“Living for the City”

Wonder’s creation of an interpretive framework through multitrack recording, as well as his continued struggle for agency and autonomy, is exemplified by “Living for the City” from Innervisions (1973). Wonder performs all of the instruments and voices for “Living for the City” with the exception of spoken parts during a narrative skit (which was organized by Cecil). It includes an aural church scene at 2:51, as Wonder’s handclaps and robust call-and-response vocals create an interpretive framework that evokes a choir interacting. The lyrics narrate a biographical depiction of an African American male who faces poverty, oppression, and wrongful imprisonment. The song examines the plight of the protagonist and is intended to expose society’s ills. The final verse (which begins at 5:19) describes the protagonist’s life after prison, and is delivered in a hoarse, strained voice, as if Wonder is overcome by grief.

His hair is long, his feet are hard and gritty
He spends his life walking the streets of New York City
He’s almost dead, from breathing in air pollution
He tried to vote, but to him there’s no solution
Living just enough, just enough for the city . . .

Wonder’s vocal performance is emotional, and evokes for the listener the frustration of the character that he describes in the narrative. Yet the circumstances of the recording of this track indicate that the aggravation represented may have been due as much to the
intervention of the co-producer in the recording session as it was to the lyrical content. As Cecil describes: “I kept stopping the tape. He would start a take and I would stop the tape, and tell him we’d have to start over” (Cecil 2012). Hoping to capture Wonder’s frustration in his performance, Cecil manipulated Wonder by pretending there was a technical problem, causing him to record the verse repeatedly, until the frustration and vocal wear was evident in the take. Cecil is not proud of this. He now regrets it, and believes it may have led to a break in their creative partnership, noting: “He didn’t like that. I shouldn’t have done it. He didn’t like to be produced” (ibid.). As Wonder, then an extremely successful recording artist and performer, sought to create music with creative autonomy, dependency on his sighted collaborators remained.30

Conclusion

In the recordings discussed, Wonder creates a virtual band of performers. In many instances, he exhibits multiple iterations of a performative self: playing both the caller and respondent, the preacher and the choir, male and female roles, or reacting in improvisation to an inflection of another recorded performance. As he is working within musical genres such as R&B, jazz and gospel, in which a collective of performers is the norm, Wonder presents a kind of dichotomy of personal/collective expression. So what is occurring on these recordings? An obvious conclusion would be simple imitation; that Wonder is imitating a gospel choir and musical collective, playing all the individual parts. Yet his work has a distinct sound and style, and would seem to transcend imitation.

30 It is certainly possible that Wonder would remember the events of this recording session differently. Cecil did not give the impression that he was bragging or self-aggrandizing. Rather, it was something that he felt remorse about.
It would be more accurate to state that he is using the technology to evoke larger communal scenes, while exploring different aspects of his own personality; at once being melancholy and making fun of himself, as in “Maybe Your Baby,” or commenting on his own performance, as in “Love Having You Around.” His ability to have “control over the individuality” allows him to direct the vocal and instrumental performances absolutely (“control”), while each part is free to playfully comment on another, or express their performative “individuality.”

Wonder continued to explore the use of multitrack recording and electronic instruments after his creative relationship with Cecil and Margouleff dissolved in 1974. The availability of newer, smaller (and therefore more manageable) electronic instruments made it possible for Wonder to increase his personal control over music production. He was considered a “pioneering user” of the compact ARP 2600 synthesizer, and was the first musician to have the ARP instrument panel inscribed in Braille (Trynka 1996, 55). The advent of drum machines such as the Linn LM-1 extended his ability to compose as a solo producer. The LM-1’s advantages over earlier drum machines – pattern programmability, swing adjustment (allowing for a less robotic rhythms more akin to a live drummer), and the robust timbres of digitally sampled drum hits – allowed it to serve as a compositional tool as well as studio instrument in a way that previous machines could not (as we will see, it was quickly adopted by Prince and Michael Jackson for these reasons). In a 1981 BBC documentary, Wonder is shown crafting a multilayered musical backing track alone using synthesizers and the LM-1, alternating between drum machine programming and keyboard performance (see Figure 2.4).
Although this image of Wonder creating music without assistance masks his continued reliance on sighted partners in the setup and arrangement of this electronic array, he is clearly exploring technological means toward the goal of creative autonomy.

![Figure 2.4](image)

**Figure 2.4** Wonder creates layered musical track with synthesizers and Linn LM-1 (Wonder 1981).

On his one-man band recordings, Wonder creates a virtual band of performers employing his unique style of keyboard performance. While his performances on these recordings cannot be understood as truly autonomous, they represent Wonder’s development of aural interpretive frameworks, as well as his continued quest for agency and creative autonomy. Although Motown initially saw no benefit in Wonder performing on all of the instruments, the marketing of his albums soon featured text romantically describing him as an “instrument,” and visualizations of Wonder positioned as a blind mystic, as on the cover artwork for the album *Innervisions* (Ribowsky 2010, 210).

This is only one side of Wonder’s career, of course. In live performances, all of these songs translate well into a traditional interactive band format, and he is known for his enthusiasm for jamming with other musicians. And, though Wonder continues to record many songs as a one-man band, he also records tracks with full bands, and employs other varied ensemble types in the studio. Yet many of his best-known
recordings feature Wonder performing all or most of the parts. As a musician trained largely in the recording studio, the conceptual development of his ideas and the multitrack performance go hand-in-hand in creating what Zak calls the “sonic artifact” (Zak 1997, 30–31). These recordings would not have been the same if Wonder had hired backing musicians. They serve as interpretive frameworks that were profoundly shaped by his continued struggle for creative autonomy.

Wonder’s advances in the use of multitrack recording were highly influential for a range of popular musicians. For Prince, who created one-man band recordings extensively throughout his career and employed many of the techniques developed by Wonder, this process served as a prototype. Prince expanded on Wonder’s techniques, such as the manipulation of voices through altered tape speed, the crafting of aural scenes, and interplay between recorded parts. Many of his recordings were made without the assistance of engineers, expanding on the autonomy model largely pioneered by Wonder (Hill 1989).31

31 Although Prince and other sighted musicians adopted many of Wonder’s studio one-man band techniques, they did not face the “complex power relations” with assistants and partners that shaped Wonder’s music (Lubet 2011, 70).
Chapter 3: “Produced, Arranged, Composed and Performed by Prince”

Entertainment manager Owen Husney’s first reaction to hearing Prince’s demo tape in 1978 exemplifies how Prince’s early recordings were judged as if they were performed by a group of musicians:

I just thought, this group is phenomenal. The guitar player was great, the drummer was right on – the drummer was working with the bass player to create an incredible rhythm section, there was keyboards on top, and the vocals were over-the-top great . . . and I said, “Who’s the group?”

As Husney soon found out, however, there was only one multitracked musician on the demo playing and singing all of the parts. Building on techniques pioneered by Wonder and others, Prince (b Prince Rogers Nelson, 1958; d 2016) produced over one thousand recordings (including unreleased material) as a technological one-man band. On his 1978 debut album, Prince performed all of the instruments and voices, and was touted by Warner Brothers Records as “the new Stevie Wonder” (Hill 1989, 6). He continued recording in this manner, releasing several albums bearing the succinct credit “Produced, Arranged, Composed and Performed by Prince,” and even had a home studio specifically designed so that he could record himself without the assistance of an engineer.

In doing so, he consolidated creative control, artistic credit, and financial compensation for his music as a solo enterprise. Prince’s career as a recording artist, which is marked by both a solo recording process and a struggle for ownership and

32 Husney quoted in Prince, The Glory Years (Johnstone 2007).
33 It would be difficult to ascertain a precise number of recorded songs because only a portion of his vast recordings has been made commercially available. However, a number of these commercially unreleased recordings have appeared on various bootleg albums, and are well known to Prince enthusiasts.
control over the master recordings, exemplifies the politics of musical autonomy in 
popular music. If there is a “me/we” dichotomy in black popular music as described by 
Philip Bailey and Chuck D in which the “we,” communal ethos and collective energy of 
bands like Earth Wind and Fire, shifted toward “me,” individual producer/entrepreneurs, 
Prince would largely represent the individual operative whose primary “modus operandi” 
is solo recording (Woodworth 2008, 41), employing (but not empowering) others only as 
needed. In seeking to free his own music from record label control, Prince often 
replicated corporate power structures in his working relationships with employees in the 
1980s, including contributing musicians and engineers.

The rise of late 20th century neoliberal culture shaped such popular music 
practice. As Dale Chapman states, “the individual human subject (as conceived by 
neoliberal thought) is understood as an ‘enterprise of one,’ empowered to maximize their 
position within the economy through deft negotiation of risk and reward. The idealized 
subject of neoliberalism is a kind of multitasking virtuoso, whose acquisition of multiple 
skill sets enables her to remain an agent, rather than object, of volatile market conditions” 
(2013, 452). This chapter addresses how Prince, using multitrack recording and pitch 
shifting, can aurally evoke characters (drummers, bass players, guitarists; male, female, 
and androgynous; black, white, and brown; human, alien, and other) interacting: an 
“enterprise of one” representing all actors in an aural play.

Prince created a remarkable amount of music independently of other musicians. 
However, particularly in his early years, he has also been accused of incorporating ideas 
from other musicians for which he retained credit and copyright, and therefore financial 
compensation. His quest for creative autonomy was shaped not only by his struggle for
independence from record label control (as Wonder had experienced) but also freedom from the need to pay musicians or accept their input into the creative process. Although formative recordings made in the late 1970s stress a replication of the collective aesthetic of R&B and funk groups, in later recordings Prince explored the ambiguities about who or what prospective listeners were hearing. As digital drum machines became common in popular music in the 1980s, Prince combined live performance, synthesizers, and MIDI sequencing to create electronic pop recordings that transformed R&B into a pop style that reflected both the genre liminality of 1980s new wave (see Cateforis 2011), and techniques drawn from the collectivity and interaction of funk and R&B.

Expanding on the interplay between performative characters pioneered by Wonder and others, as well as employing pitch-shifting techniques to evoke different gender roles, Prince’s recordings feature a range of voiced personas, including Camille, Spooky Electric, and God, as well as characters developed for protégés (such as Morris Day and Vanity) to perform on Prince-produced songs. Identity play is exhibited in Prince’s work in myriad ways, from his use of multiple pseudonyms (such as Alexander Nevermind and Jamie Starr) to his recorded alter egos, notably the helium-voiced, androgynous Camille.

This chapter examines the development of Prince’s music making process, and considers how technological autonomy impacted his musical style. I examine how Prince used recording techniques such as pitch-shifting vocals to explore identity play while challenging identity and genre typology. An analysis of recordings on which Prince performed nearly every instrumental and vocal part, “Let’s Work” (recorded 1981); “If I Was Your Girlfriend”; “Bob George”; and “Adore” (all recorded 1986), along with a
Early Years and Recording Practice

Like Wonder and Hendrix, Prince began his career performing in R&B bands, although in his case largely as an amateur. The son of a jazz pianist, Prince started recording multiple instrumental parts for songs at recording studios as a teenage musician in Minneapolis. The Central High School newspaper interviewed him in 1976, marveling that the largely autodidactic Prince already “played several instruments, such as guitar, bass, all keyboards, and drums” (Crawford 1976). His first band, Phoenix, formed in 1972, performed a range of material including Grover Washington and Carole King songs, and Prince “tried to imitate the Jackson 5,” performing “I Want You Back” (cousin Charles Smith quoted in Ro 2011, 9). His other bands during this period included Grand Central and Champagne. Sly Stone, Wonder, and Hendrix were early influences on his musical style.

Prince began experimenting with overdubbing techniques even before he had the opportunity to hone his craft in professional recording studios. He “used cassette tape recorders to overdub separate performances onto dual tapes. He kept playing tapes back and taping more sounds on the other deck, teaching himself how to arrange and produce” (Ro 2011, 12). He recorded with his group Champagne at Moon Sound, an eight-track recording studio run by Chris Moon. When the group broke up, Prince began recording parts for Moon at Moon Sound in 1976. Moon was looking for someone who could write and record music for his lyrics, and found eighteen-year old Prince’s abilities to play multiple instruments to be both astounding and economical, noting: “I don’t want to pay
for a bass player” (quoted in ibid., 14). Prince “added a bass line, drums, electric guitar, and cascading backup vocals. Awestruck, [Moon] handed Prince a key to the place and hand-written instructions on how to work the equipment” (ibid.). As Wonder had developed his craft as a precocious teenager at Motown’s Hitsville studio, and Hendrix learned how to overdub parts as a R&B session musician at Studio 76, Moon Sound provided eighteen-year-old Prince with unlimited access to studio equipment and a rare opportunity for autodidactic study of record production.

Prince would “stay the weekend, sleep on the studio floor” at Moon Sound, and recalled that he often worked around the clock by himself, learning to engineer his own sessions: “Anyone that was around then knew what was happening. I was working. While they were sleeping, I was jamming. When they woke up, I had another groove” (Prince quoted in Draper 2011, 14). Whereas studios normally charge an expensive hourly rate, Prince had unreserved access to Moon’s equipment. He learned early on the value of producing recordings by himself, which would greatly shape his intensive work ethic. During the late 1970s, amid the immense popularity of discotheques, when the market was increasingly driven by records rather than live performance, Prince found that he could produce a track in the studio by himself or with the assistance of an engineer and leave with a marketable product. This was evident to those who worked with him. Peter Doell, an engineer who worked on 1999 (Warner, 1982), marveled at Prince’s recording technique:

I remember days when Prince would come into the studio at, like, nine AM, kick you out of the room for about twenty minutes, then write a song. Then he’d come back, and you’d better have the drums tuned and ready, because he’s going to play the daylights out of those drums. . . . Then he’d go in and do the bass, keyboards, and by one o’clock you’re mixing it, and by four o’clock you run off and have it mastered. . . . He was an
unbelievable cottage industry (Doell quoted in ibid., 37).

During 1977, Prince recorded demos extensively at Moon Sound. After shopping demos around to various labels, Prince signed to Warner Brothers in 1978. Although Warner executives intended to market Prince within the genre matrix of R&B/funk/soul that was increasingly described in the industry charts and record label divisions as “Black Music,” Prince sought to reject being pigeonholed as such. He refused Warner’s idea that Earth Wind & Fire’s bassist Verdine White produce his debut album. Prince insisted on stipulations in his contract that assured he alone would have creative control and the right to produce his own music. This was remarkable for a completely untested producer, and Prince remains the youngest recording artist, and one of the youngest African American performers, to be offered creative control in a recording contract (see Ro 2011).

His first album, *For You* (1978), introduced the credit “Produced, Arranged, Composed and Performed by Prince.” The opening track of the album, the *a cappella* “For You,” contains forty-six tracks of Prince’s layered vocals singing in harmony. Following this opening, the listener is treated to a series of songs in which Prince serves as his own band, multitracking the guitar, bass, drum, and keyboard parts. Prince maintained that these recordings benefited from a unanimity of performance: “Because I do all the instruments, I'm injecting the joy I feel into all those 'players.' The same exuberant soul speaks through all the instruments” (Prince quoted in Pareles 1996).

When his first single “Soft and Wet” became a R&B hit, Prince traveled on a promotional tour to meet fans, signing autographs at record stores but not performing. He had not yet performed any of the album’s songs in concert. At this point Prince’s music existed only in the recording studio. This is not unheard of in popular music.
Recording artists (generally singers) who did not perform live instruments themselves—often described as “track acts” because they would perform live along with the prerecorded track—were often marketed (Taylor 1996). But Prince’s circumstances were different, as he was the singing “act,” as well as the producer, and the band.

In the following year, Warner released his second album, *Prince* (Warner, 1979). His first promotional video, for the single “I Wanna Be Your Lover,” featured intercut images of Prince playing all of the instrumental parts. However, while Prince’s technique of solo recording had a considerable impact on his style, and remained an important part of his critical reception, the visual promotion of his technological one-man band was short-lived.\(^{35}\) To facilitate live performance, Prince put together a touring band in late 1978 that soon became central to his visual marketing, and was later in 1982 christened “the Revolution.”

Following his eponymous second album in 1979, Prince built two home studios, and began a period of intense productivity and experimentation. He had a sixteen-track home studio installed in a rented house in Wayzata, Minnesota (a studio credited on albums as “Somewhere in Uptown”), where he recorded the album *Dirty Mind* (Warner

\(^{35}\) Prince, his management, and Warner Brothers, likely soon realized that showing how Prince made the music did little to promote the ‘show’—the visual, touring act related to the album. Evidence supports this view, as a second video for “I Wanna Be Your Lover” was filmed that showed his touring band miming the instrumental parts. Further, although Prince continued to record largely as a solo producer on his following three albums (and many subsequent recordings), “I Wanna Be Your Lover” is the only promotional video that foregrounds Prince as multi-instrumentalist. Subsequent videos feature his band miming Prince’s parts on the instruments, as evident in videos for “Automatic” (Warner Brothers, 1982) and “When Doves Cry” (Warner Brother, 1984). In addition, his band is featured photographically on every album cover or insert with the exception of *Controversy* (Warner, 1982) during this period, even though the credits often read “Produced, Arranged, Composed and Performed by Prince.” Thus, the image of a band continued to play a significant role in the marketing of Prince (suggesting that his music is made by a group of musicians), even as his musical style was continually impacted by the use of solo multitrack recording.
Brothers, 1980) in May and June of 1980. Prince then moved to a house in Chanhassen, Minnesota in April 1981, where recording engineer Don Batts installed a sixteen-track studio (credited on albums as “Uptown” and later upgraded to twenty-four tracks), and had the space wired in such a way that Prince could engineer his own performances. He lived in this house until 1985, and there produced hundreds of recordings, including most of Controversy (Warner Brothers, 1981), 1999 (1982), albums for protégés (The Time, Vanity 6, and Apollonia 6), as well as songs that would appear on Sign O’ The Times (Warner, 1986) and other projects.

The recording sessions at these home studios were largely engineered by Prince (credited under the pseudonym “Jamie Starr”). Batts set up Prince’s “Uptown” home studios to serve Prince’s way of operating: “I ‘automated’ Prince’s home studio so it would function without me. It was all preset so it didn’t have to be changed for a session” (quoted in Brown 2010, 47). By setting up the wiring and microphones to Prince’s specification, Batts made it possible for Prince to record without an engineer. While Prince’s first two records for Warner Brothers were more labored, much of Dirty Mind was recorded in first takes: “Dirty Mind was real rough but there was just this magic to the whole thing: the one-take magic. I couldn’t imagine him going back and re-recording the songs. If it were three takes, it wasn’t right and that was very, very rare” (Batts quoted in ibid., 77).

While additional recording and mixing for these albums occurred at Hollywood Sound Recorders and Sunset Sound by a number of engineers, these two “Uptown” home studios (and the privacy of self-engineering) provided Prince with a locus for artistic control, experimentation, and the means of record production outside of the label system,
akin to Les Paul’s garage studio, Hendrix’s unrealized intentions for Electric Lady studios, or Wonder’s sessions at Media Sound with Cecil and Margouleff. Prince claims he found his creative voice during this period:

It was a revelation recording *Dirty Mind*. . . . I realized that I could just write what was on my mind. . . . [T]he other albums stuck to the more basic formula that I’d learned through playing Top 40 material in old bands (quoted in ibid., 74).

This “revelation” came about outside of the studio system funded by budgets controlled by Warner. It was fostered by Prince’s style of private recording, and freedom from label control over recording sessions. The idea was to reduce the creative input of any additional persons to a minimum; the collaborative studio environment that produced Wonder’s one-man band recordings was unheard of to those working with the largely authoritarian Prince. Keyboardist Lisa Coleman, who had recently joined Prince’s touring band in 1980 and was living at the house, recalls witnessing Prince’s self-engineering process during this period:

You know, he’d start with the drums but he’d already have the song in his head. And he’d like go and press “Record” on the machine and then run over to the drums and you’d kinda hear like him jumpin’ over things and trippin’ over wires, sit down on the drums, and then count himself off, tick, tick, tick. And then he’d play and he’d have, sometimes he’d have like—lyrics written down on a piece of notebook paper and so he’d try to sing it in his head, and sometimes you’d hear him like kinda grunting and singing a little bit of the song on the drum track (Coleman quoted in Deggans 2008).

Providing valuable insight into Prince’s process, Coleman goes on to describe how Prince created a lively instrumental track by evoking a competitive atmosphere between his “players”:

And then he’d imagine in his head like: he told me this, like you have to kick the bass player’s ass. Like when you’re playing the drums, kick the other guy’s ass, like put things in there that’s gonna make the other guy—
which was all him, you know – [he’d] do something unexpected or like, try to keep up, you know. So it was so cool ’cause then he’d go do the drum track . . . and then he’d go and get the bass and play the bass and then that weird drum lick would come up and then he’d go, “Oh,” you know, like the bass player, and then try to keep and then try to kick the guitar player’s ass, etcetera, etcetera (ibid.).

This recreation of competitive, interactive forces of multiple musicians playing together is exemplified by the recording “Let’s Work” (Warner, 1981).

“Let’s Work”

Recorded in mid-1981 at the Kiowa Trail Home Studio (credited as “Uptown”) with Prince engineering (under the name Jamie Starr), and at Hollywood Sound, “Let’s Work” features Prince performing drums, electric bass, electric guitar, Oberheim OB-X synthesizer, handclaps, lead and several backing vocals. Although recording studios are traditionally divided into a discrete control room where the engineer runs the mixing board and signal processors, and live room(s) where musicians record instruments and vocals, Prince records mostly from the control room with the exception of live drums. Recording engineer Ross Pallone, who engineered sessions for Controversy at Hollywood Sound, remembers:

After he did the drum tracks for each song, he’d track everything else in the control room. [To record guitars], I’d set him up with a remote control for the multitrack machine. . . . Once he was happy with the sound, he’d excuse me from the studio. . . . [H]e would do all his own punching. . . . I was amazed at watching him play guitar then reach over the locator and punch himself in, and continue to play. For bass, we used to record direct, and he played a Fender bass and Fender Stratocaster guitar (Pallone quoted in Brown 2010, 87-9).

Even when working in large studios and employing engineers, Prince preferred to complete most of the recording work in privacy. Pallone recalls that this extended to vocals (“he wanted to do it in the control room and he wanted to do it alone”), the final
mix (“I would leave, and he would finish it up”), and social life while in the studio (“He rarely had anyone come to the studio, he was pretty much a loner”) (quoted in ibid., 90-3). Whereas Malcolm Cecil described sessions with Stevie Wonder as an atmosphere of jubilant interaction between himself, Wonder and Robert Margouleff, if Prince was having fun, he was entertaining himself with music in a largely solitary space. This recording atmosphere of near-solitude is surprising for the robust party groove of “Let’s Work.”

In keeping with Prince’s practice, the drums were recorded first, then the bass, guitars, synthesizers, and vocals. The track begins with a count-off, with Prince’s vocal captured on the drum microphones yelling “1-2-3,” followed by a riotous chorus of layered vocals (“Let’s Work!”) over a hard-edged, two-measure B Dorian funk groove that alternates between i7 and IV, the harmony throughout. Boisterous crowd vocals and exuberant instrumental performances evoke the character of a large R&B band. Layered, slightly heterophonic handclaps are present throughout, and contribute significantly to the recording’s energy. At measure nine (0:16 on the album recording), the guitar and Oberheim synthesizer rest, and the song’s primary bass line and drums introduce the verse groove (see Example 3.1).

The syncopated bass line features slap bass techniques largely developed by Larry Graham (of Sly and the Family Stone and Graham Central Station), and played slightly behind the beat. A fan of Graham, Prince collaborated with him on several occasions; he
once complained that André Cymone, his touring bassist in the early 1980s, “always played on top of the beat” while Prince was “trying to get him to sound like Larry Graham” and play behind the beat (quoted in Draper 2011, 29). In “Let’s Work,” Prince accents the upbeats in his bass performance. Coleman’s description of Prince’s drummer playing “that weird drum lick” to challenge his bass performance is exhibited at measure sixteen when Prince plays two syncopated hi-hat pops (popping the hi-hat open quickly) on four-e and four-a, a drum fill he uses repeatedly in the recording (Coleman quoted in Deggans 2008).

Preceding this measure sixteen drum fill, and building anticipation for the return of the Oberheim chords in measure seventeen, Prince creates two other events that help propel the groove forward. In measure fifteen, he adds a loud hall reverb effect to the beat-four snare (the last event to take place in the actual chronology of the recording, as it occurred during the mix), opening the reverb effect after the snare is played such that it is heard more on four-and. He then interrupts the ongoing bass line with a hard snapped D on two-and of measure sixteen, clearly remembering that he had ended the measure with a drum fill while recording the bass. These three syncopated events (reverberated snare; bass snap; hi-hat fill) are marked as x, y, and z in Example 3.1. Occurring in half-measure intervals, they work in tandem to keep the groove exciting as it transitions to the next section.

From this instrumental groove, “Let’s Work” additively builds in instrumental and vocal layers to the first chorus, starting at 1:03 (lasting eight measures, mm. thirty-three to forty), which is followed by an eight-measure vocal break (see Example 3.2).
During the chorus, Prince continues to develop the rhythmic tension, as the obstinately on-beat synthesizer alternating tonic octaves (identified in Example 3.2 as Chorus synth) contrasts with the syncopated bass line and vocals, as well as a triplet hi-hat “pop” drum fill (as discussed above) in beat four of m. thirty-six. The Harmony synthesizer alternates between harmonizing the chorus vocals (in mm. thirty-three and thirty-seven), and a sforzando-like tonic swell (mm. thirty-five and thirty-nine) that contributes to the rhythmic push-and-pull between on-beat and syncopated rhythmic events. Following a snare roll in measure forty, an eight-bar vocal break ensues in which the instruments “work” the groove.

The bass becomes more active, and a new, harmonized lead Oberheim synthesizer riff is introduced in m. forty-one playing in rapid, staccato sixteenth notes, with two layered tracks performed in parallel sixths, starting on one-e (indicated in Example 3.2 as Oberheim Lead 1&2). Prince’s bass guitar introduces a new syncopated pattern in mm. forty-one to forty-three, slapping D on three-and and the popping A-B (alternated as A-D in m. forty-two) on four-e and four-and. These syncopated bass accents, percussive strikes on the guitar strings, a guttural vocalization (like a whispered scream) in m. forty-four, and the rhythmic pitch bending of the Oberheim Lead (in mm. forty-three and forty-seven) contribute to the rhythmic and timbral vibrance of the eight-measure vocal break.

Throughout the recording, Prince adds and subtracts layers to the rhythm section; the bass and drums play throughout. In the final chorus, Prince interweaves the two primary vocal hooks – the introduction’s shouted “Let’s Work” and the chorus vocal – with a new vocal adlib, so that the three different vocal groups interject phrases in tandem: “Let’s work!”; “nothing can stop us now”; “nothing gonna stop us” (this
exchange begins at 3:39). With these layered vocal and instrumental parts interjecting in rhythmic dialogues, Prince creates a lively party atmosphere for “Let’s Work,” replicating the energy of a funky R&B band’s performance by creating a competitive environment for his “players” and exploiting elements of rhythmic tension throughout.

In the years following Controversy, Prince would increasingly create music using the Linn LM-1 drum machine and synthesizers. While this transition is in keeping with a general shift in the post-disco 1980s production aesthetics of popular music, the LM-1 offered something Prince personally desired: an efficient method to record songs faster. During this period, his continued fascination with developing vibrant, unique recordings led to experimentation in crafting minimalist pop by removing elements of the traditional “band” at the mixing desk, using the mute button.36

Revolution Years (1982-86), “Space,” and the Mute Button

Prince began incorporating his Revolution band members on recordings more frequently for his following album 1999 (Warner, 1982), and significantly on the three subsequent albums marketed as “Prince and the Revolution”: Purple Rain (Warner, 1984), Around the World in a Day (Paisley Park/Warner, 1985), and Parade (Paisley Park/Warner, 1986). Keyboardist Lisa Coleman and guitarist Wendy Melvoin increasingly contributed to compositions before Prince abruptly disbanded the Revolution in 1986, returning to his one-man band process for Sign O’ The Times (1987) and subsequent releases. However, collaboration during the Revolution years was limited.

36 The use of the term minimalist here (widely used by critics to discuss Prince’s 1980s aesthetics) follows similar usage by Woodworth (2008) and Cateforis (2011). It is used to discuss the sparse aesthetics of popular music in the 1980s, not the 1960s avant-garde music of Steve Reich, Philip Glass, et al.
Revolution keyboardist Matt Fink recalls that those albums were still “90% Prince” and that while a few songs came about in collective jam sessions during rehearsals, mostly “he would just go in and do them, and then present them to us on a tape when it was finished, and I’d say 80% of the time, that’s how it was done. Whereafter he’d hand us a cassette of the mixed song, say ‘Okay, go learn this and we’ll start rehearsing it’” (quoted in Brown 2010, 104).

This level of distance was similar in Prince’s studio work, as he found the “most comfortable method of collaborating” to be sending “tapes back and forth” (Draper 2011, 69). Coleman recalls: “Prince would send us masters and we would work on them and send them back. They were skeletons. The melody and lyrics, maybe a piano part” (quoted in Jones 1998, 103). Rather than interactive collaboration in the studio, Prince preferred the technologically mediated collaboration of others adding parts when he was not present. He would then blend the contributed parts into the final mix, incorporating only the tracks he liked. Following the disbanding of the Revolution, Coleman and Melvoin felt Prince owed them publishing royalties on tracks to which they contributed (Deggans 2008).

This practice of distanced collaboration extended to his work with string arranger Clare Fisher and saxophonist Eric Leeds, as well as with Miles Davis and George Clinton. While Davis and Prince exchanged songs on multitrack tapes for private overdubbing (none of which were commercially released), Clinton similarly recalls humorously of his work with Prince, “he used to send me something and say, ‘I peed on this, now you pee on it and send it back’” (quoted in Mao 2015). As far as guest vocal and instrumental performances that Prince composed, he coached Revolution band
members and others on their performances in the studio. Revolution drummer Bobby Z, who worked with Prince from 1980 to 1986 describes “a very rare and unusual situation . . . where the guy can play all the instruments. He can do it fast. He hears it in his head. If he can teach you a part and you have a feel that he didn’t have, then he’ll use it. Otherwise, he can complete the entire work without saying a word to anybody. It’s convenience: you can do it by yourself, all hours of the day and night” (quoted in Brown 2010, 99).

Each of the three Prince and the Revolution albums featured several songs that Prince recorded as a solo performer without the participation of his bandmates. Among these songs is “When Doves Cry” from Purple Rain (1984), one of Prince’s most iconic recordings. It shares aesthetic qualities with another track from this period, and one that holds a rare place in Prince’s catalogue: “Kiss” from Parade (1986) is a song composed and vocally performed by Prince, but the musical arrangement and most of the instrumentation and production occurred without him present. A review of the production and mix choices made in the grooves of these two recordings will provide insight into Prince’s 1980s minimal aesthetics and creative process.

In his invaluable analysis of “When Doves Cry,” Griffin Woodworth explores the song’s form and relationship to R&B/funk grooves, referring to the song as a “minimalist masterpiece” that exemplifies Prince’s “stripped down funk” (Woodworth 2008, 146). He also considers the song’s most abnormal feature for black popular music, and one it shares with “Kiss”: the omission of a traditional bass line (neither electric nor synthesizer bass). The lack of a bass line was not originally planned, but occurred in the mixing process, when the bass and other elements were muted at the mixing desk.
Engineer David Leonard recalls “that ‘When Doves Cry’ was a studio track done in L.A. at Sunset Sound, and I remember it had A LOT of stuff on it, so when it came down to mixing the song, it originally had bass on it, and he made the decision to remove the bass. I was originally trying to mix it as it was, but he came in and turned it off, and put reverb on the bass drum and away you go” (quoted in Brown 2010, 188). While the development of his spare 1980s production style occurred during the post-disco shift toward more minimal, electronic timbres, Prince’s stark productions stood out. Notably, a Warner Brothers executive responded to “When Doves Cry”: “What kind of fucking record is this, with a bunch of strange sounds?” (quoted in Draper 2011, 54). Prince received the response that it “sounds like a demo” (ibid.), and was also cautioned by label promoters: “a black song without a bass? You gotta be crazy” (quoted in Jones 1998, 73).

“When Doves Cry” was recorded during a marathon 24-hour recording session at Sunset Sound by engineers Peggy McCreary and David Leonard on March 1, 1984, with Prince performing all instruments and voices. Even if the bass line had been included in the final mix, the song would still be sparse in comparison to the aesthetic featured in “Let’s Work.” The final version features Linn-LM1 drum machine, Yamaha DX-7 synthesizers, guitar solos, and vocals. Of these elements, no more than two instruments play at any time until 2:52 which, considering that the edited single begins fading out at 3:25, is the majority of the single version (the one that was played on radio). Even more strikingly, during the first verse (0:33 - 1:03) there is only the Linn LM-1 drum machine (heavily modulated through signal processing) and vocals for thirty seconds. The decision to remove the bass parts (and other parts described in David Leonard’s recollection) speaks to a critical aspect of studio-based composition, and one furthered by Prince’s
character as near sole practitioner: absolute control over the tracks of the recorded song.

Prince states:

“When Doves Cry” was the last song to be mixed, and it just wasn’t sounding right. It was just sounding too conventional, like every other song with drums and bass and keyboards. So I said, “If I could have it my way it would sound like this,” and I pulled the bass out of the mix. . . . Sometimes your brain kind of splits in two—your ego tells you one thing, and the rest of you says something else. You have to go with what you know is right (quoted in Coryat 1999, 128).

This also speaks to the centrality of drums in Prince’s production aesthetic, as well as the use of signal processing to suggest melodic phrases. He states that for “When Doves Cry,” “the bass is in the kick drum. It’s the same with ‘Kiss’: The bass is in the tone of the reverb on the kick. Bass is a lot more than that instrument over there. Bass to me means B-A-S-E” (Prince quoted in ibid.).

The reverb on the Linn LM-1 kick drum in “When Doves Cry” is a long chamber reverb (creating an effect similar to a basketball bouncing in a large empty auditorium), likely generated by an EMT Electronic Reverberator Unit. While many different techniques are used in mixing, use of a reverb of this type (and level) is extremely rare on kick drums in dance-based popular music, as it has a tendency to muddy the low frequencies, and conflict with the frequencies of the bass line. Without a traditional bass line or other low-frequency instrument to compete with, however, Prince can afford to create a long, prominent reverberation that both fills the musical space, and creates the perception of a deep perceptive space. While the snare on beats two and four provides the traditional rhythmic counterpoint to the kick drum, the mix prominently features a sidestick, on ‘(one)-and’ and ‘two’ that has been routed through Prince’s Boss Flanger guitar pedal (a technique Prince developed in his home studio while recording 1999). This
creates a high-pitched counterpoint to the kick drum that is then answered by the contrasting low toms at the end of the second bar.


The pitching of the kick drum reverb, the modulated side-stick, and low tom provide a type of harmonic ostinato for “When Doves Cry” while contributing to the rhythmic ostinato. The result is a unique sonic landscape built of electronic sounds and vocals with a specific timbral coloration. Prince describes the importance of creating a sonic palate for “one-key” songs (funk songs without significant harmonic changes):

For instance, one-key songs designed to put the participant in a trance are best filled up with sound provoked by the spirit more than, say, a structural melody that’s best complemented by color. This to me is the root of funk: the choices one makes. [The instruments I choose] depends on the song, it depends on the color. They all sound differently (quoted in Brown 2010, 144).

Although Prince performed a more traditional version of “When Doves Cry” during the tour for Purple Rain with bass player Brown Mark providing a funk bass line (with similar renditions on subsequent tours), in his later performances, Prince chose to trigger the instrumental track from a digital sampler and sing over it, while his touring band rests.37 This suggests that Prince has decided that the “band” of “When Doves Cry,” as

37 He performed “When Doves Cry,” “Sign O’ The Times,” “Hot Thing,” and “Nasty Girl” in a sampler-
well as other electronic productions recently performed in this way (including “Sign O’ The Times,” “Hot Thing,” and “Nasty Girl”), exists most successfully in the recorded track.

The muting of the bass line also played an important role in the recording of “Kiss” (1986), another of Prince’s best-known tracks, and the one that stands out as an exceptional recording in Prince’s catalogue, as Prince had almost no involvement in the track’s instrumental production and arrangement. Following the immense success of the film Purple Rain, Prince had considerable financial resources, and a distribution deal with Warner Brothers for a new label imprint, Paisley Park Records. Among the groups he began producing for this label were Revolution bassist Brown Mark’s side project Mazarati at Sunset Sound.

Prince, who was working on music in another studio at Sunset Sound, offered Brown and producer David Z a simple demo of a song to record for the Mazarati album that he had performed live-to-tape in a folk style on acoustic guitar, with a rough vocal performance of the first verse and chorus. The song, “Kiss,” is in twenty-four-bar blues form (the same I-IV-I-V-IV-I progression as a standard twelve-bar blues except with double the bar count for each section). Brown Mark, David Z, and Mazarati members then developed an arrangement for Prince’s demo using the Linn 9000 drum machine, bass guitar, synthesizer, and acoustic guitar. David Z crafted an innovative technique that electronically “gated” the guitar track based on the syncopated hi-hat pattern, a technical process arranged so that the guitar only sounded when the hi-hat played. They recorded a demo of the track with Terry Casey performing lead vocals and Mazarati as a group

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based set during his May 10, 2015 concert.
performing backup vocals, and left the studio (see Nilsen 2003, 219-220).

The next day, David Z returned to Sunset Sound to find Prince had reclaimed the track from Mazarati for himself after they had left the studio, and replaced Terry Casey’s lead vocal with his own, dramatically remixed it toward a more minimal sound, muting the bass and the synthesizer tracks. In addition, Prince added a guitar (patterned after James Brown’s “Papa’s Got a Brand New Bag”), and changed the Linn drum sounds, removing the reverberated synthetic clap in favor of a dry snare and adding a tuned, gated reverb to the kick drum, creating his “B-A-S-E” as described above. Prince mixed it with David Z (who restored some keyboards that Prince had removed) with the understanding that David Z and Brown Mark would receive co-writer’s credit and publishing royalties, as well as co-production credit.

The track was shelved for a short time by Prince (deemed “too strange”) and almost abandoned to his growing vault of unreleased material before a last-minute inclusion on the album Parade (1986) (Ro 2011, 230). When it was presented to Warner as a prospective single, label executives initially rejected it, repeating similar concerns voiced about “When Doves Cry”: “We can’t put this out. There’s no bass and it sounds like a demo” (ibid., 143). David Z was ultimately credited as arranger for the track; the single features the credit “Composed, Arranged, Produced, and Performed by Prince and the Revolution” with “background voice by Mazarati.” The song is registered with the copyright of Prince as the sole composer. Prince had ultimately deemed that an arrangement credit (which held no financial weight) was sufficient for Z, and that since David Z and Brown Mark were both Revolution band members, the group production credit (“Produced by Prince and the Revolution”) was fair; this credit had no bearing on
how royalties were distributed for “Kiss.” Prince retained all publishing and producer royalties, which for “Kiss,” a number-one hit single, would ultimately be worth well over a million dollars.

Problematically, Prince would later intimate in interviews that the arrangement of “Kiss” was his own, noting: “Terence Trent D’Arby asked me where ‘Kiss’ came from, and I have no idea. Nothing in it makes sense. Nothing! The hi-hat doesn’t make sense” (quoted in Brown 2010, 157). As seen from the production history, the hi-hat pattern clearly “came from” David Z. Did Prince forget David Z’s arrangement? More likely, in the style of those Chapman calls “neoliberal virtuosos,” Prince had assumed credit for his employees’ work in order to maintain an absolute veneer for his critical standing as musical genius and sole auteur. The New York Times review of Parade, perhaps Prince’s most collaborative album of this period, praises his largely solo genius:

Almost every sound on the record, vocal and instrumental, with the occasional exception of light percussion, saxophone, backing vocals and understated string arrangements, was made by Prince, who proves with this record that he has mastered the pop-rock idiom (quoted in Brown 2010, 149).

The example of “Kiss” is not presented here to discredit Prince. As discussed in the cases of James Brown and George Clinton in Chapter One, such authorship and credit disputes are common in popular music.\(^\text{38}\) The fact that Prince could create dynamic, financially successful recordings as a one-man band that retain the feeling of a vibrant collective with little or no input from others has been shown above (and could be shown

\[^\text{38}\] Further, in terms of copyright laws related to song composition, Prince wrote the melody and harmony. Although he may have promised to share writer’s credit, it could be legally argued that he deserves full credit, even if David Z’s and Brown Mark’s track arrangement of “Kiss” would seem critical to the recording’s phenomenal marketplace success.
in dozens, if not hundreds of examples). Therefore, to consider a marked exception such as “Kiss” in relation to such examples exposes the inherent power dynamic when one auteur serves as both recording artist and boss. In addition, “When Doves Cry” and “Kiss” exhibit the transformation of studio practice. An instrument conventionally considered essential to a track’s success, such as a bass, can be removed by muting, and its role in the track replaced by adding a reverb effect to the kick drum; the arrangement can be reconceived in the mixing process. Prince, likely emboldened by his success in removing the bass line for “When Doves Cry,” had developed a minimalist drum machine-centered production style in which bass lines could play a reduced role (evident on singles like “Sign O’ The Times” (Paisley Park/Warner, 1987) and “Thieves in the Temple” (Paisley Park/Warner, 1989)). Shortly after the release of the Parade album and the success of “Kiss,” Prince disbanded the Revolution, and returned to his style of solo recording for the remainder of the 1980s.

Susan Rogers, Camille, Pimps, Vocal Groups, and Other Characters

During and after the Revolution years, Prince worked extensively with engineer Susan Rogers, who was hired as a technician in 1983 and engineered recordings for Prince until leaving his company in 1988. Rogers assisted with the design of the recording facilities at Prince’s ten-million-dollar Paisley Park recording complex in Chanhassen, Minnesota (built in 1985). She also started the Vault, an actual bank vault that was held in the basement of Paisley Park and is said to contain thousands of master recordings, a significant number of which remain unreleased commercially. Rogers engineered tracks for Purple Rain (Warner, 1984), Around the World in a Day (Paisley Park/Warner, 1985), Parade (Paisley Park/Warner, 1986), Sign O’ The Times (Paisley
Park/Warner, 1987), and the *Black Album* (recorded 1987; released Warner, 1994), as well as Prince productions for other artists, and various other unreleased albums and songs.

Her work with Prince included three recordings made in late 1986 that will be examined here: “If I Was Your Girlfriend,” “Bob George,” and “Adore.” In a normally male-dominated studio environment, Prince sought out female engineers and worked extensively with Rogers and Peggy McCreary. Rogers recalls that Prince “likes to work with women” (quoted in Jones 1997, 127). His motive may have been chauvinistic in part, as he could be “dominant and possessive” (ibid.), but also in part altruistic – to change the atmosphere of the recording studio: “There weren’t many women engineers, and I think that’s why he enjoyed working with Peggy McCreary and me. We broke the mold a little” (Rogers quoted in ibid., 75-6).

In addition to producing his own records, Prince sought other outlets for his music long before starting Paisley Park Records in 1985. Beginning with The Time in 1981, Prince developed and produced recording acts. Rather than allowing singers to craft their own personas on recordings, however, Wendy Melvoin describes: “Prince [recorded] a guideline for vocals. . . . He did that every time. You had to copy every lick, every breath, every sigh, no question, especially with his ghost bands. They had to follow everything he did, precisely” (quoted in ibid., 79). The character enacted by Time singer Morris Day, for instance, originates “in a pimp persona Prince used to mess around with, for which he put on an old man’s ‘hustler’ voice” (Draper 2011, 28).³⁹

³⁹ This voice is evident in Prince’s unpublished demo for The Time’s “Chocolate” (demoed 1982, released 1989), as well as the studio jam “Cloreen Baconskin” (recorded 1982, released 1997).
Coleman describes Prince often speaking in comic voices and creating characters, and how Day’s persona evolved from a comic character Prince developed: “He’d do all these different voices and stuff and, you know, he’s really funny. He had all kinds of crazy voices. Like the Time records. If you listen to the Time – that’s just him just messin’ around” (Coleman quoted in Deggans 2008). Personas were developed similarly for Vanity (b Denise Matthews), Apollonia (b Patricia Kotero), St. Paul (b Paul Peterson), and others. Coleman argues that these characters were significant for Prince personally:

He couldn’t squeeze it all into just Prince. . . . He needed other outlets. If he could have been Vanity 6 he would have done it; if he could have been the Time he would have done it. These were the ways he could live different lives (Coleman quoted in Jones 1998, 79).

This fascination with creating recorded personas led to the development of Camille in 1986. The androgynous Camille, likely named after the “nickname of the 19th-century French hermaphrodite Herculine Barbin,” came about as a product of experiments with tape speed variation, the technique used on Wonder’s “Maybe Your Baby,” and first employed by Prince for “Erotic City” (Warner, 1984) (Draper 2011, 82). Prince’s use of vocal pitch shifting was most extensive in 1986, the year he considered releasing an album under the pseudonym Camille that featured a collection of his helium-voiced tracks. Brian Rossiter posits that Prince’s Camille character employs pitch shifting effects to “problemat[ize] the concept of his identity,” “continuously calling into question his gender, sexuality, and racial heritage” (Rossiter 2010).

Camille was Prince’s most prominent voice manipulated character, and Rogers recorded most of the Camille tracks. Prince considered writing a movie in which he and Camille would pursue the same woman, and according to Rogers, “was thinking of
battling with himself. He had this whole idea that Camille would be his competition” in the marketplace (quoted in Ro 2011, 157). Prince, whose creative impulses seem to be fueled by competition and, as Coleman describes, spent his career recording himself playing the roles of competing “players” in his one-man band, was now creating other recording artists to compete with that he would perform himself.

In my email exchange with Rogers, she explained the technical process for creating the Camille voice:

We worked at 30 ips [tape speed]. Anything recorded at 15 ips would be an octave higher when played back at 30. We didn’t always slow the machine down a full octave. Using varispeed, most brands of tape machines can be changed +6 semitones. We chose the speed to find the timbre change we were looking for (Rogers 2016).

In doing so, Prince (like Wonder before him) builds on the use of analog pitch shifting – recording tracks on magnetic tape at lower or higher speed, then resetting the tape speed to create a high voice or slowed bass voice – that has been employed on vocal recordings to evoke characters in a variety of contexts. This technique was used to portray everything from singing chipmunks (as first exhibited in David Seville’s Chipmunks debut LP Let’s All Sing With The Chipmunks [Liberty, 1959]), to gnomes (David Bowie’s “The Laughing Gnome” [Decca, 1967]), and an alien (Jimi Hendrix, “Third Stone from the Sun” [Track, 1967]), among other characterizations.

“If I Was Your Girlfriend”

Prince employed voice manipulation to create multiple pitched voices on “If I Was Your Girlfriend,” a track recorded in November 1986 at Sunset Sound. Originally considered for inclusion on the shelved 1986 concept album Camille, “Girlfriend” was released as the second single from Sign O’ The Times (1987), and one of the four tracks
credited on album liner notes as “Lead Vocal by Camille.” Based on my own pitch shifting attempts with “Girlfriend,” which is in B-flat minor, I argue that they used the VSO (variable speed oscillator) to slow the tape down approximately -3 semitones to record Prince’s lead Camille vocal (sung at G minor), while the low-pitched basso backing vocals were recorded at approximately +3 semitones (sung at D-flat minor). The instrumentation for “Girlfriend” (with all parts played by Prince) includes Linn LM-1 drum machine, bass guitar, and Fairlight CMI. Foley sound effects play an important role in the track’s opening collage, which was added later for the album version. Rogers describes Prince’s solo recording practice for vocals:

We’d get the track halfway or three-quarters of the way there and then set him up with a microphone in the control room. He’d have certain tracks on the multi-track that he would use and he’d do the vocal completely alone. I think that was the only way he could really get the performance (quoted in Brown 2010, 175).

In the case of “Girlfriend,” this practice led to a distorted vocal track. Rogers had made a mistake, and “the pre amp gain was accidentally set 10 dB [decibels] too hot for the vocal channel,” but since she wasn’t there to monitor the recording, she didn’t know until it was finished (quoted in ibid., 177). Ultimately, Prince liked the timbre of the distorted vocal and chose not to re-record it, likely because it further estranged “Girlfriend” from the normative.

Due to the gender play of the lyrics and the use of the Camille voice for “Girlfriend,” it was one of the most transgressive singles in mainstream popular music at the time of its release, and disorienting in terms of the protagonist’s gender. bell hooks notes that her “college undergraduates [puzzled] over ‘If I Was Your Girlfriend,’ trying to work out whether Prince is a man or a woman” (quoted in Jones 1997, 18-9). The
unusual timbres and events of “Girlfriend” disorient the listener, creating an aural journey. The track begins with a collage of four sound effects sampled and triggered by Prince from the Fairlight CMI keyboard (an orchestra tuning up; a department store hawker saying “look at our bargains over here, ladies!”; a church organ playing Mendelssohn’s “Wedding March” melody; a crescendoing female vocal).

The opening melodic phrase operates like a horn section (in live performance it is often played by trumpet and saxophone), but is a processed sample performed on the Fairlight CMI with a slow attack that sounds almost backwards, creating what Griffin Woodworth calls a “subtle dynamic between identification and estrangement” (2008, 85). The instrumentation also features synthesized strings, a two-measure Linn LM-1 ostinato (with a synthetic beat-four clap that echoes on the quarter note), a two-measure filtered loop, and a one-measure funk bass part similar to Larry Graham’s bass line from Sly and the Family Stone’s “Thank You (Falletinme Be Mice Elf Agin)” (Epic, 1969).

The climactic section of “Girlfriend” occurs during the vamp and rap, a spoken section that begins at 3:41 (see Example 3.4). Sections of intimate conversation (where one “raps” to their prospective mate) are common in R&B, and featured prominently in the recordings of Isaac Hayes (“Ike’s Rap,” Enterprise, 1971), Barry White (“I’m Never Gonna Give Ya Up,” 20th Century, 1973), the Floaters (“Float On,” ABC, 1977), and others. Prince employed intimate raps with the audience during narrative sections of his live shows, as well as in sex-themed ballad recordings like “Do Me, Baby” (Warner, 1981) and “International Lover” (Warner, 1982). As is the case with “Girlfriend,” these previous ballads end with simulated sexual climaxes. Although the seduction monologue of “Girlfriend” varies from traditional R&B practice, Prince (performing as Camille) is
busy seducing the listeners in this section, while speaking with an intimacy that is rare in popular music.

Example 3.4 Prince, “If I Was Your Girlfriend” end vamp and rap (begins at 3:41). Transcribed by author from the *Sign O’ the Times* album (Warner, 1987).
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Bass Guitar, Synthesizer, LM1, Echoed LM1 Clap, and Filtered Loop
ostinatos repeat as such until m. 108

Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.
Example 3.4 cont. Prince, “If I Was Your Girlfriend” vamp and rap.

A syncopated synthesizer overdub (introduced at m. eighty five) plays a four-bar phrase (the drum machine ostinato continues throughout; the bass continues until m. 108). The higher pitched lead vocal is accompanied by lower pitched backing vocals, here repeating the chorus “If I was your girlfriend” dispassionately, almost mechanically. With growing urgency, Camille speaks intimately, offering to undress, dance a ballet
naked, give a bath, provide an orgasm, insisting that only if “I was your girlfriend,” the intended listener would trust Camille with everything; Camille seeks the private rapport of intimate friends.

At measure ninety, a new instrument sounds: a looped “stock vocal sample,” female with strong vibrato, singing “oooh,” played on the Fairlight CMI sampler keyboard (Rogers email 2016). It enters with a descending F/B-flat/D-natural, an arpeggiated B-flat major 6th chord, dissonantly looping on D-natural for two measures before slowly bending upward (like a glissando), from mm. ninety-three to ninety-eight. As the vocal sample was performed with a strong vibrato, the vibrato rate decreases when the sample is played on the low D-natural to a slow warble, then increases with the pitch, creating a dizzying effect. The downward arpeggiated phrase begins again on m. 101 (F-Bb), but rather than the low D-natural, repeats the descending 5th, then lands on the higher D-natural in measure one-hundred and three. As Camille becomes increasingly insistent, speaking more rapidly, the pitch starts to increase, ultimately ascending nearly four octaves, chromatically ascending at approximately a quarter note per pitch starting at m. 104.

In m. 105, the chorus vocals double in rate, occurring in every bar, as if in a mechanical loop. As the pitch rate increases, so does the vibrato rate, while Camille’s voice raises to almost a shout. The tension becomes almost hysterical, as the pitch rate increases in sixteenth-note durations (mm. 106 to 107) before a fortississimo high C (a sexual climax) in m. 108. Camille promises (after sex) to “hold you long and together we’ll stare into silence.” The vocal sample, bass, and synthesizer tracks are abruptly silenced, and the drum machine, filtered loop, and Camille continue for eight measures
Camille supposes that they will “try to imagine what silence looks like,” speaking (presumably post-coitus) in halting, hushed tones before the track abruptly ends with the words “we’ll try” occurring in unison with a double snare hit.

With the closing section of “If I was your Girlfriend,” Prince creates a strange, dream-like environment, with chorus vocals sung abnormally low (detached, as if mechanical), another spoken abnormally high, a female vocal sample that is controlled to a hysterical high pitch before going silent, followed by a meditative soliloquy on silence, and finally silence itself. The vocal sample is clearly symbolic of the woman in this scene. Thus, as Prince (as producer and performer) controls the scene, and manipulates the female machine-vocal to reach a performative climax, he retains total control over all of its characters.

Rogers, who engineered “Girlfriend,” recalls that when she heard the lyrics, she was moved: “I encouraged him to release it as a single. I’d never heard a man say that before, [it was] wonderful, a good thing to say, a good thing to put out there” (quoted in Jones 1998, 141). “Girlfriend” was ultimately released as a single in 1987, perhaps in part due to Rogers’s suggestion. Warner executives protested the choice (though after Prince had proved them wrong with “When Doves Cry” and “Kiss” they ultimately trusted his judgment). It was met only with limited commercial success, yet remains a favorite of Prince fans.

“Bob George”

“Girlfriend” was recorded during the same month that Prince used voice manipulation to record high and low vocals for “Bob George,” a track that is very different in character (yet also staged around a spoken conversation with a woman), and
would later be included on the infamous *The Black Album* in 1987. Rogers recalls that “Bob George” and other *The Black Album* “tracks were odds and ends, things we would do on a day off. When he was making an album, sometimes he wanted to break away and do something just to get it out of his system” (quoted in Draper 2011, 94). “Bob George,” for instance, was among three tracks that were mastered and pressed on vinyl acetate for Sheila E’s birthday party on December 11, 1986. Rogers recalls that Prince “wanted to record some mindless party songs for her . . . [but they] were never intended for an album” (quoted in Brown 2010, 194). The misogynistic, violent lyrics should not be regarded as representative of Prince’s style – he convinced Warner to cancel *The Black Album*’s release in 1987, deeming it as “evil” (the album later saw a limited release in 1994 to fulfill a contractual obligation with the label) (quoted in Jones 1998, 148).

However, “Bob George” is an important example of Prince’s studio work during this period. Prince creates a dystopic interpretive framework in which he performs multiple characters in interaction. Further, although it was later included in an album, its conception represents recorded occasional music: recorded music produced for performance in a specific event (a DJ party) rather than commercial release. “Bob George” allowed Prince an opportunity to address his critics, gangster rap, and the culture of popular music in general behind the veil of voice manipulation, on what was created initially as a private recording.

In my email exchange with Rogers, she explained that the voice manipulation for “Bob George” was the result of a new audio processor available at Sunset Sound that she introduced Prince to:

That was the Publison Infernal Machine. The “Bob George” vocal came about because I was playing around with it while waiting for Prince at
Sunset Sound. I figured he would like the pitch change and he did (Rogers email 2016).

The Publison allowed for real-time pitch shifting, and was set so that Prince’s vocal would sound one octave lower than voiced. It also gave the vocal track a harsh timbre (the sound of two dissonant pitched vocals), which may have inspired Prince to create the protagonist of “Bob George.” The form is twelve-bar blues (perhaps the only gangster rap song in twelve-bar blues form) and features a sparse Linn LM-1 drum machine track, synthesizer bass (likely the Yamaha DX-7), additional synthesizer pads (Fairlight CMI), lead electric guitar, and Foley sound effects (sirens, gunshots, screams, and telephone ringing) sampled and triggered on the CMI keyboard. Rogers recalls that she “purchased a lot of sound effects CDs that I kept in my gig bag for Prince,” and that they “used them frequently” (ibid.).

“Bob George” features two pitched voices: A low-pitched bass lead voice, evoking an African American gangster caricature, and a high-pitched, comic, presumably white police officer (sounding an octave higher - accomplished through tape speed variation). The association of bass voices and African American masculinity, exemplified by 1970s figures such as Richard Roundtree’s Shaft, Barry White, and Isaac Hayes, was comically addressed by Eddie Murphy in the 1984 film Beverly Hills Cop. In a confrontation with a nasal high-voiced, African American cop, Murphy’s character Axel Foley advises the officer to speak in a “more natural” manner, ie., to not speak like an uptight white person, but with bass voice and black dialect. In “Bob George,” Prince creates an interpretive framework based on these taxonomic categories, pitting the pimp character’s basso against a nasal, higher-pitched voice.

The title of the song refers to two names discussed in discrete sections. In the first
half, Prince’s character is complaining about his girlfriend dating “Bob” (named for Prince’s then co-manager Bob Cavallo), the manager of “Prince, that skinny motherfucker with the high voice?!” By naming himself disparagingly in the lyrics, Prince creates further distance from the pimp character he is portraying. The aural mask provided by the pitch shifter allows for identity play, but also a moment of career-related vengeance. After the scene culminates in a violent confrontation with the police, Prince calls “Mr. George” – a character inspired by *Billboard* critic Nelson George – and threatens him.

The titling of *The Black Album*, and the context in which Prince recorded “Bob George,” arose from the racialized climate of 1980s pop. This climate is exemplified by the awarding of “Favorite Black Album” to Prince and the Revolution at the 1985 American Music Awards. At the ceremony, Madonna and Huey Lewis present the winner of the “Favorite Black Album” award *Purple Rain* (an album that blended rock, pop, and R&B), to Prince and his band the Revolution (a predominantly white, Jewish band). During this same period, Prince was under fire from prominent R&B music critics such as Nelson George, who criticized Prince in *Billboard* magazine and in other writings for making “sellout” pop that was purposely distanced from funk/R&B style and African American culture in order to court the mainstream audience.  

As later 1980s hip hop presented hyper-masculine images of African American

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40 It should be stated that George largely praised Prince in *Billboard* during the mid-1980s, although he was occasionally critical of Prince’s crossover self-marketing, as evident in this 1985 column: “For every act that successfully uses AC ballads to cross over or new wavey rock’n’roll, there are so many others who miss, not just with pop radio or MTV, but with their core black audience. . . . It is worth noting that for all his rock’n’roll posturing it was Prince’s funk, both on his ‘A’ sides (‘When Doves Cry’) and ‘B’ (‘Erotic City,’ ‘17 Days’), that made for his best singles” (George 1985, BM1-12). George’s largest critique of Prince’s crossover (again coupled with praise) came after “Bob George,” in his R&B monograph *The Death of Rhythm and Blues* (George 1988).
men (exemplified by L.L. Cool J and Run D.M.C.), Prince and Michael Jackson’s arguably transracial and androgynous performances were considered increasingly problematic. In this context, “Bob George” and *The Black Album* can be seen as catharsis for an African American performer caught between marginalization due to his race (as shown by the reception of *Purple Rain* at the American Music Awards), and disparagement from black critics for attempting to transcend pigeonholing of his music and preconceptions about black masculinity. The voice manipulation allows for a type of aural mask behind which Prince can take aim at his critics (in this case, literally) while lampooning stereotypical taxonomies of African American males.

Prince’s vocal merges blues performance and syncopated rap rhythms, creating a sardonic connection between genres. This is evident in the verse section beginning at 1:00 in the recording (see Example 3.5).
Example 3.5 Prince, “Bob George” verse section (begins at 1:00). Transcribed by author from the *Black Album* (Warner, 1994).
Example 3.5 cont. Prince, “Bob George” verse section.
Example 3.5 cont. Prince, “Bob George” verse section.
Example 3.5 cont. Prince, “Bob George” verse section.

With subtle pitch referencing and dynamics, Prince’s vocal employs the narrative arch of the twelve-bar blues (as one would in an expressive instrumental solo). This is evident in measure forty-five, in which he increases tension and pitch on the line “skinny motherfucker with the high voice” to accompany the shift from I to IV, as well as in measures forty-eight and forty-nine, on the line “Yesterday’s fool?” and “kill you now?” as the harmony moves from I to V. Prince then accentuates the blues connection by introducing his character’s “gun” (an electric guitar), and alternating between percussive vocal rants, blues riffs, and machine gun sound effects (triggered from the Fairlight CMI synthesizer), before the first scene culminates in a confrontation with the police.
As is the case with Wonder’s male/female identity play in “Maybe Your Baby,” the juxtaposition of the low-voiced pimp character with the high-voiced police officer creates a comic interpretive framework. This framework includes a scene of confrontation and a shootout between a hypermasculine pimp and the police officer. This is followed by another dialogue of performative characters, where the pimp character confronts “Mr. George”: an aural stand-in for Nelson George. In a phone conversation with “Mr. George,” Spooky threatens the critic. Beginning at 3:30, Prince enacts an aural interaction with the police, then a telephone confrontation with “Mr. George”:

(sound effects of helicopters and sirens)
Pimp: Ain’t that a bitch?! Bob…
(sound effects – crowd chatter, indiscernible megaphone speech)
Officer: Come out with your hands up!
Pimp: I’ll kick your ass!
Officer: This is your last warning!
Pimp: You think I won’t?
(sound effects – machine gun fire, woman screaming)
Officer: Oh no, the nigger’s got a laser! Let’s get the hell out of here!
(sound effects – ringing phone)
Pimp: Is Mr. George home?
(sound effects – indiscernible high-pitched chatter)
Hello, Mr. George?
(sound effects – chatter)
This is your conscience, motherfucker.
(sound effects – chatter)
Why don’t you leave motherfuckers alone, what’s wrong with you?!
(sound effects – chatter)
Well, why can’t we just dance? Why can’t we just dance?
(sound effects – chatter)
No, fuck that, fuck that!
(sound effects – chatter; telephone operator)
I don't talk about you, I don't talk about you . . . I'll kick your ass, twice!

Employing two different voice manipulation techniques (Publison real-time pitch shifting for the low “pimp” voice; VSO tape speed variation for the high “officer” voice) and a series of sound effects (sampled and triggered on the Fairlight CMI synthesizer),
Prince creates an aural play that parodies racial signifiers, in which he performs all characters. In the confrontation with (his critic) Mr. George, Prince retains complete control of the conversation, reducing the critic’s responses to babble.

![Figure 3.1](image)

**Figure 3.1** Prince, in character, performs “Bob George” during the *Lovesexy* Tour, 1988 (video stills from Prince 1989).

As a pop performer, Prince can’t confront a *Billboard* magazine critic, or publicly parody the racialized climate of American pop without threatening his commercial standing in the marketplace. But the aural mask of voice manipulation allows a space for performative anonymity, wish-fulfillment, and the escape from commercial expectations of a mainstream performer. While Prince later distanced himself from *The Black Album*, “Bob George” was included in his *Lovesexy* tour (without the “Mr. George” scene), a performance that concludes the first (largely sinful) half of the concert with Prince’s character being shot and killed (the second “born-again” half of the concert focusing on love and spiritual matters) (see Figure 3.1).
“Adore”

During the same month as he recorded “Girlfriend” and “Bob George,” Prince evoked the roles of interacting vocalists toward a very different end for “Adore,” a tender homage to R&B balladry and the tradition of soul vocal group performance. “Adore,” the last track on the *Sign O’ The Times* album, was inspired by two recently released R&B albums: Patti LaBelle’s *Winner in You* (MCA, 1986) and Luther Vandross’s *Give Me the Reason* (Epic, 1986). Unlike the largely solo performances of LaBelle and Vandross, however, “Adore” features prominent backing vocals (performed by Prince) that interact playfully with his lead vocal. In the tradition of R&B vocal groups (such as the O’Jays and the Stylistics), Prince creates a call and response relationship between his lead and backing vocalists throughout the recording.

“Adore” was recorded by Rogers at Sunset Sound on November 19, 1986. In contrast to the largely electronic timbres of Prince recordings during this period, the track features layers of analog and digital instrumentation, with Prince on LM-1 drum machine, bass, Hammond B3 organ, Wurlitzer electric piano, synthesizer, and vocals, as well as Eric Leeds on saxophone and Atlanta Bliss on trumpet. According to Rogers, the saxophone and trumpet parts were most likely recorded after the vocals, as “vocals were recorded about halfway through the arrangement process” on ballads while “horns and additional sweetening were selected to compliment the vocals” (Rogers 2016). Given the practice described by Rogers, Prince programmed and recorded his drum machine part, and then recorded his bass, Wurlitzer, and Hammond B3 parts, at which point she would have set up the vocal microphone and left the room. Chorus vocals were often recorded and mixed first, allowing Prince to feed off their energy while recording the lead vocal,
while Leeds and Bliss were clearly reacting to the vocals on their sax and trumpet adlibs.

On the album, “Adore” is introduced with a segue from the live performance of “Its Gonna Be a Beautiful Night” (the album’s only live track and the only track to feature the recently disbanded Revolution), such that the crowd noise carries over into the song’s intro. While this crowd noise was added later during album sequencing, it creates the mood of an exuberant live performance of a R&B group. Prince creates a referential nod to the tradition of live R&B performance, and the conventions of soul vocal groups (notably, in 1996 he would record covers of Stylistics and Delfonics songs).

The opening chorus of “Adore” (beginning at 0:32) features lead and chorus vocals harmonizing, evoking the sound of R&B group performance. Prince by this point had ten years experience at recording layered vocal harmonies, and clearly chose to vary the timbres of the different voices for “Adore,” creating the sound of a performing group. The first responsorial phrase occurs at 0:53, when the lead vocal passionately answers the group vocalists’ line “your beauty I’d still see.” This type of call and response is indicative of the dialogic relationship between parts that builds throughout the recording, and is particularly evident in the second verse and bridge, which starts at 2:17 (see Example 3.6).
Example 3.6 Prince, “Adore” second verse and bridge vocals (begins at 2:17). Transcribed by author from the *Sign O’ The Times* album (Warner, 1987).
Example 3.6 cont. Prince, “Adore” second verse and bridge vocals.
Example 3.6 cont. Prince, “Adore” second verse and bridge vocals.
Example 3.6 cont. Prince, “Adore” second verse and bridge vocals.

Prince employs a variety of vocal arrangement techniques in this section, including imitation, harmonized emphasis of specific phrases, and anticipating and reacting responses to the lyrics of the lead vocal. In measure thirty-nine, the “sound” of the angels’ tears is evoked by the backing vocals (a descending 4th vocalized as “Ohh-
ahh”) in anticipation of the lyric. In measure forty-three, a solo voice from the backup vocals emphatically states “I ain’t cheatin’ on you, baby,” again anticipating the lead vocal. Prince’s sense of humor is exhibited in an exchange beginning in measure fifty-seven. The dutiful backing vocals, having supported the previous lyric “you can burn up my clothes,” begin to echo the following line “[you can] smash up my ride,” but stop after “smash up” when the lead vocal comically interrupts, interjecting “well, maybe not the ride!” This comic exchange is further exhibited in measures fifty to fifty-one. After the group vocals emphatically repeat the line “I’m a man of exquisite tastes,” when the lead vocal describes his fineries (“hundred-percent Italian silk, imported Egyptian lace”) Prince’s “backup vocalists” intimate that they are impressed, responding with “Ohh!”

These exchanges between vocal parts evoke a group dynamic in action, and a humorous take on the interplay between R&B group vocalists. As is the case with the comic interplay of voices in Wonder’s “Love Having You Around,” Prince is creating vocal characters in “Adore” that appear to be aware of each other in the performance, reacting to each other’s phrases, and even interrupting one lyric mid-phrase. He may have planned portions of these interactions, but it is likely that others came about while he was tracking his vocals in solitude in the control room at Sunset Sound studios, punching in phrases on different tracks to compliment others. With “Adore,” Prince consciously references the tradition of R&B vocal groups. It is a love song, but also metageneric: a solo-produced R&B performance that is about, and self-consciously indexes, the tradition of group R&B performance.

**Conclusion**

Prince’s 1980s music is populated by performative characters: competing
instrumentalists, crooning group vocalists, alter egos, pseudonyms, and ghost bands. As Prince performed many of these characters, he created interpretive frameworks evoking bands, scenes, and caricatures that played on tropes in African American cultural production. Prince created imaginary collectives, and also reconsidered the collective at the mixing board, removing bass lines and other parts that would have traditionally been fixtures of R&B band performance. In most cases where he employed collaborators, their involvement was limited. However, as illustrated in the case of “Kiss” (and other cases during this period) Prince also apparently assumed credit for the work of others, presumably to retain copyright and control of his music, and the critical veneer of being a largely solo enterprise.

Prince changed style and process considerably after the 1980s. By 1991 he was recording with a new band (the New Power Generation) that produced several albums using a somewhat collective performance process in the studio. During this period, he sought to distance himself from his 1980s production aesthetics that had since become so popular, and stated in a 1991 interview: “Everyone else went out and got drum machines and computers, so I threw mine away” (quoted in Poulson-Bryant 1991, 40). Although he would return several times in his later career both to one-man band recording and technological MIDI-based producing, he rarely returned to the type of identity play shown in the Camille recordings or in “Bob George.” The voice manipulation techniques and gender identity play he employed on these recordings would prove an inspiration to a range of early 21st century artist-producers, however, as evident in Beyoncé’s “I Been On,” (Columbia, 2013) and Erykah Badu’s “Dial’Afreaq” (Motown, 2015).

Perhaps more than any other artist, Prince professionalized the studio one-man
band in popular music. By creating a “cottage industry” for self-produced song production that retained the vibrancy of the R&B collective, as well as downsizing input from engineers and technicians, Prince struggled to come as close to a solo performance as possible. That he would go on to fight for complete control of his catalog from Warner Music in later years is a clear extension of his fight for autonomy and creative control. Prince continued to record as well as perform at Paisley Park (a facility he owned) until his sudden passing in 2016. Following a 2014 contract renegotiation with Warner, he retained rights to nearly all of his master recordings, centralizing control over his career in a way most recording artists could not conceive of.

The control over his career extends from his intensive control in his own recording process. That Prince regarded Camille and the “players” from his one-man band recordings to be his competition certainly resulted in vibrant, innovative music, but their actual ability to compete is limited to the level to which he’ll allow. Camille, as a recording artist (which is what Prince envisioned) cannot ask for more money (in fact, doesn’t have to be paid at all), or argue on a creative or personal point, but only extend Prince’s empire. Members of what Melvoin called “ghost bands,” such as Morris Day and Vanity, and other contributors like Melvoin and Coleman (who have felt slighted by Prince financially), however, are persons who can disagree, challenge, strike, and otherwise act as individuals. Prince wanted control from the record label system, yet his relationships with employees (at least in the 1980s) often mirrored the top-down structure of record label control. Labor negotiations and authorship disputes have a long history in popular music, and both occurred between James Brown and the JBs, and George Clinton and the members of Parliament/Funkadelic. Prince’s talent for solo recording, however,
complicates labor negotiations. Whereas James Brown could have a labor dispute, and fire a band, only to hire another (as Brown did in 1971), Prince can fire a band and record an album largely by himself (as he did in 1986). Prince’s “players” can compete and evoke the sound of a collective of individuals, but whoever wins this competition, it is Prince who wins.

Prince is too often compared to Michael Jackson; the two were seen as being in intense competition throughout the 1980s and beyond. Ultimately, there is little similarity in their art, with the exception of their profound influence on popular music, and what Nelson George has called “retronuevo soul”: their ability to synthesize various styles of African American music (George 1988, 194). Most aspects of their creative processes are extraordinarily different. Whereas Prince churned out recordings often within one day, Jackson labored toward the perfect statement, often spending days and even weeks honing a single recording. Prince’s one-man band is also based on a more efficient approach, in that Prince didn’t require additional musicians to complete his songs. These two factors led to a significant difference in their output of material. Commenting on what they did share, their difference from other artists, engineer Ross Pallone recalls:

[Prince is] the most different person I’ve ever worked with – except for Michael Jackson. I’d put him in the category of Michael Jackson, who I worked with quite a bit, with his vocals and his ears, and knowing what he wanted in his head. With Michael Jackson, being that he didn’t play instruments, he would have to communicate that to other people, Prince didn’t. Michael would say exactly what he wanted, sing the guitar riffs to the guitar player, until the guy would play what he sang. That’s the way Michael worked, of course Prince did it himself . . . (quoted in Brown 2010, 136-7).

While their approaches differed considerably, however, both Jackson and Prince utilized the recording studio in different ways to re-conceptualize R&B collective
performance through multitrack recording. Prince’s one-man band process extends from Wonder’s earlier techniques (and from his abilities as a multi-instrumentalist). In contrast, Jackson would expand the practices of R&B bandleaders like Brown and Clinton, who vocalized riffs and rhythms to musicians, by developing demos that conceptualized what and how each contributing performer would play. Like Prince, Jackson was conceiving of songs in terms of their recordings, conceptualizing aural scenes, and using multitrack recording to reimagine the collective.
Chapter 4: “Sounds Human Ears Have Never Heard”: Michael Jackson’s Vocal Composition and the Beatbox Collective

I go to a tape recorder and I put the sounds down. Orally, with my mouth, making sounds of how I want the bass or the strings or the drums or each part to go. The way I hear it, because the key is to get exactly what you’re hearing in you’re head on that tape . . . to dictate into a microphone what you’re hearing in your head — it’s very difficult sometimes because you can’t — you only have one voice but you’re hearing full chords, so it’s a very difficult thing to do but you just do your best (Jackson 1993).

Michael Jackson describes his songwriting process in 1993

In the late 1970s and early 1980s, Michael Jackson (b 1958-d 2009) developed a style of vocal composition that involved recording demos of himself performing individual parts orally. His style of songwriting was groove-based; the melody and harmony were developed in tandem with the rhythmic groove, rather than the groove being conceived as a subsidiary arrangement for the melody and harmony. Although Jackson was not known to use this term, his vocalizations are best described as beatboxing: the composite percussive vocalization of drum and instrumental grooves.

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42 Historically, the composed song (vocal melody, chord progression, lyrics) has been viewed as the composition, whereas rhythmic and instrumental arrangements and have been perceived as playing an ancillary role. For an example of a popular song that is composed by a group as lyrics, melody and harmony, separately from the rhythmic arrangement, and with a rhythmic arrangement developed after the fact in the recording studio, see Jean-Luc Godard’s Sympathy for the Devil (Cupid Productions, 1969). The film documents the recording of the Rolling Stones’ song of the same name, and the various arrangements that led to its final version (Decca, 1968).

43 Mellonee Burnhim and Portia Maultsby place the tradition of the “human beat box” as developing with hip hop: “Rap MCs must be credited with creating the tradition of the human beat box, a form of vocal percussion and singing that turned the voice into a new kind of instrument” (Burnhim and Maultsby 2015, 29). The “human beat box” is named after the “box” or “boom box” (slang for a portable radio with built-in loudspeakers, usually equipped with a cassette player), foregrounding the importance of the amplified recording as the thing being imitated vocally in the development of the tradition. While the term “beatbox” is often mistakenly defined as vocal imitation of percussion, any number of instruments (known or
Jackson spent his early professional years (ages seven to ten) performing in Midwest R&B clubs with his family’s band the Jackson 5 before he began his recording career. Throughout his early career with the Jackson 5 (later billed as the Jacksons), the musician and performer became well versed in R&B performing techniques, exemplified in film footage of his 1970 audition performance for Motown Records of James Brown’s “I Feel Good.” As Jackson began composing songs and transitioned into a solo artist in the late 1970s and early 1980s, he developed a songwriting technique at the family’s Hayvenhurst home studio in Encino, California that involved recording a cappella demos of beatboxed rhythm tracks, bass lines, and vocal melodies. Rather than playing all of the instruments to realize his song concepts, as Prince and Stevie Wonder had on many recordings, Jackson beatboxed aural templates for musical parts that would then be realized by studio musicians for some of his biggest hits, including “Beat It” and “Billie Jean” (1982).

Although James Brown and George Clinton also composed grooves and riffs that they vocalized to band members, the musical realization of those ideas was extremely interactive and represented collective involvement of the group to realize the ideas as recorded songs. In contrast, many of Jackson’s demos exhibit his imagined idea of what each member of the backing group would perform; a holistic plan of the final song that

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imagined, harmonic and rhythmic) are included in beatbox performance. The tradition of vocalizing instrumental sounds is directly connected to the larger tradition of scat singing made popular by Ella Fitzgerald, Cab Calloway and others. See Robinson 2001. Some of Jackson’s vocal performances are best described as “scat” and his vocal techniques bridge from scat-like soloing – evident in such songs as Jackson’s single “Remember the Time” (Sony, 1991) at 3:31 – to those best described as “beatboxing,” including any time in which he creates a groove composite of bass, drums, and other melodic parts, such as his vocal performance of “Wanna Be Startin’ Somethin’” in the film This is It (Columbia Pictures, 2009) at approximately 5:54. Jackson was clearly influenced by hip-hop beatboxing over the course of his career. See “The Jackson 5 Motown audition 1968,” YouTube video. <https://www.youtube.com/watch?v=OB12STzGfMQ>, accessed 1 January 2017.
conceptualized the timbre, rhythm, and articulation of each instrumental and vocal part. Vocalist/songwriter Siedah Garrett, who worked with Jackson on several recordings, recalls him working with musicians in the studio:

He always had an idea of what he wanted every instrument to sound like, and that’s how he recorded. You came in the studio, and he told the guitar player [vocalizing the “Working Day and Night” riff with specific articulation] “da, do-do, do-do, do-do, daw-dat.” He would sing every part . . . and if you didn’t play it like he sang it, he would sing it ‘til you played it like he sang it (quoted in Lee 2016).

Jackson’s vocal imitations of instrumental performance were more than guidelines for musicians to follow. His beatboxing remains an essential element of the final mix on many songs, and often creates or augments grooves that reflect the polyrhythmic interaction of funk/R&B. In addition, he perceived each part as having a specific “character” that is represented within the fabric of the final recording, supporting the idea that he imagined a performing collective of personalities or moods in abstract (Phillinganes interview 2015).

That Jackson conceived of the songs in terms of their final recordings is critical. As is the case with Prince’s uptempo songs discussed in the previous chapter, this is representative of an ongoing shift initiated by Les Paul and producers like Leiber and Stoller in the 1950s, and which became increasingly prevalent in the recording-driven culture of disco in the 1970s, from a songwriting process to a record production process. What Albin Zak terms the “sonic artifact” – the electronic and acoustic timbres, sound field, rhythmic arrangement, and performance articulations – is composed in tandem with the melody and harmony (1997, 30-1). Jackson was far from the first to record home tape demos (as discussed in Chapter One, this practice dates back to Berry and others in the
1950s). He also builds on earlier techniques of producers and composers orally mimicking instrumental parts to musicians in the studio (with a long history in jazz practice, this was also a key element in Brian Wilson’s 1960s production process). However, the post-James Brown shift to groove-based composition, Jackson’s conceptual associations with the characterization of different parts, and the dynamic relationship between synthesizer timbres and beatboxed vocalizations set his compositional processes apart from previous and contemporaneous approaches.

Jackson’s view of the recording as the aesthetic core of the song and composition is evident in the filmed rehearsals for his 2009 *This Is It* tour (cancelled due to his untimely passing). When musical director Michael Bearden says Jackson needs to tell him how the synthesizer timbre should sound, Jackson replies: “I want it the way I wrote it. Whatever the record’s doing [is how it should sound]” (quoted in Ortega 2009). This chapter examines the ways that Jackson’s conceptual thinking, and the creative process of vocal composition and studio experimentation shaped the final sound recordings, specifically in relation to their grooves and soundfields. The concern herein is Jackson’s work as a composer, producer, and arranger – with minimal discussion of vocal harmonies, lyrics, visual performances of the songs, and other elements that are also worthy of considerable study.\(^{46}\)

Jackson was by no means the sole auteur of these recordings. The realization of

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\(^{46}\) Writing about Jackson’s recorded music independently of its lyrical content or its performance and visual media presents certain challenges. Jackson is perhaps the most globally recognized entertainer of all time, with a wide range of influences extending from postwar R&B praxis, the Vaudevillian tradition of the “song-and-dance man,” and the Hollywood musical. The visual presentation of Jackson’s music, his immense cultural impact (beyond his influential work in the recording studio), and the range of issues related to race, gender, and sexuality (while of critical importance to Jackson scholarship) are beyond the scope of this study. Significant contributions to Jackson scholarship on these and other issues has been provided by Susan Fast (2014), Margo Jefferson (2007), and Nelson George (2010), as well as in special editions of *Popular Music and Society* (35: 2, 2012) and the *Journal of Popular Music Studies* (23:1, 2011).
these compositional ideas represented on the album recordings (as well as many of the home demos) relied on a host of musicians, arrangers, engineers, and producers best understood as a group of studio recordists. This sizable network included producer Quincy Jones, engineer Bruce Swedien, second engineer Matt Forger, keyboardist Greg Phillinganes, and many others who contributed substantially to the final product. Andrew Flory offers a comparable examination of Marvin Gaye’s process, as the approximately fifty collaborators to Gaye’s album *What’s Going On* (Motown, 1970) complicate any discussion of Gaye’s sole creative influence: “To clarify, I do not seek in this discussion to discredit the collaborative efforts of this large group in this analysis of Gaye as vocal composer. . . . [Rather, considering that there were] 50-odd people helping to make *What’s Going On*, I want to determine exactly what Gaye added to the creative process” (Flory 2006, 205). Similarly, this chapter considers Jackson’s contribution to this group of recordists on songs he composed. Employing Flory’s concept of “vocal composition,” used to examine the work of Gaye (2006), I argue that Jackson’s sonic exploration and demo recording process represent a type of vocal composition that both transforms and reimagines the collective practices of R&B.

Jackson recognized the shift in studio recording away from collective, interactive performance toward a technologically mediated process. In 1979, he nostalgically described a time “when R&B first started in the south and blacks would get together in a shack and jam” and were “able to feel each other” (Jackson quoted in Vogel 2011, 38). Whereas he argued at that time that the collective vibe in which musicians record together is “missing today” as everything in modern pop music “is so commercial and
mechanical,” what Joseph Vogel calls Jackson’s emphasis on “communal energy” did not generally result in a band of musicians coming up with their own parts. Rather, the production collective (Jackson, Jones, Swedien et al.) created recordings by overdubbing studio musicians based on Jackson’s vocalized compositional designs that are then augmented by the “communal energy” of arrangers (adding brass and orchestration parts), and other recordists (ibid.).

Jackson’s sound experimentation and vocal composition are two interrelated aspects of his compositional technique. The shaping of synthesized sounds to match his vocal performance is indicative of his ongoing fixation with sonic experimentation. The years 1978 to 1982 represent a critical developmental stage in Jackson’s creative process. Jackson’s solo albums during this period – the first in which he had significant creative control over his music – exhibit the shift from disco-era music making to 1980s post-disco MTV video era pop, an era Jackson is partly responsible for ushering in. Although he had collaborated previously with his brothers to write songs on earlier albums, Jackson began writing songs as a solo artist for Off the Wall (Epic, 1979) in the late 1970s, and by the early 1980s was recording a capella demos for what would become Thriller (Epic, 1982).

The development of Jackson’s creative process in the studio during the recording of Off the Wall and Thriller is indebted to his increasing skills at vocal composition and sonic experimentation. Production history and analysis of the grooves of four of Jackson’s published solo compositions from this period – “Don’t Stop ‘Til You Get Enough,” “Workin’ Day and Night,” “Billie Jean,” and Beat It” – and the insight of former Jackson musical director Greg Phillinganes and engineer Bruce Swedien illustrate
how Jackson’s style of vocal composition played an important part in shaping the final studio recordings.

Vocal Composition and Sound Experimentation

In his examination of the music of Marvin Gaye, Flory describes Gaye’s songwriting technique as vocal composition, as he “assembled and developed a musical work by harnessing his vocal talents in the recording studio” (Flory 2006, 188). As Zak has shown, the production and composition of popular songs is shaped by the technology and immediacy of tape recording, impacting both the syntax and the sonic palate (2001, 46). Using the recorded voice as compositional template shapes the final recording in myriad ways. Flory states: “By composing directly to a recorded medium, Gaye was able to create spatial, textural, and timbral dimensions by superimposing multiple layers of his voice. Acknowledging the process of vocal composition allows the analyst to account for this coupling of event-based performance practice with a method of composition that reveals and incorporates specific performative details” (Flory 232). Jackson’s use of the voice in compositional practice becomes even more significant than Gaye’s in some respects, as it dictates both the articulation of instrumental performance and the filtering of synthesizer timbres.

In addition to notes and articulation, Jackson’s recordings of beatbox often included an imitation of the manipulation of synthesizer controls. Explaining to an interviewer the sounds heard on one of his vocal demo recordings, Jackson states: “I was

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48 It should be noted that Gaye’s vocal composition and Jackson’s were somewhat different, in that Gaye used tape and multitracking to work through and rework melodic and harmonic ideas, whereas Jackson used them to capture preconceived concepts of recordings.
imitating a Moog bass where you play the bass on a keyboard but you have this little — it’s like a stick where you go ‘woo-oow’ [imitates modulation of sound] like noises like that. ‘Wo-woow’ - like that” (Jackson 1993). Extending beyond the dictation of rhythms, pitch content, and dynamics, Jackson’s vocal demos indicate minute details including synthesizer modulation to performers, for which individual musicians in a collective R&B performance setting would have often had greater agency.49

The production of demo tapes at Jackson’s home studio was critical to how he developed his songwriting and production style. Some of the demos, both for commercially available songs and album out-takes, have been released as part of expanded editions of his albums, while others have filtered onto the internet via bootleg recordings. While Jackson himself recounts the process of composing songs and making these demos (Jackson 1993; 1994), and people who worked on these recordings – Swedien (interview 2015) and Phillinganes (interview 2015) – confirm that Jackson wrote songs this way, there are limits to the amount of information present on the demo recordings (such as who performs certain instruments), as well as the number of demos have been made available to the public. I have found no evidence to contradict the remembrances of Jackson, Phillinganes, and Swedien that Jackson dictated parts to contributing musicians in the studio. My aim is not to discount the contributions of others to the creative process, but to consider the impact of Jackson’s vocal templates and

49 Use of the Moog for basslines in funk and R&B was pioneered by Stevie Wonder and later widely popularized by Bernie Worrell of Parliament/Funkadelic. The use of the control knob to change the cutoff filter as performed by Worrell, creating the “Woooow” sound described by Jackson, is audible in Parliament’s “Flash Light” (Casablanca, 1978) particularly at 3:33. In Worrell’s recollection, Clinton had little input in his specific use of synthesizer sounds. When asked in a 2013 interview, “Did George Clinton push you to be more adventurous with sounds?,” Worrell responded: “No, no. Can't nobody push me to do anything. . . . I choose to do what I want at all times – what instruments I use and what I'm playing. It just happened that way. I said, 'Let's try this on this piece.' I put the approach on when I hear what we're doing” (quoted in Bosso 2013).
conceptual compositional approach to the final recordings.

Jackson frequently describes imagining completed songs and rushing to capture the ideas on tape. In a 2005 interview, he relates his frustration with listening to the playback of his own recordings in the studio because of the perceptive distance between the recorded song heard in playback and his preconceived idea:

When you hear the playback, you think of everything that should be there that’s not there. You’re hearing everything [that’s missing in the recording from the conception of the song]. You want to scream because you’re not hearing it! (quoted in Rivera, 2005)

The process of demoing and recording becomes a realization of an initial, imagined (and taped) idea, rather than working out the groove collaboratively. Matt Forger, who began engineering for Jackson in 1982 and worked extensively on Jackson-composed demos at Hayvenhurst states that Jackson remains “totally consistent” in his conception of a song throughout the process of tracking: “He’ll never say one day ‘take this part out’ and the next day [say] ‘where is that part?’” (Forger 2015). Forger’s recollection further supports the idea that Jackson’s song concepts were thoroughly developed before the process became collaborative in the recording studio. Though it is clear that some Jackson compositions were reworked from others (such as “Dangerous” [1991] and “Smooth Criminal” [1987]), most Jackson-composed recordings apparently reflect their initial sonic and rhythmic (as well as harmonic and melodic) conception (see Vogel 2011). As Jackson explained his songwriting process in 1994:

I’ll have a tape recorder and I’ll just sing the bass part into the tape recorder. . . . I take that bass lick and put the chords of the melody over the bass lick, and that’s what inspires the melody or the other sounds that I’m hearing in my head, but that is the bass lick. And I used the Moog and a bass guitar to create that sound that I’m hearing in my head (Jackson
This compositional practice goes hand in hand with sonic experimentation. Synthesizer sounds are sculpted to create specific instrumental timbres, as discussed in Chapter Two, a task often described in album credits as “programming.” An instrument that is vocally described by Jackson does not necessarily reflect an existing acoustic instrument’s timbre (such as that of piano or violin). Rather, the timbre of the synthesizer would be tailored using either additive or subtractive synthesis to imitate Jackson’s voice. In short: the voice starts out imitating the machine (vocally), but then the machine must be made to imitate the voice (through synthesizer programming), a dynamic relationship between subjectivity and technology, and between vocal performance and electronic experimentation. Synthesized timbres (and instrumental performances) are manipulated to match vocal conception of sounds.

In addition, Jackson incorporated a number of non-traditional instruments – including glass bottles and drum case percussion – with layers of his own vocal percussion and synthesizers toward creating new sonic soundscapes. As Jackson’s career continued, he worked extensively with sound designers and engineers to develop “new” timbres. Jackson told sound designer Chuck Wild in 1993: “I want you to manufacture sounds that the human ear has never heard. I want them to be fiery and aggressive, unusual and unique” (quoted in Swedien 2009, 63). Jackson’s description of sounds and performances as having specific characteristics, and even personalities, is indicative of what Greg Phillinganes terms his “cinematic approach to composing.”

*A Band of “Characters” and The “Cinematic Approach”*

Keyboardist Greg Phillinganes began working with the Jackson family in 1977
during the recording of The Jacksons’ *Destiny* album as an arranger and keyboardist. He would go on to perform on every Michael Jackson solo album starting with *Off The Wall*, and served as musical director for Jackson’s *Bad* and *Dangerous* tours (1988 and 1991-2 respectively). Engineer Bruce Swedien first worked with Jackson and producer Quincy Jones on *The Wiz* movie musical in 1977, and would go on to engineer, mix, and later co-produce recordings with Jackson until the end of the performer’s life.

In a 2015 telephone interview with the author, Phillinganes described how Jackson would show musicians the parts to play and how to play them, both in the studio and in tour rehearsals:

> He was always able to articulate the parts by singing them. He played a little bit of piano, not very much, but he was always able to articulate what he wanted, and exactly how he wanted it – phrase-wise, timing-wise – [he was] very clear on that. Because every part was like a character to him (Phillinganes 2015).

Jackson’s characterization of different instrumental parts supports the idea that an imagined collective of personalities was part of his compositional thinking. He can be seen describing an instrumental part’s performance in terms of mood and character in the 2009 film *Michael Jackson’s This is It*, in which he tells musical director and keyboardist Michael Bearden to play the synthesizer chords for “The Way You Make Me Feel” “like you’re dragging yourself out of bed” (quoted in Ortega 2009). Similarly, he describes hearing “guitars chopping like kalimbas, the African thumb pianos” for “Don’t Stop Til You Get Enough” (quoted in Vogel 2011, 44). Phillinganes describes how these individual details were not secondary to Jackson but rather “very deliberate, a key component of the overall sound” (ibid.).

A clear example of Jackson describing the characterization of fictional band
members can be seen in the Spike Lee documentary *Bad 25*, which features footage of Jackson (at approximately 1:04:56) showing a claymation animator how different animated backup singers should be made to move and look for a 1989 “California Raisins” commercial. Concerned that “their characters” had to be “much stronger” than what he had seen in an early version of the commercial, Jackson describes:

> The rap raisins materializing behind me [in the commercial]. I want to see [them] defined, their character. And as far as expression, which is 99 percent of it [Jackson’s emphasis]. The one guy has the glasses, and he has the type of attitude that, he’s so cool, that I’m fortunate that he’s here. [He’s] much too cool for [this], like one of these (crosses arms in a “b-boy” stance and poses with attitude). And the other one is like sarcasm, like, “what you looking at?” [He’s got] this style, no glasses, so his eyes, it’s mostly the expression, like (poses humorously with exaggerated expressions) (quoted in Lee 2012).

Jackson felt the impact of the animation would be much stronger if each of the supporting band members had an evident attitude and characterization. Phillinganes stresses that Jackson thought of entertainment “broadly” in this way – in terms of characters and characterizations – and considered carefully the impact of each element and how it should be evocative of a mood or vibe (in and of itself) within the larger whole, toward a “cinematic quality.” The rhythmic gestures and articulations of individual parts draw from a variety of inspirations, from classic film actors to animal movements, building on specific tropes in entertainment and nature, and are intended to result in emotional and visual connotations for the listener:

> He thought very broad that way. There was a cinematic quality to the composition and the production of his music. There was a lot of depth and scope based on the parts that, that these songs of his were comprised of. The reason why I say cinematic is that it conjures strong visuals when you hear a lot of them. And he was a big fan of all the greats, whether in movies, directing, acting, performers. He had great respect, and he studied these people. And he also studied the movements of animals, like gazelles and stuff, which he incorporated in his dance. All that was infused in his
writing style, his performing style, and his dancing style (Phillinganes interview 2015).

When I mentioned Phillinganes’s descriptor of a “cinematic approach” to Swedien in a 2015 interview, he felt that was a “great way to put it,” and that Jackson would “very definitely” describe sounds in those terms in the studio (interview 2015). Phillinganes states that this is true of “any song [he wrote], even later projects like ‘Who Is It’ from Dangerous, the personality of the bass line, and the phrasing of it [was] very, very definite and intentional to evoke that emotion that you end up hearing [on the record]. And the little percussion accents, all of those things were placed very definitively and that spoke to the cinematic approach” (interview 2015).53 The critical developmental stage of his compositional approach can be traced to the mid-1970s, culminating in the recording of Off The Wall (Epic, 1979).

Coming of Age and Off The Wall

Off The Wall, Jackson’s first mature solo album, represented an important transition for Jackson as a composer toward a greater level of agency and separation from his family band. But he was a music industry veteran and successful child entertainer for a nearly a decade before the record was released.

Jackson describes his early experience with R&B, both at home and performing:

My father and his brother had a group called the Falcons who were the local R&B band. . . . They would do some of the great, early rock ‘n’ roll and blues songs by Chuck Berry, Little Richard, Otis Redding, you name it. All those styles were amazing, and each had an influence on Joe and on us, although we were too young to know it at the time. They practiced in

53 Jackson can be seen beatboxing “Who Is It” a cappella on Oprah in 1993 (she asks him to “do that beat thing you do”) and articulating the bass with an emphasis that matched the bass performance of the song’s recording (Epic, 1991).
the living room of our house in Gary, so I was raised on R&B (Jackson 1988, 8).

[M]y brothers and I were paying dues on the so-called “chitlin’ circuit,” opening for other acts. . . . After studying James Brown from the wings, I knew every step, every spin and turn. . . . When I watched somebody I liked, I’d be there. James Brown, Jackie Wilson, Sam and Dave, the O’Jays (ibid., 47-8).

While his extensive study of performers (ranging from Brown and Wilson to Gene Kelly and Charlie Chaplin) is often remarked upon, Jackson also engaged in experiential study of record production techniques as well.

Berry Gordy recalls Jackson would sit behind him in the studio and watch him “for hours and hours” during mixing (quoted in Lee 2016), while Jackson remarked that watching Stevie Wonder work in the studio had a powerful impact on him (see Figure 4.1) (see Borsboom 2001).
In addition to the ten Jackson 5 albums that Motown released between 1969 and 1975, he contributed to three Jacksons albums (they lost the rights to use the name Jackson 5 upon leaving Motown Records) for Epic Records from 1976 to 1978, and four solo albums for Motown (from 1972 to 1975), as well as numerous singles, tours, and television programs.

While Jackson did not have creative control on his Motown records, both the perfectionism and acute attention to sonic details at Motown clearly had an impact on his later work. His brother Jermaine Jackson recalls that “at Motown, it wasn’t a done deal until it was a perfect record” (quoted in Taraborrelli 1991, 53). This is clear in the production history of the group’s first single, “I Want You Back” (Motown, 1969).

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After recording Michael’s vocal over two dozen times, Motown staff producer Deke Richards recalls that the producers “kept adding and subtracting [parts] at the end [at the mixing desk]. . . . At the last minute, I wanted a piano glissando at the top . . . to really kick the song off” (quoted in ibid., 53). Jackson’s synergistic thinking about songwriting, arrangement, and the perfect sonic signature of a track seems a natural outcome of this process.56

Jackson recalls that his first songwriting began at the age of eight or nine, and he had written about thirty or forty songs before any were recorded (Jackson 1993). His recollection of his early years highlights an association between songwriting and sonic exploration, rhythm composition, and dancing: “[I started out] singing around the house, dancing, making noises, you know, sounds. Making my own rhythms, making my own music. Singing, you know that type of thing” (ibid.). His first published composition, “Different Kind of Lady” from the Jacksons’ 1977 album Going Places (Epic, 1977) showed his interest in funky dance records and aggressive, syncopated guitar phrases, which keyboardist and frequent collaborator Greg Phillinganes argues played a significant role in his compositional style (2015).

Jackson co-wrote a number of songs with his brothers (particularly Randy) circa 1977 for the Jacksons’ album Destiny, including “Shake Your Body (Down To The Ground),” but the process of writing and arranging was considerably more collaborative than his later songwriting, according to Phillinganes, who served as arranger on the album. Destiny was the first album for which the Jacksons were given the opportunity to

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56 Jackson recalled in 1979 that he had never recorded vocals while the band performed live before a few sessions of Off the Wall, although he may not be counting his pre-Motown recordings cut for Steeltown Records in 1968. These recordings were collected in the album Jackson 5, Original Steeltown Recordings (Brunswick, 2009). See Vogel 2011, 38.
write their own material, and they took advantage of the recently built sixteen-track recording studio built in the pool house at their Hayvenhurst home (later redesigned to include twenty-four-track recording equipment) to develop new material. The studio at Hayvenhurst served as a critical developmental space for Jackson when he launched his solo career, and demo versions of practically all of his 1970s and 1980s published compositions (including “Beat It,” “Billie Jean,” “Smooth Criminal,” and “Bad”) were recorded there.

In July of 1977, Jackson’s participation in the Sidney Lumet film musical *The Wiz* (in which he played the role of Scarecrow) led to filming dates in New York City, an experience that would have a significant influence on Jackson as well as the creative direction for *Off The Wall*. While in New York, Jackson attended Studio 54 and other disco clubs at night after filming. Jackson was fascinated with the freedom and identity play afforded by the disco lifestyle, stating: “People came to [Studio 54] like characters . . . and it’s like going to a play, I think that’s the psychological reason for the disco craze: you get to be that dream you want to be. You just go crazy with the lights and the music and you’re in another world” (quoted in Vogel 2011, 33). Inspired by the disco sound, Jackson incorporated disco rhythms and Afro-Latin percussion ensembles into his two solo songwriting contributions to *Off The Wall*, “Don’t Stop ‘Til You Get Enough” and “Workin’ Day and Night,” building on the popularity of large percussion ensemble performance in groups like Earth Wind & Fire.

The complex rhythm arrangements on these tracks were a central feature of the

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57 Friend Rob Cohen describes: “[We] would go to clubs every night to dance” (Cohen quoted in Taraborrelli 1991, 208).
demos. Jackson was composing grooves as well as melody, harmony, and lyrics. The demos recorded at Hayvenhurst in 1978 feature percussion parts recorded by Michael, Janet, and Randy Jackson, while representing Michael’s preconceived percussion arrangement. The fact that Jackson’s compositions were groove-based, and the connection between his rhythmic arrangements, vocal percussion, and dancing all made sense to Phillinganes when he saw Jackson play drums in the late 1970s: “[A] little known fact is that [Jackson] could play drums. I actually saw him do it, when we were working on either Destiny or Triumph. . . . We were in the studio, and all of a sudden I heard this drumming, and I turned around and its him, and I’m like, ‘Oh, really!’ But then it all made sense because, well, his astounding dancing abilities, you know. And Sammy Davis Jr. was like that – he could dance, play drums . . .” (Phillinganes 2015). Exposure to percussion ensemble performance during the Jackson 5’s tour in Senegal, Africa in 1974 had a significant influence on Michael, and may have inspired his interest in creating complex multilayered rhythm sections as well. He recalls:

I always thought that blacks, as far as their artistry, were the most talented race on earth. But when I went to Africa, I was even more convinced. They’ve got the beats and the rhythm. . . . I really see where drums come from. I don’t want the blacks to ever forget that this is where we come from and where our music comes from. I want us to remember.

(Jackson quoted in Taraborrelli 1991, 125)

“Don’t Stop Til You Get Enough”

Jackson would build the distinctive Afro-Latin percussion ensemble for “Don’t Stop ’Til You Get Enough” with a cabasa, cowbell, and glass bottles.58 As Swedien describes, they

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58 Jackson’s use of the cabasa may have been inspired by Brazilian percussionist Paulinho de Costa, who had contributed percussion to the Jacksons’ Destiny album, and became a frequent contributor to Michael Jackson’s recordings, including the studio version of “Don’t Stop.”
were “playing Coca-cola bottles, soda bottles, beer bottles, anything for percussion” (Swedien interview 2015). The incorporation of glass bottle is indicative of Jackson’s growing interest in sonic experimentation. On the Hayvenhurst demo for “Don’t Stop,” Jackson is heard rehearsing the repeating syncopated rhythmic cell (see Example 4.1a) with siblings Randy and Janet.\textsuperscript{59}

\begin{example}
\centering
\includegraphics[width=\textwidth]{example41a.png}
\caption{Michael Jackson, “Don’t Stop Til You Get Enough” demo (recorded 1978), rhythmic cell rehearsal (begins at 0:27). Transcribed by author from \textit{Off The Wall (Special Edition)} (Epic, 2001).}
\end{example}

Jackson conceived of the vocal overdubs (all of which he performed on the demo) as “a kind of group” and wanted to create a vocal part to match the music he was “hearing in his head” (Jackson quoted in Vogel 2011, 44). He came up with the bass line and guitar part, and dictated them to musicians in the studio (Phillinganes 2015). Guitars became a central part of Jackson’s compositional palette; Phillinganes recalls that Jackson would sing the parts to guitarist David Williams, who performed on the album version of “Don’t Stop” and other songs on \textit{Off The Wall} (as well as the \textit{Thriller} and \textit{Bad}).

\textsuperscript{59} The cowbell performance in this rehearsal performance (audible at 0:27) of the two-bar cell is incorrect. The cowbell is clearly not played as intended to occur on beat one of the first bar, and the sixteenth note preceding beat three (that creates the hocket with the glass bottle) is not played. This is corrected when the cell returns in the demo with the groove, and is played with near-uniformity throughout, as well as on the album version.
Phillinganes describes, “he loved guitar parts, and David Williams was essential in articulating those parts because he could do it exactly the way Mike wanted it” (ibid.). The demo version of “Don’t Stop” features the “chopping” guitar, synthesizers, drums, and Moog bass (performers uncredited), with the family percussion ensemble (Michael, Janet, and Randy), following Jackson’s concept for the harmonic framework and rhythmic groove (see Example 4.1b).

**Example 4.1b** Michael Jackson, “Don’t Stop Til You Get Enough” demo, main groove (starting at 1:07). Transcribed by author from *Off The Wall (Special Edition)* (Epic, 2001).
Example 4.1b cont. Michael Jackson, “Don’t Stop Til You Get Enough” demo.

Jackson’s syncopated rhythm arrangement, including the guitar phrase and synthesizer bass rhythms (performed on a Minimoog keyboard), are clearly as important to his conception of the composition as the B Mixolydian harmonic framework and vocal melody; he had imagined the soundfield of the recorded track. While the vocal melody floats euphorically over the dense rhythmic layers of the track, it allows, as Jackson describes, the “arrangement [to] take over from the singing” foregrounding the musical ostinato that Jackson heard “in his head” (quoted in Vogel 2011, 44).

The demo was presented to Quincy Jones by Jackson, and the track was re-recorded at Westlake Studios by engineer Bruce Swedien. Many of the features of the demo version – including Jackson’s percussion arrangement played by cabasa, cowbell,
and glass bottle – were replicated on the final recording. Jackson, Swedien, and Jones all aspired to a level of sonic perfection, and sought to achieve this through creating a “sonic character” for each track. Swedien describes choosing a specialized Royer ribbon microphone as he “wanted the glass bottle percussion in this piece of music to have a unique sonic character, and a great deal of impact in the final mix” (quoted in Swedien 2009, 22). The presence of the glass bottle percussion on the album version lends a distinct aural signature to the recording. Adding to the unique sonic palate was the sound of Jackson dancing, which Swedien began recording on all of Jackson’s uptempo songs, and subtly mixing in with the percussion elements. In order to capture the sound of Jackson’s percussive footwork, Swedien had a plywood box built that Jackson stood on while he recorded vocals, and a microphone was placed near the box: “Michael’s dancing was a strong rhythmic element [in the tracks]. What I did was I would mic his feet. I used, probably, a dynamic mic to capture the sound of his dancing” (Swedien interview 2015).

Nelson George argues that Jackson’s “greatness in the recording studio begins with his arrangements of ‘Don’t Stop Til You Get Enough.’ The layers of percussion and the stacks of backing vocals, both artfully choreographed . . . still rock parties in the 21st century” (quoted in Vogel 2011, 44). The “chopping” guitar riff on the demo appears on the album version, and is augmented during the verse by a second track that matches the syncopation of the glass bottle. Both tracks were performed by David Williams on the album version. Jackson’s rhythm and percussion arrangement are complimented on the album version by Quincy Jones’s orchestral arrangement (and distinctive violin melody), with additional horn arrangements contributed by trumpeter Jerry Hey (see Example 4.2).
Example 4.2 cont. Michael Jackson, “Don’t Stop Til You Get Enough” album.

The layered percussion, string orchestration, brass and woodwinds, stacks of overdubbed falsetto vocals, and strong R&B rhythm section add up to create a euphoric aural experience with a specific sonic signature. In the Hayvenhurst studio, Jackson had honed a rhythm and groove arrangement for a track that could be competitive in the club scene he had witnessed in New York, but one that would also long outlast disco’s popularity.
“Workin’ Day and Night”

Like “Don’t Stop,” “Workin’ Day and Night” is built around the complex rhythmic groove of a percussion ensemble. In addition to the Latin percussion, Jackson adds vocal percussion to create a unique sonic signature. As Vogel notes, Jackson “begins the song with his own voice as percussion,” utilizing his “uncanny ability to mimic instruments” which he “often put to work in demos as well as the final recordings” (2011, 46). Swedien recalls of Jackson’s vocalizations: “It’s called mouth percussion. Michael was an absolute expert at it. He could make sounds just with his mouth that you would swear were instruments” (Swedien interview 2015). The syncopated layers of percussion for “Workin’” are denser than those in “Don’t Stop,” and two vocal percussion tracks are included on the album version. One of the vocal percussion parts is audible on the demo, which like “Don’t Stop” was recorded at the Hayvenhurst studio in 1978 and features percussion from Randy and Janet.

Anchored by a steady eighth-note cabasa pulse, the percussion ensemble for “Workin’” features alternating low and high pitched agogo parts in a syncopated hocket pattern, a glass bottle, and a timbale pattern every fourth bar (the only instrument that is not audible on the album version) (see Example 4.3).
The syncopated one-measure rhythmic cell repeats for eight measures, before a layer of Jackson’s vocal percussion imitating a cuica enters, voicing an urgent 3+3+2 rhythm. The percussion ensemble continues for eight measures, building intensity toward the entrance of the band and verse groove, a two-measure funk/R&B stomp based on an E minor Minimoog bass line. Where “Don’t Stop” emphasized disco euphoria, “Workin’” evokes a mood of urgency. As is the case with the percussion ensemble in “Don’t Stop,” Jackson creates a groove that percolates with hocketed, syncopated rhythmic patterns performed by an ensemble of unique timbres in distinct frequency ranges. Unlike “Don’t Stop,” however, the demo version of “Workin’” has an intro of considerable length (sixteen bars) that is comprised entirely of percussion (instrumental and vocal) with no harmonic instruments, bass line, or indication of key.

Jones and Jackson re-recorded “Workin’” for the album at Westlake Studios with Quincy Jones, engineer Swedien, keyboardist Phillinganes, guitarist Williams, Brazilian percussionist Da Costa, brass arranger Jerry Hey and his Seawind horns, and other seasoned studio players. The tempo of the final recording is increased from the Hayvenhurst demo’s approximate 126 beats per minute to the album’s tempo of 129. In the album version, the percussion ensemble (which on the album consists of Da Costa, Jackson, and Phil Upchurch) is augmented by two vocal percussion tracks by Jackson: the cuica-like pattern in 3+3+2 (panned center left) and kick and snare-like pattern (panned right) – which is not audible on the demo – that follows, and likely directs, the accents of Da Costa’s performance of the agogo (which is panned left) (See Example 4.4).
Example 4.4 Michael Jackson, “Workin’ Day and Night,” opening (begins at 0:00). Transcribed by author from *Off The Wall (Special Edition)* (Epic, 2001).
In addition to the faster tempo, the album version features a considerably shorter percussion intro (four bars) before the band enters with the harmony and bass groove. Jones likely felt the demo’s sixteen-bar percussion intro was too long, having voiced concern to Jackson about long instrumental lead-ins on “Billie Jean” (of which he joked that it was “so long you could shave to it”; Jones quoted in Vogel 2011, 86). The vocal percussion tracks continue when the band enters at measure eighteen, and are faded in and out until the first verse begins. The fabric of two percussive Jackson voices with their own discrete frequency and spatial position in the stereo spectrum, Da Costa’s strong performance of Jackson’s agogo rhythmic pattern, the stellar rhythm section, and Hey’s Seawind horns’ rapid-fire staccato arrangement are all carefully recorded by Swedien and have discrete frequency and spatial position in his final mix. Jackson clearly increased in skill as an arranger during the production of Off The Wall, as evidenced by his incorporation of vocal percussion and rhythmic arrangements. Around this time, he began to carry a portable tape recorder to preserve song ideas.

Thriller and the “B-Team” at Hayvenhurst Home Studio

The phenomenal success of Off The Wall – then the highest selling album by a black musician – was driven by the first single and #1 hit “Don’t Stop,” which likely fed Jackson’s confidence about the possibilities of his compositional demos (Vogel 2011, 31). When it came time to record the follow-up album, which would become Thriller (Epic, 1982), Jackson and Jones settled into a creative competition between Jones’s “A-Team” (his descriptor), who crafted material at Westlake Studios, and Jackson’s “B-Team,” who assembled demos of Jackson compositions at the Hayvenhurst studio.

Around the time of the release of Off The Wall on August 10, 1979, a series of
events would happen that would dramatically impact popular music, and shape the creative direction of Jackson’s follow-up album. The first was the Disco Demolition Rally on July 12, 1979, a radio promotion held by a Chicago rock DJ that involved destroying records with explosives, which represented the culmination of growing anti-disco sentiment (a sentiment which extended for some rock fans to include all black music styles) (see George 1988). The anti-disco vitriol spread throughout the music industry. Although this did not hinder the success of *Off The Wall*, it quickly became out of fashion in popular music to intimate any connection to disco music or culture.

The second event was the launching of the MTV network on August 10, 1981, the first 24-hour cable channel with an all-music video format, building on the success of 1970s shows like “Night Flight.” MTV sought to capture the attention of a (largely white) rock fanbase and, following the “disco sucks” perception of black dance music, played almost entirely white artists and songs that had a rock or new-wave sensibility (even if many performers favored by MTV, such as Hall & Oates, owed much of their style to R&B).

The third event was a sharp decline in sales in the recording industry that began at the turn of the decade. In addition to these events, Jackson was greatly frustrated by winning only Grammy awards in the “Best R&B” category for *Off The Wall*. He felt his album was unfairly marginalized and had deserved the “Best Album” award, especially considering the album’s overwhelming critical and commercial reception (see Vogel 2011). Because of this climate in which *Thriller* was created, Jackson sought to distance himself from traditional R&B and disco culture, create music that could compete in the MTV-driven marketplace, and record an album that would break previous sales records.
“Billie Jean”

First demoed in 1981, “Billie Jean” is a potent example of what Phillinganes calls Jackson’s “cinematic approach to composing,” the impact of which did not go unnoticed by critics (Phillinganes 2015). Mark Fisher describes it as a “drama,” a “sonic fictional space,” and “a multileveled sound structure” with “slinky, synthetic panther sheen” (Fisher quoted in Vogel 2011, 85). The narrative “drama” of “Billie Jean” centered on a woman’s paternity claim on Jackson. As “Don’t Stop” evokes disco euphoria, “Billie Jean” shows a darker mood, minimal sound, and greater level of introspection more common in 1980s dance pop (also evident in Prince’s “When Doves Cry”). “Billie Jean” was one of the first extant Jackson demos to incorporate the Linn LM-1 drum machine, although the album version would primarily feature acoustic drums. To Jackson and Jones, the song became central to the creative statement of Thriller during the album’s production (Vogel 2011).

Jackson may have been inspired by Hall and Oates’ single “I Can’t Go For That” (RCA, 1981) in writing “Billie Jean.” Hall has stated that Jackson “once said directly to me that he hoped I didn't mind that he copped that groove” (Escow 2006). Although Hall took this to mean that Jackson “stole” the bass line, the two bass lines are only somewhat similar. What Jackson may have “copped” from the Hall & Oates recording, however, are the sonic textures and timbres of the track, and how the groove develops, particularly in the introduction, which features a sparse solo drum machine (provided by a Roland Compurhythm), synthesizer bass line, and a long instrumental opening that helps lend

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61 The bassline for “Go For That” is clearly drawn from Jr. Walker and the All Stars’ “Shotgun” (Motown, 1965).
“Go For That” a mysterious quality similar to that which frames the intro of “Billie Jean.” Jackson may have heard “Go For That” and wanted to create a groove that evoked a similar mood (in terms of its timbres, arrangement, and sonic signature). To his recollection, he “wanted to write a song with a great bass line” and the song came to him while driving on a Ventura freeway in 1981 (Jackson quoted in Vogel 2011, 86). Jackson describes composing the groove and harmony for “Billie Jean”:

I was writing in my car and it started with the bass lick again, which goes (imitates bass line) and on top of that I hear the chords (imitates), then the melody (imitates), and the lyrics, the strings, the chords, everything comes at that moment like a gift is put right into your head, and that’s how I hear it . . .

And I loved it, so I ran, uh, I drove fast home, and I got on the microphone and put things down, then I went into the studio, got the musicians over and gave them all their parts, and that’s how . . . that was created. Same things with other songs that I create (Jackson 1994).

One of the musicians that Jackson called in to work on “Billie Jean” was keyboardist and synthesizer programmer Bill Wolfer, whose contribution to Thriller is not often recognized. Wolfer had previously played synthesizers on the Jacksons’ Triumph (1980) as well as on the group’s 1981 tour. Jackson began to call on Wolfer to work on demos for Thriller and other projects. Wolfer’s recollections of “Billie Jean” support the argument that Jackson was presenting ideas that were preconceived:

Billie Jean started out at Michael’s house in Encino. He had turned the guest house into a sixteen-track studio, and we made demos there of the three songs that I eventually recorded with Quincy for the album. Michael and I started by sitting down at a Rhodes piano, and Michael sang me the bass line. I started playing it, and then he sang the top notes of the three chords that ascend and descend over that ostinato bass. At that point, we spent maybe an hour or more trying out different harmonies for the rest of the chords.
There are a million ways you can harmonize those notes, and I tried them all before I landed on the one he was looking for. The amazing part about that is that, to me, several of the combinations I tried sounded very hip to me – they worked, but Michael never lost sight of what he had been hearing in his head. He didn’t play an instrument, but he was definitely a musician. He could work out entire arrangements in his head, and hang onto them, even when he was hearing something very close (Wolfer 2014).

Jackson had remembered a synthesizer patch from the Yamaha CS-80 that Wolfer had been working on during the tour, and asked him to recreate it:

The next step was recreating the sound Michael had heard me experimenting with sometime during the tour. I didn’t even remember it at first. There was a CS-80 there, and eventually I remembered a sound where I was trying to get something like French horns and strings simultaneously, but this other weird aspect, almost like human voices crept in. Once I had the sound programmed, we recorded the demo (ibid.).

To Wolfer’s understanding, his work on “Billie Jean” came as a result of a sound that he had programmed that had made an impression on Jackson earlier that year: “Anyone could have played the part, but the reason Michael called me was that he had heard me fooling around with that sound when we were on tour, and he remembered it, and made a note of it in his mind for use in ‘Billie Jean’” (ibid.). Jackson’s 1981 demo contains key elements of groove and instrumental timbres present in final version. Jackson sings along with the keyboard melody – the vocal and instrumental timbres merge (see Example 4.7a).
Example 4.7a Michael Jackson, “Billie Jean” intro (begins at 0:21). Transcribed by author from Thriller (Special Edition) (Epic, 1982).

In my conversation with Swedien, he confirmed that Jackson was singing along with the synthesizer melody with the track in the final recording as well, noting that “he loved to do unique sounds” (Swedien 2015). His voice is blended subtly with the Yamaha CS-80 chords, in such a way that the casual listener is unlikely to recognize it as a vocal performance. In addition to Jackson vocalizing along with the synthesizer melody, he also can be heard singing with a guitar overdub on the demo, which plays a prominent role in the final recording. This supports the idea that the guitarist was working from a vocal template of performance by Jackson who used specific vowel sounds to indicate performance timbre and articulation of the guitar parts (see Example 4.7b).
Example 4.7b Michael Jackson, “Billie Jean” (Home demo from 1981)”
guitar and vocal overdub (begins at 2:01). Transcribed by author from
Thriller (Special Edition) (Epic, 1982).

Virgil Moorefield observes the similarity of the final version to the Hayvenhurst demo,
noting: “it’s obvious that the demo has served not only to outline the song idea, but as a
template for the instrumentation of the final track. [Jackson] had composed the track in
his project studio, and the big studio is a place of instrumental fine-tuning” (Moorefield
2005, 87-8).

One of the most distinctive aspects of that fine-tuning is the recording of the
acoustic drumset, which was performed by Leon Ndugu Chancler. Chancler recalls the
process of playing along with Jackson’s Linn Drum template: “Michael always knew
how he wanted it to sound. . . . There was originally just a drum-machine track on it. I
came in to cut a live-drum track over [it]” (Chancler quoted in Vogel 2001). The Linn
drum track that Chancler played along with had a very different timbre than his drum
track. His performance is significantly more strident and aggressive, and his drums are
tuned higher than tones of the Linn drum. However, the drum machine track clearly
influenced both his playing style and the method used to record the track developed by
Swedien.

Chancler’s performance on the track is rigid and mechanical, imitating the even
strikes of the kick and snare drum performance of the Linn-LM1. The track’s rhythmic
swing are provided by an eighth-note cabasa performance (again by Da Costa) which
starts at the third measure, and Jackson’s strategically placed, syncopated vocal adlibs – events which occur against the mechanistic backbeat. Swedien’s recording of the live drum track was not intended to match the Linn drum machine’s timbre, but rather its clear separation of sounds. Part of the lure of drum machines for producers is their ability to offer discrete separation of drum sounds, which allows for a more open soundfield and greater control in the mix to make each transient sound discrete (often described in studio jargon as “tight”) and powerful.

Swedien set out to “record the drums” with as “tight and powerful” a drum sound as possible, toward producing a “unique musical canvas” (Swedien 2009, 36). He accomplished this by recording Chancler’s drum kit on a specialized plywood platform and having “a special kick drum cover made that covers the entire front of the kick drum” with a “zipper,” allowing the microphone to be zipped “tight” inside the drum (ibid.). This allowed for both the recording of the transient of the kick drum with greater level of isolation from the other drum kit sounds, and a reduction in the kick drum’s presence in the other tracks, thereby yielding a sound separation similar to the drum machine. Swedien recalls: “that’s what makes that incredible click [in the] low frequency” (Swedien interview 2015). While Swedien does not refer to the drum machine as his specific inspiration for the method of kick drum recording on “Billie Jean,” it is likely that the Linn’s sound separation (and its reflection of Jackson’s sonic vision for the song) influenced his decision. In addition, although the Linn drum is not distinguishable in the final mix, Swedien thinks that they “maybe had a little, tiny, what Quincy would call a ‘squirt’” of the Linn drum track mixed in to the album version (Swedien 2015). Similar to the blending of Jackson’s voice with the synthesizer melody, acoustic instrumentation
subtley merges with electronic timbres in the mix. The result of this process is one of the most recognized drum intros in popular music history, and a two-measure drum intro that was immediately identifiable as “Billie Jean,” due to what Swedien describes as its unique “sonic signature” (ibid.).

The bass recording for “Billie Jean” also reflects Jackson’s concern for timbral specificity and performance. Jackson can be heard describing the song’s composition process and beatboxing “Billie Jean” in a recording made in 1994, in which he places specific growling emphasis on the “one” and the “and two” pulses (see Jackson 1994). This emphasis did not appear on the demo version, which may have resulted from a technical consideration: the Minimoog keyboard bass used at Hayvenhurst was monotimbral and not touch-sensitive, so they could not record notes at different velocities or articulations as Jackson wanted. For the album recording, however, a Moog bass programmed with a buzzing timbre (from a sawtooth wave) plays the F# pulses on “one” and “two-and” along with Louis Johnson’s electric bass guitar performance of the bass line, and provides the emphasis that Jackson indicates in his beatbox performance.

Both the demo and final version of “Billie Jean” feature the sculpting of the synthesizer sound and the articulation of the instrumental performances related to the “personality” and “character” which Jackson describes in his recollections of composing the song. The album version features prominent contributions from the studio collective (particularly Wolfer’s synthesizer programming, Chancler’s drum performance, Jerry Hey’s string arrangement, and the “sonic signature” of Swedien’s recording and mix) but

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63 Another drum introduction that shares this distinction (though probably not as well-recognized as “Billie Jean”) is Led Zeppelin’s “When The Levee Breaks” (Atlantic, 1971), which also was recorded using an experimental process (see Hoskyns 2006).
the recording is distinctly shaped by Jackson’s initial concept and vocal composition of the groove elements. His consideration of all the parts of a song – and the specificities of the performing collective – is further exemplified by “Beat It.”

“Beat It”

“Beat It” has been the subject of considerable scholarship as an example of Jackson’s desire to court the “crossover” audience and rock radio airplay through incorporation of rock guitars and other stylistic features. While there is no doubt that Jones and Jackson were consciously motivated by these aims, such a description risks oversimplifying the composition and sonic palate of “Beat It” as a turn toward rock for an artist who had strictly been engaged in R&B style. Such a simplistic binary is untenable, as distorted rock guitar riffs played a prominent role in The Jackson 5’s second single “ABC” (Motown, 1970), recorded with the same intention of “crossing over” into the pop mainstream. In addition, the sonic palate of “Beat It” is aesthetically distinct, and not easily reduced to one genre.

The song came about after Jones told Jackson to write a rock song along the lines of the Knack’s “My Sharona” (1979), and Jackson returned with the demo for “Beat It” – a song that Jackson called “a rock song that he’d go out and buy” (Vogel 2011, 219). The most notable aspect of difference is the syncopation of “Beat It” in comparison to the obstinently on-beat “Sharona.” Beyond the fact that they are built around a heavy-guitar riff and energy associated with rock, the two songs have little in common. Jackson’s multitracked vocal demo clearly illustrates how the rhythmic groove, harmonic overdubs, melody, and harmony were preconceived before they were presented to Jones and the musicians. The demo was made primarily to showcase the chorus vocals, and does not
feature the distinctive chorus guitar riff of the final version.\textsuperscript{64} The published demo for “Beat It” features four tracks of Jackson’s overdubbed vocals that indicate performance parts for the vocal melody, drums, and the main verse riff which would be played by the bass and guitar, as well as two additional parts that are prominently featured in the final recording (see Example 4.8).

\textbf{Example 4.8} Michael Jackson, “Beat It (Michael Jackson’s original home demo recording)” excerpt. Transcribed by author from \textit{Thriller (Special Edition)} (Epic, 2001).

\textsuperscript{64} Since this is the only demo that has surfaced, it is unknown whether Jackson ever created a separate demo with the chorus guitar riff.
Example 4.8 cont. Michael Jackson, “Beat It” demo.
Example 4.8 cont. Michael Jackson, “Beat It” demo.

Jackson’s vocal melody for the verse, transcribed in Example 4.8 as Lead voice, is performed primarily with “da - do” syllables with the exception of the titular phrase “beat it!” (he clearly did not have the verse lyrics composed yet). In the harmony vocal tracks, Jackson creates a composite of the verse harmony riff and drum part, starting at measure two, with a double snare hit on “and-four” and “four” on each measure, and a strong emphasis on the snare on beat four. The staccato performance of the riff is edgy and aggressive, simulating the timbre of a distorted guitar as well as the character of the intended performance. In measure ten, two new phrases are voiced. In Harmony voice 1, Jackson voices a legato line that enters with a crescendo on G# (a fifth above the C#
bass) which descends in parallel fifths to F# above the bass note B in measure ten. The slow attack and smooth vocalization suggest a string pad. Beginning also in measure ten in Harmony voice 3, a countermelodic phrase begins in staccato vowels “dom” in a pattern that, like the minor pentatonic vocal melody, alternates between the flat-7th, root, and minor 3rd.

When “Beat It” was recorded for the album in 1982, Jackson worked with Jones on a backing track using the Linn drum, and sent tapes of the track to the band Toto, whose members recorded the rock band rhythm section – electric guitar with amplifier distortion and electric bass (Steve Luthaker), keyboards (Steve Porcaro) and drumset (Jeff Porcaro) – to sync with the drum machine track for the album version of “Beat It” at their studio.

Luthaker states of his experience working with Jackson in the studio that “he was very specific, he was very focused on the work. He knew what he wanted. And if he liked something, you could tell right away. If he was iffy about it, he would let you know. . . . There was always a ton of people around, so it was kind of daunting, really. But once we got into the work and people kind of disappeared, and it was just Quincy, Michael and myself, or whoever” (quoted in Harris 2009).

After Luthaker and his bandmates added their parts, the tapes were returned to Westlake Studios, where Swedien overdubbed additional tracks by session musicians (including Phillinganes and Wolfer on synthesizers and Eddie Van Halen’s now iconic guitar solo) before mixing. The album version is in the key of E-flat minor. The track was likely transposed a full-step from the demo’s C# minor key in order to give Jackson’s lead vocal greater urgency, in keeping with the high-pitched vocals common in
much of hard rock. Both of the voice-demoed parts indicated in Example 4.8 as Harmony voice 1 and 3 are replicated in varied forms in the album recording, and are audible in the second verse starting at measure nine (see Example 4.9).

Whereas the Linn drum machine track had served as a template to Chancler’s performance in “Billie Jean,” and was not prominent in the final mix, the drum machine track is featured in the album version of “Beat It,” and is even showcased unaccompanied for four measures before the entrance of the live drum track at the beginning of the song. Throughout Jackson adds to the intensity of the beat-four snare hit by striking a drum case, as Swedien recalls, “with drumsticks” (he is credited as “drum case beater” on the album) (Swedien interview 2015). This is in keeping with the strong emphasis on beat four (voiced as “cha!”) in the demo version (see Example 4.8, Harmony voice 1 and 2).

In the second verse of the album version, the rhythm section largely performs as shown in Jackson’s groove template, with the exception of the “three-and” kick drum,
which occurs on every measure in the Jackson’s beatbox vocal representation in the demo version (see Example 4.8), but only on every other measure in the album version, occurring in every even measure of the sixteen bar verse. Both the additional parts that enter halfway through the demo verse appear in the album version in varied form (see Example 4.10).
Example 4.10  Michael Jackson, “Beat It” demo and album version comparison of harmony and countermelody parts; begins at 0:32 (demo), 1:40 (album). Demo parts transposed to album key of E-flat minor. Transcribed by author from Thriller (Special Edition) (Epic, 2001).
Example 4.10 shows a comparison of two parts from the *a capella* demo recording (Harmony voice 1 and Harmony voice 3) with the corresponding overdubs from the album recording. The demo parts are transposed to the album’s key of E-flat minor. The legato line that is voiced in the demo’s Harmony voice 1 appears as a string pad (see String Pad instrument, measure nine), voicing B-flat, a fifth above the E-flat bass. Rather than moving with the bass to A-flat on the downbeat, as occurs in the demo (shown in Example 4.10 as Demo Harmony voice 1), the album version string pad remains in suspension a 6th above the bass until the fourth beat, descending to A-flat for a beat and then moving back to B-flat on the downbeat. Although the album version of the phrase varies from the demo, this string pad part was clearly present in Jackson’s vocal demo template.

Similarly, the staccato countermelody voiced in the demo (transcribed as Demo Harmony voice 3 in Example 4.10) appears in the album version in varied form, played by an overdriven electric guitar (likely by Steve Luthaker) with the performer’s palm muting the strings, in keeping with the short, clipped bursts of Jackson’s vocal demo countermelody (see Example 4.10, Album version guitar countermelody). While the basic shape of the phrase is the same as the demo, the album version countermelody alternates between the root, flat-7th and major 2nd (rather than the minor 3rd, as it in Jackson’s demo).

“Beat It” exemplifies the extent to which Jackson’s technique of vocal composition shaped the final recordings of his compositions. The album version legato and staccato countermelodic phrases (Example 4.9, String Pad and Electric Guitar – Countermelody, respectively), the timbre of the vocalized parts, and the rhythm and
articulation of the drums and verse riff, while varied somewhat from the demo, are provided in Jackson’s template – an imagined collective represented vocally through multitracking – which is then used as the basis for the band and studio collective as a model to realize the song concept, or what Jackson referred to as his “vision” for the song (Wolfer 2011).

Conclusion

Following the immense success of Thriller, which went on to become the highest selling album of all time, Jackson continued making vocal demos of compositions at his Hayvenhurst home studio, working primarily with engineer Matt Forger and Bill Bottrell. His style of incorporating vocal parts in the mix with electronic instruments, exemplified by tracks like “Tabloid Junkie” (1995), and basing songs on complex rhythm arrangements, as well as his interest in sonic exploration, continued until his death in 2009. Jackson called the studio at Hayvenhurst “the Laboratory,” and outfitted it with then newly available advanced synthesizers – the Fairlight CMI and Synclavier PSMT – allowing what Forger calls “another realm of creativity.” The Synclavier made it possible to combine “two synthesizer elements together to create a unique character” as well as “sampling and creating new sound characters and then creating a combination of sample sounds mixed with FM synthesis” (Forger quoted in Vogel 2011, 178). Jackson remained fascinated with sonic experimentation, as he “was always searching for something new. . . . That was what the Laboratory was about” (Forger quoted in ibid.).

Just as Stevie Wonder’s “one-man band” recordings would have been fundamentally different had he hired musicians, the syntax, instrumental timbres, and performance articulations of recordings that Michael Jackson composed (particularly
songs produced for and after *Thriller*) were distinctly shaped by his process of recording vocal demos. While he, Quincy Jones, and other producers employed studio collectives to realize and augment his ideas, the final recordings reflect the template and sounds vocalized on the home demos, in which Jackson dictated the sound of his imagined collective of “characters” in group performance through beatboxing.

In Jackson’s understanding of his own compositional practice, especially in later years, the composition and recorded track stems directly from the vocal performance. Speaking with Diane Sawyer in 1995 (a segment in which she poetically refers to Jackson as a “hard-wired, 48-track, digitally mastered human”), he beatboxes the rhythmic groove for the song “Tabloid Junkie,” and describes the process: “I’ll take that [vocal percussion], and use that as the main foundation for the track, and build all of the sounds around that.”65 Sad ly, most of Jackson’s home demos and vocal templates remain unavailable to the public. “Beat It” is the only commercially released *a cappella* demo (some fragments of other vocal demos have surfaced online).

While Jackson continued to be a global pop phenomenon after *Thriller*, both he and Prince faced increasing criticism in the late 1980s due to the perception that they were intentionally blurring their racial identity in order to court a wider mainstream audience (see George 1988). This criticism was heightened to the increasing impact of hip hop on the popular music zeitgeist, an unapologetically black (and often hyper-masculine) genre whose focus on street credibility threatened to make Jackson’s and

Prince’s whimsical styles irrelevant and out of touch by comparison. While Prince responded sardonically by recording “Bob George” and other *The Black Album* tracks in 1987, Jackson released “Bad,” a self-defense of his badness, that same year (the track was initially conceived as a battle duet with Prince). While Jackson and Prince had both drawn considerable influence from James Brown and larger R&B traditions, hip hop drew influence from R&B through direct incorporation of digital samples, leading to an aesthetic rift between traditional R&B musicians and sampling hip hop producers that would have a transformative impact on black music production.
Chapter 5: “We Don’t Like Musicians”: Public Enemy’s Bomb Squad and the Producer Collective

Echoing Malcolm Cecil’s description of Stevie Wonder’s energy and mood being captured on tape as a “moment [that] was frozen” in the recording (Cecil interview 2015), Public Enemy co-producer Eric Sadler considers the quality that makes a specific sample far greater than the sum of the notes performed:

What you get with a sample is a record of a particular moment . . . [when] all of the musicians in the band were just grooving and just hit everything absolutely perfectly. If you get a lot of those original musicians together, even they, a lot of the time, won’t be able to capture that sound exactly. It’s about the music, but even more, about capturing that particular musical moment in time (Sadler quoted in Green, 1998).

Sadler created sample-based productions as part of the Bomb Squad, the studio collective that from 1986 to 1990 generated the music for Public Enemy’s best-known recordings, and that thrived on recontextualizing sampled musical performances (“particular musical moment[s] in time”). Mirroring Cecil’s description of mixing “layers of moments” of Wonder’s performances on multitrack tape, Sadler and his co-producers created a musical style that juxtaposed layers of sampled parts, while benefiting from the collective energy of a band of hip hop producers; a collective process in which Sadler and his cohorts, in Jeff Chang’s apt description, “jam with the samples” (quoted in McLeod and DiCola 2011, 24).

This collectivity energy was an essential component of the creative ethos of Public Enemy’s producers, and was in opposition to solo producer techniques popularized by Stevie Wonder and Prince that were becoming increasingly common in the mid-to-late 1980s. As Michael Jackson romanticized a time of communal R&B performance before technologically mediated music production—“when blacks would get
in a shack and jam” (quoted in Vogel 2011, 38) – Bomb Squad and Public Enemy co-founder Hank Shocklee offers:

I think one of the reasons the record business is hurting today is because they’ve lost the interaction between people, because everyone has adopted the ‘Prince-Kashif-Teddy Riley-ism.’ The lone musician — he’s the band. There’s nothing wrong with that [but] you’re making people vibrate to your own frequency. When you listen to the Jimi Hendrix record or the Doors or your Sly and the Family Stone, Kool and the Gang or Earth Wind and Fire — you’re feeling the energy of them cats connecting (quoted in Stevenson, 2006).

In contrast to what Shocklee calls the “lone musician”/“Prince-Kashif-Teddy Riley”/ “he’s the band” direction of late 1980s and early 1990s black music culture, Public Enemy’s dense collages of sampled sound were the product of the collective (though hierarchically designated) labors of the producer team Bomb Squad: brothers Hank Shocklee (b Henry Boxley) and Keith Shocklee (b Keith Boxley), Eric Sadler, and Carl Ryder/Chuck D (b Carlton Ridehour), as well as guest performers. In addition to the rise of solo producer models in the late 1980s, developing hip hop production techniques were also often practiced by solo producer/deejays (see Rivers 2014). Within and against this climate, the production collective of the Bomb Squad sought to channel the collectivity of musicians working together in bands, even as Shocklee at the time polemically positioned the Bomb Squad as wanting to “destroy” traditional definitions of music. Shocklee (intentionally provocative, as his performing name suggests) declared in 1990:

We don't like musicians. We don't respect musicians. The reason why is because they look at people who do rap as people who don't have any knowledge. As a matter of fact, it's quite the opposite. We have a better sense of music, of what it can do (quoted in Dery 1990).

Yet the Bomb Squad relied considerably on the traditional musicianship of one of its
members, Eric Sadler, as much as the deejay perspective of the Shocklee brothers and Chuck D.

This chapter considers how the tension (and cross-influence) between R&B band culture and DJ cultures shaped the working process of the production collective and the musical style of Public Enemy. Through an examination of four recordings – “Rebel Without a Pause,” “Don’t Believe the Hype,” “Bring the Noise” (all recorded 1987), and “Welcome to the Terrordome” (recorded 1989) – I show how their production techniques reflect the transition from the “band era” of the 1970s to the “DJ era” of the 1980s (Stephney interview 2016).

Drawing on my interviews with Bomb Squad member Hank Shocklee, Public Enemy co-creator Bill Stephney, and recording engineer Chris Shaw, as well as transcriptions and analysis of Public Enemy recordings, I examine the process used to create the dense soundscapes of Public Enemy recordings, and consider their relationship with collective practices common in R&B. In many ways, these recordings represent the recontextualized use of group dynamism (the sampling of collectively-produced recordings) to create new recordings that evoke communal interaction, during a period when the development of sampling techniques in hip hop created a rupture in black music.

The Hip Hop / R&B Aesthetic Rift

At the climax of fiery debates over sampling and hip hop, Shocklee was arguing that hip hop producers had “a better sense of music” than the very musicians he was sampling. Shocklee was reacting to a wave of criticism from musicians related to hip hop. In “Dead on It,” a 1987 The Black Album recording that bitterly parodies rap, Prince
rapped that the “rapper’s problem usually stems from being tone deaf/pack the house, try to sing, there won’t be no one left” (Prince 1994). While the intentionally polemic Shocklee and many musicians critical of hip hop would later make amends regarding the validity of hip hop as a form of musical expression (notably, Prince invited Public Enemy’s Chuck D to perform on his 1999 album *Rave Un2 the Joy Fantastic*), digital sampling, a central paradigm of 1980s hip hop musical production, was vastly different from the traditional musicality of R&B.

This dramatic rift in modern African American musical culture was accentuated by the largely unlicensed sampling of R&B, funk, and jazz recordings used in the production of hip hop records. With a few notable exceptions, Sadler and Public Enemy’s Flavor Flav among them, most producers in hip hop were not musically trained in a traditional sense. Beyond the percussive performance on drum machines, most of the musicality of Public Enemy came from the manipulation of sampled sound through turntablism and triggering. The reuse of recorded, and usually collective, performances – what Mark Katz calls “performative quotations” (2004, 152) – provides the core grooves for Public Enemy’s raps.

And the feelings were mutual. If R&B musicians thought rap was untalented and “tone deaf” in the 1980s, Public Enemy’s Chuck D disparaged the synthesized direction of black music:

We didn’t know where R&B was in the mid-‘80s. We thought the worst thing that ever happened to it was the use of synthesizers, or rather when synthesizers started to use the musician. Stevie Wonder would pimp the hell out of a synthesizer, but synthesizers and drum machines started to use the producer. So you would have this corny ass [makes beat with mouth] that we wanted to rebel against. Our whole goal was, “We’re going to destroy the music business concept of music with music.” We wanted to eradicate every bit of smooth R&B that was made off the face
of the earth; also English pop. Most music made from 1979 to 1986, except for rap records and a few organic records, most music was terrible, just wack. Our goal was to wipe that shit off the face of the musical map, that was Public Enemy’s goal as sonic assassins (quoted in Mao 2008).

Given this seismic shift in aesthetics and practice, hip hop is often discussed by scholars in terms separately from R&B-based black popular music. However, the 1970s shift toward deejay culture and recording studio experimentation – conceptualizing music as recorded sound matter rather than melodies and harmonies, and viewing recordings as the aesthetic core of songs – provides an important continuity between these otherwise disjunct music making practices. As the recording studio became the locus for new forms of collective music making by individual producers and beat makers, Public Enemy’s dense, multilayered sound culture was developed by a team of producers, with Hank Shocklee serving as lead producer, akin to the role of a bandleader, and Sadler serving a role analogous to an arranger and musical director. Techniques were developed in tandem with recording engineers, as Hank Shocklee states:

And in order to write [music] like that, especially at that time, you really needed a team. Because there were so many areas that need to be attended to simultaneously. . . . The reason why Fear [of a Black Planet, 1990] sounds so coherent is because now we've worked with the same engineers for long enough that they understand the concept. So now Eric [Sadler] and Keith [Shocklee] and everyone else can bring in their talent (quoted in Tatlock 2015).

Both the sound aesthetic and creative process of the Bomb Squad is rooted in the collective practice of R&B performance, although traditional notions of musicianship (playing guitars, drums, and keyboards) are replaced by performance on drum machines, samplers, and deejay turntables. Keith Shocklee explains:

We wanted to take parts and pieces, like a bass line from one record, a guitar line from another record, and we was putting records together like that. We sampled, which was not considered music (quoted in Setaro
Although the Bomb Squad outwardly rejected traditional musicianship, their application of techniques (such as the use of complex arrangements, rhythmic dialogues, and conversational interplay) represents an extension and transformation of the collective practice of R&B musicians. Their use of sampled fragments juxtaposed to create new rhythmic and harmonic frameworks both mimics and reimagines R&B collectivity with a deejay’s sensibility.

_Spectrum City Studio and the Beginnings of Public Enemy_

As was the case with Stevie Wonder’s experience at Media Sound, Prince’s work at his Uptown home studios and Paisley Park, and Michael Jackson’s process of demoing songs at his Hayvenhurst home studio, the locale and autonomous creative space of Spectrum City Studio at 510 South Franklin street in Hempstead, Long Island provided an incubator and catalyst for the development of Public Enemy’s musical style. Most of the group of young entertainment industry hopefuls who would become the Bomb Squad and Public Enemy were childhood transplants from New York City boroughs to Roosevelt, Long Island. Hank and his younger brother Keith Boxley (who would later take the name Shocklee) had started a mobile deejay company in the Roosevelt Community Center in the mid-1970s called Spectrum (later Spectrum City), and had added an emcee for their parties named Carton Ridenhour, who rapped as MC Chuckie Dee, in 1979.

Carlton/Chuckie Dee was studying graphic design at Adelphi University in late 1981 when he met Bill Stephney, a communications major who was working at the college radio station, WBAU. When Stephney saw a fellow African American student
who had a jacket embroidered with the logo of his favorite local deejay crew Spectrum City, he was intrigued: “they had the best parties on Long Island during that era” (Stephney interview 2016). The son of a jazz drummer, Stephney had played a number of instruments in local R&B bands, and identifies a cultural shift from the 1970s “band era” to the “DJ era” of the 1980s:

Growing up during the ‘70s, in the era of the band, the soul band, of the R&B band, influenced by Earth Wind & Fire and the Commodores, P-Funk and so forth. So if you’re growing up in a middle class black community like Hempstead, or Roosevelt, or Freeport, there are tons of young people in bands prior to the DJ era and I was one of those young people.

I got my own guitar, so I started playing guitar. Then when a bass player was needed I was able to move over to the bass and start to work on keyboards too as well. I think we all wanted to be Prince at one point, and play everything. So, you tried to master all of them (ibid.).

As program director at the Adelphi college radio station, Stephney began to involve the Shocklee brothers and Chuckie Dee in station programming, first as guests on his Mr. Bill Show and then in their own Super Spectrum Mixx show.
Hank Shocklee and his brother Keith, who was deejaying as the “Wizard K-Jee” at the time, produced tracks for local rap artists at Spectrum to play on WBAU, using the combination of a Roland 8000 drum machine and a TB-303, which generated a synthesizer bassline. Hank Shocklee explains that production began out of necessity: “Back then, you’re talking in ’82, you can count the amount of rap records on your hand that were coming out. So thus there was a void there. I could bring the rappers in, and me and Keith can make beats, and record the rappers on the beats and play [the songs] on ‘BAU. . . . [It was just] so that we could play more rap records” (Shocklee interview
Hank, Keith, and Chuck became close with Bill Stephney who, as one of the sole Hempstead residents in the group, was within walking distance of the Spectrum City studio where Sadler was also renting space:

> Downstairs [from Spectrum City] was a schoolmate of mine, Eric Sadler, he was two years ahead of me at Hempstead High School. He also was a musician who played in bands in the Hempstead area. He partnered with a couple of guys to open up a rehearsal/mini-recording studio under Spectrum City. Spectrum City was more for deejays, for the hip hop heads. The studio that Eric ran under was more for the musician group (Stephney 2016).

A multi-instrumentalist who had recording studio experience, Sadler began helping Chuck and Hank work on music for Spectrum in 1984. Hank began asking Sadler for help in creating programmed drum machine tracks with a greater “human element” akin to the live band performance that he was familiar with on records he played as a DJ:

> When I was in the studios trying to put together beats and stuff, I used to always wonder why the beats never sounded and felt like the records. And I thought that that had to be something that I was doing wrong. That’s when I enlisted Eric, I said: “Eric, show me how to make my records or
my beats feel and sound more like the record itself, or the record that we are taking.” And lo and behold, we sat there for three years trying to figure that out (Shocklee 2005).

Despite being discouraged by musician friends who said “rap is not real music,” Sadler was not put off: “I didn’t care at all. I was like, ‘Hey y’all upstairs, I’m downstairs. Y’all don’t know how to work this stuff. I’ll come up there . . .’ because I had been in the studio with my boys forever” (quoted in Myrie 2008, 37-8). His “upstairs”/“downstairs” description is prescient of his later position in the production collective. Sadler would soon provide the rhythmic and groove foundation (via drum machine and sampler programming) that would be the core for their productions, while Hank, Keith, and Chuck would layer (often high-pitched) sounds on top through live triggering of samples and turntable scratches.

Sadler, who Keith Shocklee quips “wanted to be Prince,” shared with Prince a talent for providing drum machine programming with a level of musicality and for keeping his sequence patterns vibrant throughout songs (Setaro 2016). This came from experience working with jazz musicians in the 1980s transition from live drums to drum machines:

Before I did the PE stuff, I’d program jazz drums, with thirty or forty patterns in a whole jazz song. As a musician I had friends who went to Berklee [School of Music]. We’re playing Crusaders and Tower of Power. I’m coming from that aspect. The combination of myself along with Hank and Keith and Chuck was a good combination. . . . I was very technical. Keith and Hank especially brought to it what I would call a “musical ignorance.” All they knew is, “Look, get funky motherfucker.” It was the smartness and the ignorance that made the music really complicated and interesting (quoted in Myrie 2008, 61).

Before the group had access to digital samplers, they experimented with looping using a technique of “pause tapes,” in which a measured section of a recording is
recorded to cassette repeatedly, with the pause button depressed each time at the end of a measure.

![Figure 5.3](image_url) Chuckie Dee at WBAU in 1984. He is making a pause tape loop by timing the release of the pause button with the start of the desired recording to create loop. Photo by Harry Allen. Source: www.harryallen.info.

One of the first tracks to include an incorporation of another recording was a 1984 promo for WBAU, that began as a pause tape made by Chuck and Keith at Spectrum of a Fred Wesley and the JBs instrumental “Blow Your Head” (People, 1974). When Def Jam Records wanted to turn the WBAU “Blow Your Head” promo featuring Chuck and Flavor Flav into a single in 1986, an Emulator sampler was used in the studio to create the loop, and Sadler, along with Flavor Flav, added live drum machine performance over the loop, creating what would become the group’s first single “Public Enemy Number One” (Def Jam, 1986).

Based on Flavor’s adlib to Chuck, “you’re turning into a Public Enemy,” both the group name and the name of their first single was chosen, and Stephney, Hank, and
Chuck developed a concept for the group. In the spirit of the Clash, the Sex Pistols, and the similarly named Public Image, Ltd., Public Enemy would be rap’s answer to punk rebellion: “the Black Panthers of Rap” (Stephney quoted in Schecter 1990, 28). The group set about recording their first album, *Yo! Bum Rush The Show* for Def Jam records, with Stephney (by then a Def Jam employee) listed as producer. Much of the album was not sample-based production. Rather, it featured Sadler programming the drum machine, and musical contributions of bass and electric guitar parts from Stephney and Flavor Flav, following the early 1980s rap production techniques (bass, guitar, and synthesizers performing riffs over drum machines, with rhythmic scratching of sounds on the turntable) established by Sugarhill Records’ Sylvia Robinson, Run DMC producer Larry Smith, and others.

The group’s first single had hinted at the sound aesthetic that would define the group’s later direction, but the rest of their first album did not. The availability of digital samplers at consumer prices in 1986 also played a significant role. Bill Stephney recounts the process of the group finding their sound:

“Public Enemy Number One” really serves as the prelude to the noise sound design for Public Enemy. That annoying tone. So, we didn’t know that at the time that that was a signature yet. And in order to replicate the looping of “Blow your Head” tone without using turntables, we used a sampler. But for the rest of *Yo! Bum Rush the Show*, for the most part we made in a standard sort of way. And a pretty standard goal at that time would be to produce the music with drum machines, bass, guitars, and keyboards. It’s really after the relatively tepid reaction to *Yo! Bum Rush the Show* that Hank and Chuck really go back, and after listening to “I Know You Got Soul,” listening to what Eric B and Ra[kim] are doing, that they go back in to make “Rebel Without a Pause” (Stephney interview 2016).

“Rebel Without a Pause”

The first recording to feature the bombastic, multilayered production style that
Public Enemy and the Bomb Squad would be known for was “Rebel Without A Pause” (1987). In considering what had worked before, Stephney posits, Hank and Chuck developed a paradigm that played to their strengths:

And that extends more from the influence of what drew so many folks to that [“Public Enemy Number One”] promo with Chuck and “Blow Your Head.” This guy with this preacher-like voice and these great beats with this annoying tone to them. Much of *Bum Rush the Show* doesn’t really speak to that. We already had the formula, and we just deviated from it perhaps a little too much. [“Rebel”] becomes the birth of what we now know Public Enemy to be (ibid.).

The track began when Chuck and Hank met at the Spectrum studio in early April 1987 and began looking through records for samples. Chuck likely already had one sample in mind, as he had brought the J.B.’s album *Food for Thought* (People, 1972) “from the [house] . . . to the studio” that included “The Grunt” (quoted in Weingarten 2014).

“The Grunt” is a 1970 instrumental recording by James Brown’s then-new group the J.B’s. Credits for “The Grunt” list four writers, the highest number of composers listed on any track for the album: Brown, bassist William “Bootsy” Collins, trumpeter Daryl “Hasaan” Jamison, and drummer Clyde Stubblefield. This all but confirms that it was conceived collectively during a studio jam session under Brown’s supervision. The jam begins exuberantly with a four-second, two bar glissando on the tenor sax by Robert McCollough rising chromatically from A6 to E7 (with prominent, piercing harmonic overtones), backed by the band performing a syncopated groove at full tilt (Brown’s signature “1-2-3-4” vocal countoff of the band was likely edited from the recording).
Example 5.1 The J.B.’s, “The Grunt,” opening vamp and glissando transcription and audio waveform, audible at 0:00. Transcribed by author from *Food For Thought* (People, 1972).

Chuck recalls: “Hank and I got together and said, ‘We have to do some wild shit.’ We went to 510 S. Franklin and started fucking around with some records and came up with a combination track” (Chuck D and Jah 1997, 90). The “combination” was of the ostinato and opening glissando from “The Grunt,” and a segment from another Brown-produced recording: Clyde Stubblefield’s masterful drum breakdown from James Brown, “Funky Drummer.” Though the “Drummer” was also likely the result of a collective jam session of the JBs, it is credited to Brown as sole writer. It was recorded in 1969 and released on 7-inch single in 1970; a likely source for the record used for “Rebel Without a Pause” was the recently released Brown vinyl compilation *In The Jungle Groove*
(Polydor, 1986), which, in a display of awareness of DJ culture, featured a “Funky Drummer (Bonus Beat Reprise),” an extended loop of Stubblefield’s drum break (see Example 5.2), sampled at the beat-two snare drum hit.

Example 5.2 James Brown, “Funky Drummer (Bonus Beat Reprise)” drum break, audible at 0:00. Transcribed by author from In The Jungle Groove (1986).

Hank and Chuck stood at different DJ setups at Spectrum and scratched sections of vinyl records interactively, looking for the perfect combination of sounds and rhythms to sample. Finding a eureka moment in the juxtaposition of the “The Grunt” glissando and the “Funky Drummer” drum break, they created what Chuck describes as a “combination track.” “The Grunt” glissando was then sampled into the Ensoniq Mirage, the first sampler acquired at the Spectrum studio. Like all samplers that hip hop producers had access to during the early years, the Mirage sampler was mono, and a choice was made which of the outputs of the stereo records would be sampled. In the case of “The Grunt” sample, the left channel was chosen, such that the syncopated guitar is audible, while the piano is faint (the piano is prominent in the right channel).

The low-bit depth of the Mirage 8-bit sampler (identified mistakenly in this quote as 4-bit) also modulated the sound, as Shocklee describes:

And the thing that won the most with me was the 4-bit. Because taking the
sound and putting it in the Mirage and then playing it back, it did something to it. It didn’t sound like a record now. And that was the key for me, I don’t want that pristine sound. I wanted something that sounded a little more agitated, a little more condensed. Something that had a little bit more grit to it. To me, the Mirage was like the fucking god. Because, you’re talking about a 4-bit sampler that took things and made it sound like something else. You could take a saxophone sound and bring it down to 4-bits, it now sounds like a tea kettle. You’re like, “it sounds crazy, what it that?” But you don’t know what it is (Shocklee 2008).

Pursuant to Shocklee’s description, McCollough’s sax glissando is often referred to as a “tea kettle” (see Thompson 2012). The modulation of the sampled sound transforms it, estranging it from the norm and creating a unique instrumental timbre.

Hank and Chuck had an audience when it was sampled into the Mirage. Teenage rap hopefuls (who would later record as Leaders of the New School) were present, as Chuck recounts:

I was in the room when the [J.B.’s] "The Grunt" sample was being played on a keyboard and seeing Busta Rhymes and Dinco D — not only seeing them, but telling them to calm the fuck down because they happened to be in the other room, and I see them doing these fuckin' crazy-ass dances when shit was going off (Weingarten 2014).

This confirmed for Chuck the track’s potential: “I remember they started dancing real crazy. They were losing their minds. I thought to myself, ‘We have something here’” (Chuck D and Jah 1998, 90). Eric Sadler was called in to create a drum program for the track, and other samples were assembled as breaks and alternate sections.

When the “Funky Drummer” sample was looped, however, Hank Shocklee was concerned that the energy of live-triggered sample was somehow lost in the sequencing – the unpredictability of the way it had layered against the “Grunt” sample when they were hand-triggered at the Spectrum studio. He recalls how this was a prized aspect of their sound – “the timing” – that the growing direction toward MIDI grid-centered digital
Because that later technology comes into play when you start to talk about triggering. Now you’re inside a whole other vibration, because now you’re trying to figure out how to take rhythm and make counter-rhythm off of the rhythm. One of the things that people like about P.E. was the fact that it wasn’t on a grid. Today everybody got these DAWs [digital audio workstations], software systems that basically puts everything on a grid. Whether it’s a 1/16, 1/8, 1/4, some kind of grid. And that grid, you know one of the problems with music today is the fact that that grid makes everything sound very predictable. I know when something’s getting ready to happen, because I can feel it right before it really happens.

One of the coolest things about going to see a band is that they don’t have a grid. They don’t have a metronome except for the drummer, and the drummer doesn’t have a metronome. So he’s in an empty space, trying to create a grid, so he’s gonna always be pushing and pulling. And that pushing and pulling creates tempo drifts. Which is the coolest shit in music! It allows – it brings the human aspect to the table (Shocklee 2008).

So when it came time to record the “Funky Drummer” sample in the studio, the group called on Public Enemy member Flavor Flav, who Chuck recalls “played the ‘Funky Drummer’ part [live to tape on the Mirage keyboard] . . . it wasn't looped” (quoted in Weingarten 2014). The “Funky Drummer” sample, truncated to the snare drum (see Example 5.2) was triggered live on beats two and four. The slight variations in timing when Flavor triggers the “Funky Drummer” sample on each snare drum hit contributed to the recording’s energy and momentum (see Example 5.3).
Example 5.3 Public Enemy, “Rebel Without a Pause” basic instrumental verse loop sample arrangement, as audible at 0:11. Transcribed by author from *It Takes a Nation of Millions To Hold Us Back* (Def Jam/Columbia, 1988).

Example 5.3 shows the sample arrangement for the one-measure verse cell of “Rebel.” The “Grunt” sample is a one-bar loop, while “Funky Drummer” is triggered on beat two, and the same segment is triggered on beat four.

Sadler, who had programmed drum machine parts for jazz recordings (simulating the changes and fills of a live drummer), programmed a drum pattern on the SP-1200 drum machine to compliment the “Funky Drummer” loop, with changes and fills placed at specific points to accent Chuck D’s delivery. Sadler had a technique he had been employing with Chuck on the first Public Enemy album *Yo! Bum Rush the Show*, reprogramming and rerecording the drum machine parts to match the rapper’s lyrical cadence after the vocal was recorded: “we’d get him [to rap on a track], and then I could tell where the track should head. Now I can put the drum rolls where they’re supposed to go. I can take away stuff” (quoted in Myrie 2008, 59). Shocklee explains how Sadler’s multiple sequences infuse the drum programming for “Rebel” with energy:

That record has four different beats. One is the change beat, one is the original verse beat. The other is the short verse beat, and the fourth being
with the ride on the beat. And it has ten different turnarounds, all those little kicks, all that stuff is programmed. Each one does not repeat itself, so it gives you the illusion of the record is constantly getting better as opposed to it just staying linear (Shocklee 2005).

These program changes can be heard in the first verse of “Rebel,” audible at 0:11 (see Example 5.4).
Example 5.4 Public Enemy, “Rebel Without a Pause,” first verse
SP-1200 drum programming, audible at 0:11. Transcribed by author from
*It Takes a Nation of Millions To Hold Us Back* (Def Jam/Columbia, 1988).

The basic verse pattern is four measures long, with eight straight sixteenth notes
in the hi-hat (identified in Example 5.4 as Hihat pattern 1) in the beginning of first bar,
and an alternation of eighth- and sixteenth-note hi-hats (with an open hi-hat) in the
following three (identified as Hihat pattern 2). Two drum fills (identified as Drum fill 1 and Drum fill 2) are interjected within the verse, while after twelve bars, a two-bar “Change beat” is introduced (first audible at 0:40), along with a different funk sample that provides a momentary relief from the intensity of the “Grunt” sample. Then, in the studio, additional “microsamples” were added throughout the track on turntables (including a snippet from Jesse Jackson’s 1972 Wattstax speech at 0:00), and Public Enemy deejay Norman “Terminator X” Rogers executed a complex guitar solo-like scratch in the vocal break (at 1:21) (Sansano interview 2016).

As the recording begins (at 0:00) with a Wattstax sample of Jesse Jackson addressing a crowd, and ends with an excerpt from a 1987 Public Enemy concert in which Chuck D, Professor Griff, and Flavor Flav engage in call and response with the audience (starting at 4:17), “Rebel” is framed as a vibrant, participatory event (bookended with live performances), but the recording was entirely constructed in the recording studio using multitracking. The track was an instant success on local rap radio programs, and generated new interest in Public Enemy within the hip hop community.

“Don’t Believe the Hype”

Shortly after “Rebel Without a Pause” in 1987, the group returned to Spectrum to work on a recording for Less Than Zero, a feature film that Rick Rubin was compiling a soundtrack for on the group’s label, Def Jam. Bill Stephney was now a vice-president at Def Jam Records, and was no longer involved in the day-to-day operations of Public Enemy. So, with the Shocklee brothers and Chuck on turntables and samplers, and Sadler programming drum tracks on the SP-1200 drum machine, they settled into a compositional process for writing music as a collective that would produce their
acclaimed second album *It Takes a Nation of Millions to Hold Us Back* (Def Jam, 1988).

*Nation of Millions* engineer Chris Shaw describes how Sadler explained their beat making compositional process:

> From what Eric told me, as far as those first two or three records, they would program most of the stuff at their space, out on Long Island, and Hank, Eric, and Keith, would write – basically sit at their studio all day long and sample things and write grooves and just write beats. Not just specifically for Chuck, but just to write beats (Shaw interview 2016).

The four-person core group of producers’ (the Shocklee brothers, Chuck, and Sadler) jamming process was collective; however the business arrangement was hierarchical. Hank and Chuck were in charge, and the only two connected to the recording contract; Eric and Keith were uninformed about larger contractual or album plans. Shaw describes the dynamic as he witnessed it:

> Chuck and Hank shared the vision, and they were definitely steering the truck all the time. Most of the arguments that would probably pop up between Keith and Eric against maybe Hank and Chuck was, that Hank and Chuck knew the whole plan, where it would go from the album to performance to marketing, and all that stuff. And I’m not too sure how involved Eric and Keith were in that process (ibid.).

Expanding on their success at making the “combination track” for “Rebel,” the group used reference cassettes to record the chaotic jam sessions, which they could later review and mine for song sections. Hank recalls:

> We were just all individual members - but what we did do is we would get down as a band. Eric might be on the drum pads, Keith might be on another set of drum pads, Chuck might be on a turntable. . . . I might be on a keyboard sampler. And we’re all just jamming – just making fucking mess. We record all this stuff – we’re running tape and recording all this nonsense. Every now and then you’ll get a moment that may last for about five seconds that will be the most incredible five seconds. That little piece might end up being a part of a record (Shocklee quoted in Forrest 2014).

This “band”-like collaborative turntablism and drum machine jamming resulted in
“moments” (to use the term employed by Cecil and Sadler) of collective enthusiasm that emerged out of the chaotic sound-on-sound jams at the Spectrum studio. If the core of “Rebel Without a Pause” was the “combination track” of two sampled ideas (the “Funky Drummer” and “Blow Your Head” samples), more participants in the jam sessions led to more layers, resulting in the multilayered sound collages that would become the Bomb Squad’s signature. Shocklee states:

There’s gonna be a time when we have a nice little groove, where Keith is gonna be on some “eah-chik-eah” (imitates turntable scratch) and Chuck is gonna have some “grava-rava-rava” (imitating scratch) and I’m gonna be like “whoom-whoom” (imitating scratch) and so we’re all together, and there’s this one little moment that it all just meshes together in a nice vibration. That little moment we then snatched and sampled (Shocklee quoted in Public Enemy 2012).

This process led to the development of the instrumental track for “Don’t Believe the Hype” at the South Franklin Studio, the result of a successful pairing of turntable scratches from Chuck and Keith Shocklee with a MIDI triggered sub-bass tone from Sadler. Shocklee recounts the events:

We will listen to pure mess for hours. When we was doing “Don’t Believe the Hype,” Chuck was on the turntables scratching James Brown’s “Ants in the Pants.” Keith is on another table rocking a beat [from “Synthetic Substitution”] underneath it. Eric is there taking the [AKAI] S900, playing tone generator from it and pitching down an octave. We sort of sound there’s a tug of war that should be happening and that tug of war is what you get when you listen to “I Wanna Take You Higher.” At the crescendo all the instruments could be perceived as a mess, but it’s not a mess. All the harmonics melt together and create a whole new tone (quoted in Stevenson 2006).

The core instrumental section of “Don’t Believe the Hype” consists of five parts: a one-bar drum loop from Melvin Bliss’s “Synthetic Substitution” (Keith Shocklee’s part); two short guitar samples from Brown’s “Ants in my Pants” (Chuck’s offering); a one-measure drum loop from the Juice recording “Catch a Groove”; and a tenor sax squeal
and James Brown grunt from Brown’s “Escape-ism, Pt. 1” (see Example 5.5), as well as a SP-1200 drum program with a sub-bass from the S900 (Sadler’s contribution).
Example 5.5 Public Enemy, “Don’t Believe The Hype” basic instrumental verse loop sample arrangement and transcription, as audible at 0:10. Transcribed by author from *It Takes A Nation Of Millions To Hold Us Back* (Def Jam/Columbia, 1988). Contains sampled sections of Melvin Bliss, “Synthetic Substitution” (Sunburst, 1973); Juice “Catch a Groove” (Greedy, 1976); James Brown, “I Got Ants in my Pants” (Polydor, 1972); and James Brown, “Escape-ism, Pt. 1” (Polydor, 1971).

While the Bliss drum loop and “Ants in my Pants” guitar sample were sequenced by Sadler along with his SP-1200 drum programming for the studio recording, the “Escape-ism, Pt. 1” squeal was triggered live on each bar, a temporal variation that, along
with the turntable scratches, provide the song with the coveted organic timing of live performance. The “Ants” guitar samples and “Escape-ism” squeal form a new call-and-response relationship when juxtaposed in “Don’t Believe the Hype,” one that has no precedent in either Brown recording. Meanwhile, the layering of the two drumbeats creates what Hank refers to as the rhythmic “tug of war” between players (that he hears in Sly and the Family Stone’s “I Want to Take You Higher.” In addition, the kick drum patterns from the two loops create a hocket in beat two; “Catch a Groove” performance has kick drums on two-e and three, while “Substitution” has a kick drum on two-and-a and three-and.

While “Don’t Believe the Hype” would eventually become an important recording in the reception of Public Enemy, the group initially regarded it as a failure after taking it to Chung King studio and recording the vocal, and they temporarily shelved it. They set out to create a new record for the film’s soundtrack – one that would expand upon the layering of samples created during the “combination track” jam sessions at the Spectrum studio.

“Bring the Noise”

As Public Enemy conceptually patterned themselves after a punk group, Chuck and Hank constantly considered methods to use controversy and negative media reactions (and even reactions perceived as negative). When a 1987 Village Voice review of their first album Yo! Bum Rush the Show was titled “Noise Annoys” (Leland 1987), it didn’t matter to Chuck D that the review was positive; the title provided the opportunity for a polemic reaction. If critics thought Public Enemy (and hip hop in general) was “noise,” the group would create an anthem celebrating noise.
The single “Bring the Noise” (1987) was the next release from Public Enemy after “Rebel,” and served as an anthem for both the Bomb Squad’s “organized noise” (as Hank would soon refer to it) style of composition and Public Enemy (Shocklee interview 2008). Shocklee, along with Keith, Sadler, and Chuck, were experimenting with the possibilities offered by the “palates” of sampling, triggering and turntablism. In “Bring the Noise” they seemed to be trying to exploit within one song every possibility for sound manipulation, as well as interactivity between sounds, that was made available by the new samplers. Shocklee describes:

So now we could focus in sharper on, not only the frequencies, but the beats and the density of the stuff that we’re putting in. And we still got the turntable, the turntable is always there. The turntable is the mothership. So now we’ve got these new forms to manipulate the sound – that’s a key development because it’s like, “wow, you mean you could run something backwards? You mean, I can now filter out the high frequency and rock the bass?” ‘Cause now we’re using the [mixing] board itself as another instrument. So now, when we’re running the turntable through something, running it through the board, to through the speakers, now I have a variety of ways to listen to something. So now you got a couple of different palates to work with (ibid.).

“Bring the Noise” represents the fruition of this experimentation. It began as what Shocklee terms a “basic beat idea” of a drum machine pattern and sample of Marva Whitney’s “It’s My Thing (You Can’t Tell Me Who To Sock It To)” (1969) (ibid.). Two sections of Whitney’s song, which was produced by James Brown and performed instrumentally by the James Brown Orchestra, are used: the vamp and the bridge. The vamp section, as it is in the original, is a four-bar piece that creates tension with a repeating minor 6th stab figure in the horn section before the chorus, over which Whitney shouts her message of independence. Shocklee and Sadler use this section as an introductory four bars and break before entering into the main ostinato of the Whitney
bridge and drum machine pattern. The horns from the bridge section are used for the verse ostinato (see Example 5.6 and 5.7).
Example 5.6 Marva Whitney, “It’s My Thing (You Can’t Tell Me Who To Sock It To)” (Polydor, 1969) basic instrumental verse loop sample arrangement as audible at 1:42. Transcription by author with waveform chart by Patrick Rivers (2014) from *It Takes a Nation of Millions To Hold Us Back* (Def Jam/Columbia, 1988).

Example 5.7 Public Enemy, “Bring the Noise” verse ostinato sample arrangement of Whitney sample, as audible at 0:15. Transcription by author with waveform chart by Rivers (2014) from *It Takes a Nation of Millions To Hold Us Back* (Def Jam/Columbia, 1988).

In the Whitney original, the two-bar bridge phrase shown in Example 5.6 (which can be heard at 1:42 in the Whitney recording) resolves back to A minor, and provides some metric release with the staccato phrase ending on two legato quarter notes. This bridge pattern is “chopped” by Sadler (see Example 5.7), meaning the horn stabs were sampled individually and re-contextualized in a similar pattern on the SP-1200 drum machine, but the phrase does not resolve (Rivers 2014). In the “Bring the Noise” usage, however, the “chopped” phrase is only one bar long, and employs sixteenth-note horn
hits. Through the “combination track” process, the Whitney samples are juxtaposed with a second layer of sound – a four-bar guitar solo/feedback loop from the intro to Funkadelic’s 1975 “Get Off Your Ass and Jam.”

Example 5.8 Funkadelic, “Get Off Your Ass and Jam” introductory solo. Waveform chart and transcription by author from Let’s Take It To The Stage (Westbound, 1974).

The heavily modulated guitar solo/feedback introduction (performed for Funkadelic by an unknown guest guitarist; see Clinton 2014) is arrhythmic in the original context. Shocklee, sampling it into the Mirage, metered it in the “Bring the Noise” usage as a four-bar loop (see Example 5.9).
Example 5.9 Public Enemy, “Bring the Noise” instrumental verse ostinato sample arrangement and transcription, as audible at 0:15. Sample arrangement and drum machine matrix transcribed by Patrick Rivers (2014) from *It Takes A Nation Of Millions To Hold Us Back* (Def Jam/Columbia, 1988).

When triggered over the rearranged Whitney sample, the two pieces form a new ostinato that fits Olly Wilson’s description of heterogeneous sound culture of African American music, as the music “exist[s]… on different architectonic levels” that “fill up all the musical space” (Wilson 1999, 159). The Funkadelic sample, which is not an ostinato in its original context but an introductory solo that has little in common with the following song, becomes a melodic counter in “Bring the Noise” to the Whitney horn stab samples (the two functioning in a lead sample–rhythm sample relationship).

Both the slightly off-beat timing of the Whitney samples and the off-kilter (and markedly unusual for hip hop) drum machine pattern are the result of the group’s interest in imbuing programming with the “feel” of a live band, as well as Sadler’s appreciation
for the rhythmic turntable scratch performances of the Spectrum City deejays. Keith recalls:

Eric did “Bring the Noise,” his genius is bananas. Because he loved the way we played records when we deejayed, but he would take that and say, “ok, if I sample this, but ima make sure the timing, that it doesn’t feel like a loop, but it is a loop.” It is a loop, but it has movement in it, that it’s not feeling like a loop. That’s all feel (quoted in Setaro 2016).

Through truncating – setting the beginning and end points of a digital sample – Sadler experimented with certain sampled segments (in this case, the Whitney horn parts) landing milliseconds behind the beat, while others were truncated to land on-beat, creating a more natural performance akin to that of a live band (see Example 5.10).

Example 5.10 Truncating example.

sample truncated at transient (left), and before transient (right).

In Example 5.10, the same sample is truncated two different ways. The version on the left is truncated at the start point to the transient of the sample, and will sound on-beat as triggered, while the version on the right, sampled milliseconds before the transient, will sound “late,” or behind the beat. Keith goes on to explain how this process was used on multiple, layered samples during studio experimentation at Spectrum, and locates its musical inspiration:

We’ll be in there, we’re matching the kick up, we’re truncating the sample . . . and sometimes, we liked things not to be perfect. The imperfection was designed. . . . Because we wanted that kind of a feel. So the timing of
that was, we did a lot of truncating, we did a lot of stacking of sounds, and we did things to the point where it didn’t feel like a loop. Sometimes we’ll spend a long time doing just a two-bar drum track with loops and kicks and snares and hi-hats. And programming it to the point when – doing programs where it moves.

And that comes from understanding Motown records where you listen to a James Jamerson. He’s always moving on his bass line. You know, he don’t always stay in the loop. But in hip hop you got to have some of that, but at times, you have to have variation. That’s what other people didn’t do. It’s tedious, but Eric loved that (quoted in Setaro 2016).

Sadler’s skittish drum pattern has several changes, as Hank Shocklee reports: “there’s only so much time can I take something being programmed before that thing has to now change” (Shocklee 2008). The arrangements of multiple song sections and drum parts, though not unheard of in hip hop production, were significantly more complicated in the music of Public Enemy than in other contemporaneous productions.

For Keith, finding sampled sounds that worked as compatible song changes was an ongoing challenge:

Say we want to go to another D section. We’re not a band, ‘cause with a band they just say, “Go to the D section,” you just go. A band can just change on the fly. Trying to find another record that didn’t have nothing to do with [the other samples]? It becomes, “What do you hear to make that on-the-fly change?” (quoted in Myrie 2008, 104).

For “Bring the Noise,” the “change” sample came by way of an innovative technique: a section of James Brown’s song “Give It Up, Turn It Loose” (People, 1970) is looped in reverse in the choruses (first audible at 0:51) out of its original rhythmic context, providing a clear harmonic change from the verse while remaining cohesive tonally (see Example 5.11).
Example 5.11 Public Enemy, “Bring the Noise” instrumental verse  
ostinato, sample arrangement and transcription, as audible at 0:51.  
Transcribed by Patrick Rivers (2017) from *It Takes a Nation of Millions  
To Hold Us Back* (Def Jam/Columbia, 1988).

In addition to the sample changes, as in “Rebel Without a Pause,” Sadler’s drum  
machine program involves several changes and drum fills. One notable pattern is the  
opening four-bar vamp, a repeating measure of steady sixteenth notes in the kick drum  
(audible at 0:06), and appears before the first verse. This drum pattern would seem to be a  
direct reaction to similar patterns in the heavy metal drumming of groups like Slayer,  
which Public Enemy later sampled, and Anthrax, with whom they later collaborated on a  
remix of “Bring The Noise.”

The pattern, common with heavy metal drummers who perform with a double-  
kick pedal, creates an intertextual relationship between 1970s funk and 1980s metal
aesthetics. This sixteenth-note kick drum pattern reappears in a four-bar bridge after the first chorus (audible at 1:07). This was apparently a happy accident in the studio: a mistake in Sadler’s SP-1200 programming sequence that all approved (Charnas 2005, 120). In this bridge, the kick drum pattern accompanies the two-measure sample of Clyde Stubblefield’s drum break “Funky Drummer” and Chuck’s strident lyrical performance (his verse rewritten to rhythmically match Sadler’s accidental program change), further juxtaposing features of hip hop, funk, and heavy metal.

“Bring the Noise” features multiple innovative sampling and sequencing techniques. The most significant to the development of the Bomb Squad’s sound is the combination of samples in a lead sample–rhythm sample relationship, layered such that the recontextualized Whitney horn parts support the Funkadelic guitar harmonically. This is the first of its kind in hip hop, and a clear representation of the layered sound that would come to represent Bomb Squad and Public Enemy’s work. These innovations were the results of experimental “combination track” jam sessions at the Spectrum studio that had first been so successful for the group with “Rebel Without a Pause.” In later songs, the use of multiple harmonic and rhythmic loops would become common for Public Enemy, as exemplified by “Welcome to the Terrordome.”

“Welcome to the Terrordome”

By the commencement of recordings for the group’s next album Fear of a Black Planet, strains began in the relationships of the four core producers (it would be the last Public Enemy album produced by the four Bomb Squad members). Pre-production of the album tracks fell on Sadler and Keith Shocklee, with Chuck contributing ideas at the Spectrum studio to Eric and Keith’s tracks. Hank, who was concurrently starting record
label S.O.U.L. with Bill Stephney, was less involved in day-to-day music composition and production at Spectrum, and participated more in the overdubbing and sequencing at Greene St. Recording.

However, the multilayered “organized noise” compositional paradigm created during the Nation of Millions sessions at the Spectrum studio continued to be expanded upon; Fear of a Black Planet remains one of the densest sample-laden albums in hip hop history. In addition, after working with Greene St. Studios engineers Rod Hui, Nick Sansano, and Chris Shaw consistently, while recording the majority of Nation of Millions, the producers and the engineers had developed by Fear of a Black Planet a strong working relationship with the producers, allowing for more complicated recording and mixing techniques.

“Welcome to the Terrordome,” the album’s first single, was developed during a tempest of personal and professional chaos within the group. In 1989, virulent anti-Semitic statements from Public Enemy member Professor Griff in an interview led to a torrent of media controversy, threatening both Public Enemy’s contracts and Def Jam’s label relationships with Columbia Records, and ultimately culminating in Griff’s dismissal from the group for several years, and a televised apology from Chuck.

Like “Bring the Noise,” “Welcome to the Terrordome” lyrically responds to media criticism, while musically exploiting a dissonant lead sample–rhythm sample relationship akin to that of “Bring the Noise.” Chuck describes that in October of 1989: “I cut ‘Welcome to the Terrordome.’ We had the track, which was a raw James Brownish type of track that Keith had. I took two or three samples . . . and figured out how to cut through the noise” (D and Jah 1997, 235).
The vocal sample “this is a journey into sound” is scratched on the turntable (audible at 0:10), introducing the dense sonic environment of “Welcome to the Terrordome.” The recording contains samples from over twenty different songs, and exemplifies the Bomb Squad’s fully realized sound composition style. The dense, layered texture includes two sampled rhythm tracks, one of which was drawn from Dyke & The Blazers 1969 single “Let a Woman Be a Woman – Let a Man Be a Man” (see Example 5.12).

Example 5.12 Dyke & The Blazers, “Let a Woman Be A Woman – Let a Man be a Man” (1969), breakdown drums, as audible at 1:44. Transcribed by author from Dyke’s Greatest Hits - The Complete Singles (Bicycle Music, 2014).

This breakdown section of the Blazers’ recording includes a strident drum performance, and ambient noise from a fire engine sound effect (the mono sample is taken from the right channel, the fire engine sample is panned left). Shocklee sampled three sections of the recording: a snare and hi-hat (1); a single kick drum (2); and a double kick drum (3). He layered these sounds with portions of the drum breakdown from James Brown’s “Cold Sweat” (1967) (see Example 5.13).

As is the case with “Funky Drummer,” “Cold Sweat” features a virtuosic, syncopated drum performance by Clyde Stubblefield. The drum break begins with a harmonic stab, a tonic C on the guitar and higher D from one of the saxophonists, as well as a Brown vocalization (“Uh!”) on four-and of the first bar. Each of these play a role in Keith Shocklee’s complex two-bar verse rhythm sample arrangement (see Example 5.14).
Example 5.14 Public Enemy, “Welcome to the Terrordome” verse, drum sample arrangement of “Let a Woman Be a Woman” and “Cold Sweat” samples (audible at 0:04). Transcribed by author from Fear of a Black Planet (Def Jam/Columbia, 1990).

As was the case with the two drum loops in “Don’t Believe The Hype,” the ostinato of “Terrordome” is propelled by two drum rhythms working in tandem, in what Hank Shocklee described as the coveted “tug of war” between rhythmic parts (quoted in Stevenson 2006). In this case, however, the individual drum patterns are also rearranged from their original performances. The harmonic stab from “Cold Sweat” is repeated on “four-and” of bar one, while Brown’s vocalization is moved to beat four of the second bar. The “Let a Woman Be a Woman” snare pattern is steady on beats two and four,
creating a hocket pattern with the syncopated “Cold Sweat” sections at the end of the first measure.

Against this rhythmic backing, a short fragment of the Temptations’ “Psychedelic Shack” (1970) is layered (see Example 5.15).

Example 5.15 The Temptations, “Psychedelic Shack” (1970), guitar breakdown, audible at 0:55 (left channel only). Transcribed by author from Psychedelic Shack (Motown, 1970).

The Temptations’ 1970 ode to psychedelia, recorded in the wake of Hendrix’s success and under the direction of vanguard producer Norman Whitfield, includes a Wah-Wah guitar breakdown preceding the verse, in which a heavily modulated C-minor-7 chord sustains while the guitarist taps out a syncopated rhythm on the Wah-Wah footpetal, opening up the peak equalization filter in such a way as to create a “Wah-Wah” sound in a rhythmic pattern. As shown in Example 5.15, the segment sampled for “Terrordome” captures not the strumming of the guitar chord itself, but a portion of the
overdriven sustain and Wah-Wah frequency filter rhythm. The short sample is then triggered by Keith Shocklee in a looped, one-measure sequence on the Akai MPC-60 sampler (see Example 5.16).

Example 5.16 Public Enemy, “Welcome to the Terrordome,” “Psychedelic Shack” sample arrangement and rhythm audible at 0:04. Transcribed by author from Fear of a Black Planet (Def Jam/Columbia, 1990).

As the sample is drawn from the Wah-Wah rhythm, rather than the striking of the guitar strings, it bears little resemblance to a guitar within the context of “Terrordome.” Further estranging the sound is the pulsing, shifting volume. Along with the frequency modulation from the Wah-Wah, this creates a Doppler-like effect, akin to a siren changing in pitch and volume depending on proximity to the listener. The shifting volume is deliberate, and was a result of the way Keith Shocklee set up the sampler, as the track’s engineer Shaw recalls:

That’s a weird track. If you notice, at the very beginning of the loop, it gets loud for a second? That swelling, that’s actually the loop spilling over on itself. It’s not like a – most of the time when you’re triggering loops, you want it so that when you retrigger the loop, whatever’s playing before it gets cut, and then the downbeat comes in. Now, on the MPC-60, you could set the loop to either retrigger, which is what that mode is, or you could have it – trigger the loop so it would just play out and finishes, regardless of how many times you retrigger it. That’s what’s going on in
“Terrordome,” the loop overlapped on itself so you get that little bubble of volume (Shaw interview 2016).

The sample of “Psychedelic Shack” is used as the core melodic information for the track of “Terrordome.” Like the Funkadelic guitar feedback in “Bring the Noise,” it recalls Hendrix’s guitar timbre explorations in its original context, but after it is modulated and re-equalized, it bears little resemblance to a known instrument. Hank Shocklee recalls:

We would find something that will work in there, and it might be the thirty-second bar going into the thirty-third bar of a funk record. And within that bar, there’s this little guitar “ja-jank” that’s in there – and that right there, it may seem so insignificant but when you line it up into a place, you got the sound building, and then all of a sudden you want to take that sound and change it into something else and you put like a [echo] “jank-jank-jank-chinch.” That shit is crazy! Now you’re manipulating these sounds in a whole different context (Shocklee interview 2008).

“Terrordome” clearly illustrates this technique, as the Temptations’ sample is triggered counter-rhythmically to the chopped portions of “Cold Sweat” and “Let a Woman Be a Woman” and echoed, creating a perceived depth of field and sound-painting the “journey into sound,” as well as the described “Terrordome.” The modulation of sampled sound was an important part of Public Enemy’s process, both in terms of sharpening frequencies, but also to overcome shortcomings in the technology. Shaw, who recorded “Terrordome” at Greene Street in October of 1989, recalls the processing technique used for the Temptations sample:

Most samplers were mono. They didn’t get their hands on a stereo sampler until way later. But all samplers are mono, and we’d have to do whatever we could to make things wider. And I know specifically that on “Terrordome,” the “Psychedelic Shack” stuff, that sample particularly we used an Eventide H910 Harmonizer, which is this little box, it’s a harmonizer, but it’s also a delay unit. And you could have – the left side would be harmonized, and the right side, you could put a little bit of delay on it. We’re talking seven milliseconds on the left side, fifteen
milliseconds on the right with the original sample panned down the middle, and it makes everything seem really wide. It just makes things sound really huge and wide. And that track definitely abuses that effect to a large extent ‘cause we just wanted — it was obvious, once we got that vocal on there, what the song was about and everything, shit, it’s just gotta roll over you like a steamroller (Shaw interview 2016).

As the core riffs of “Bring the Noise” consist of the combination of the Whitney and Funkadelic samples operating in a lead sample — rhythm sample relationship, core harmonic elements of “Terrordome” are drawn from the guitar stab from “Cold Sweat” (1967) and the Temptations’ “Psychedelic Shack” (1974). And the two have a similar relationship: the “Cold Sweat” guitar sample, chopped and re-contextualized as part of the drum machine pattern, forms the harmonic backing (rhythm sample) for the “noise”/melodic layer (lead sample) of the Temptation’s “Psychedelic Shack,” just as the Whitney sample provided harmonic backing to the Funkadelic sample in “Bring the Noise” (see Example 5.17).

Example 5.17 represents the first stage in track production: the sequenced sample and drum machine program that was developed at Spectrum Sound, in this case by Keith Shocklee on an Akai MPC-60 sampling drum machine with help from Sadler and Chuck D. After Chuck recorded lyrics to the track, however, a number of vocal and instrumental samples were added at Greene Street Studio. There were often dozens of samples added to Bomb Squad tracks in this way; eight different “one-off” vocal samples appear in “Terrordome” even before the beginning of the first verse. These “microsamples” are added as interjections, often reacting to Chuck D’s text and delivery (Sansano interview 2016). Hank Shocklee describes:

[Chuck’s vocal] inflection would only happen for a second or two seconds. But for that brief time, I got to be able to match something there! And that something has got to be significant (Shocklee interview 2008).

The process of looking for these samples usually involved the collective interaction between producers as well:
A lot of times, they’d just sit in there looping the track, playing the song over and over again while they were digging for samples. Two turntables, two mixers. They’d [Hank and Keith] would both show up, and both be coming up on the console, and we’d be playing the track over and over again, and Hank would say, “hey, I got something,” and we’d push up these two faders he was coming in on the console, and “hey, what do you guys think of this,” and he’d do it. We just had a little laboratory. “Hey I got something” – “try it” – “oh no, that’s not working, let’s find something else” (Shaw interview 2016).

In addition to turntable scratches, “microsamples” were sampled into the Akai S-950 sampler, and triggered live to tape from a MIDI keyboard. Engineer Nick Sansano recalls:

What we would do then is take all those individual samples and ideas that were thrown to the tape and spread them out along a keyboard, so if you pressed this key this sample would come up. If you pressed this key, that one, and so forth and so on. And then, that would be the domain of Chuck and Keith Shocklee, and then they would sit behind the keyboard. They’d would make these programs – they’re called programs – so across the keys you’d say, “from this octave you got – that’s that Parliament sample you got there, that’s that” – and then you’d have them, and you could obviously tune them, you could do whatever you want to them, right, ‘cause it was a sample. You could manipulate them in the machine. And then, with the freedom of improvisation, and the feel as they felt it, we would do takes recording to the tape machine of them playing the samples off the keyboard (Sansano interview 2016).

The use of these “program” samples varied from a one-off snippet to a more involved set of improvisatory interjections. This is evidenced in “Terrordome” by the recontextualized use of Phelps “Catfish” Collins’s guitar solo from James Brown’s 1970 recording “Get Up, Get Into It, Get Involved” (see Example 5.18).

In keeping with the practice described by Sansano (interview 2016), individual notes are sampled and assigned to individual keys on a MIDI keyboard (in my 2016 interview with Shaw, he states that this was done by Sadler). Then, one or more producers would trigger in parts “with the freedom of improvisation.” The triggering was performed by different members of the Bomb Squad production collective: Keith and Chuck as identified by Sansano, although Eric Sadler and Hank are also mentioned as doing so by Shaw. In the case of the “Get Up” guitar solo, the sections marked in Example 5.18 as A-E are recontextualized into a live improvisation at the MIDI keyboard that responds to specific inflections in Chuck’s vocal. Sampled segments of the “Get Up” guitar solo appear in all verses, and recur throughout the beginning of the final verse (see Example 5.19).

Fragments of Collins’s blues solo are peppered through the verse. Since Sadler was a guitarist (and by all accounts proficient), the sampling of the guitar rather than replaying the notes was clearly an aesthetic choice. They were jamming with samples, interjecting sounds responsively: in measure eight and nine of Example 5.19, sample E, a
pentatonic riff, is added to accompany Chuck’s line “shouldn’t be suicide”; during a breakdown section, Flavor Flav’s refrain “come on down!” is paired with sample C, a strident blues bend in mm. fifteen to sixteen; florid pattern D plays off Chuck’s rhythm on the line “phy-sically sweaty” in m. thirty-two.

But although the use of these samples operates like a blues guitar responding to a lead vocal, it should be stressed that the intention wasn’t to recreate or court traditional musicality; rather to upend it. Keith Shocklee emphatically states: “No! This is hip hop. We understand that. We understand keys, register, changes, going up a half-step. We understood that. We didn’t want none of that” (quoted in Setaro 2016).

Conclusion

Due to internal problems and financial disagreements, the Bomb Squad group of the Shocklee brothers, Sadler, and Chuck would not collaborate on another Public Enemy record. Immediately following the success of *It Takes a Nation of Millions* (1988), group members collectively and individually produced a wide range of recordings, but Bomb Squad members parted ways within a year of the release of *Fear of the Black Planet* (1990). Although most of the group reunited to work on a soundtrack to Spike Lee’s film *He Got Game* in 1998, by many accounts the relationship was strained (see Myrie 2008). As of 2017, Public Enemy continues to perform as well as record. Yet, just like a band of specific musicians have a group dynamic reflective of all players, the Bomb Squad was a band of producers working together, who each brought something distinct to the process, as Shocklee reminisces:

The way it was, we were all in the studio working and performing various functions — anything from finding samples to finding spoken word bits to finding intro parts, horn hits, guitar parts — everyone was doing
everything. We’re in the studio with records, a sampler and everybody was musically inclined, thus we all had a love and a feel for the music. Me and Chuck, our background — I’m an arrangement fanatic. I’m a song fanatic... Chuck wrote the raps, and Eric played on a lot of the records, the beats — he was like a programmer/engineer. If anything was not in tune he would fix it. If we had a loop that wasn’t right he was, “That’s out of time.” Keith was our DJ/record specialist. He knows every record through and through parts, whether they got breakdowns... the hottest drum breaks, the hottest bass breaks, turnarounds, different drum things (quoted in Stevenson, 2006).

Even if the Bomb Squad continued to work together beyond the early 1990s, the process of freely assembling layered recordings from sampled sound would have been prohibited by a new climate of copyright infringement litigation. Early Public Enemy records were made during a time of relative naiveté about sampling (although sample lawsuits are discussed in Public Enemy’s 1988 song “Can I Get A Witness”). By the mid-1990s, sample usage litigation had become a mainstay of the recording industry following dozens of lawsuits in the late 1980s and early 1990s. The Bomb Squad’s multilayered sample productions (which often featured over twenty samples per song) would have been financially prohibitive for producers after the mid-1990s, by which time most record labels sought to clear all recognizable samples prior to releasing records (McLeod and DiCola 2011).

The influence of the Bomb Squad’s dense, multilayered productions and abrasive samples is evident in a range of genres in popular music. Dallas Austin’s early productions for the hip hop/R&B group TLC highlighted dissonance created by multilayered samples, exemplified by the layering of Kool and the Gang’s “Jungle Boogie” with Average White Band’s “School Boy Crush” for TLC’s “Ain’t Too Proud to Beg” (La Face/Arista, 1991). Productions by DJ Muggs (who Shocklee had previously produced as a member of the rap group 7A3) for rap groups Cypress Hill, House of Pain,
and others included dissonant layering of loops and abrasive, high-pitched samples – such as in House of Pain’s “Jump Around” (Tommy Boy, 1992) and Cypress Hill’s “Insane in the Brain” (Columbia, 1993) – and garnered considerable crossover success. This influence spans beyond genres directly marketed as hip hop and R&B/hip hop/pop crossover. Nine Inch Nails’ industrial rock debut *Pretty Hate Machine* (TVT, 1989) credits Public Enemy as an inspiration in its liner notes, and features layered loops of filtered screams and crowd samples.

Among the most prominent descendents of Public Enemy’s style were the political rap-rock band Rage Against the Machine, whose guitarist Tom Morello developed electric guitar techniques to mimic the siren-like samples of Public Enemy (clearly evident in “Calm Like a Bomb” [Epic, 1998]), accompanying the socially conscious rap lyrics of Chuck D-inspired vocalist Zack De La Rocha, and at the time of this writing, Chuck D is touring with members of Rage Against the Machine in a supergroup called Prophets of Rage. Similar influence can be heard in the recordings of a range of electronic music artists including Chemical Brothers and Prodigy.

Beyond their influence on specific genres and recording artists, the practices of the Bomb Squad (as well as other hip hop producers) had a considerable impact on the way MIDI sequencing programs, samplers, and sound processors were developed, as Shocklee fairly boasts: “We came up with a lot of different techniques in the studio that are being used today by all the manufacturers and a lot of it we came across, of course, by trial and error” (quoted in Stevenson 2006).

Yet, even as the rise of drum machines and digital samplers were essential to Public Enemy’s musical style, their music was always produced in analog-digital
juxtaposition, as well as with a combined producer-band ethos: Analog recordings digitally sampled and juxta posed, and then recorded back to analog tape by a “band” of producers interjecting different rhythms and ideas. The Bomb Squad recontextualized fragments of collectively produced recordings of R&B recordings through layered digital sampling, and created recordings with the collective ethos of a band in the studio. While creating song ideas by jamming with samples, they developed a range of techniques, such as the lead sample–rhythm sample relationships of sampled parts, interjection of micro samples to support vocal performances, and inexact truncating of samples to retain what Shocklee calls the “human feel” of live performance (quoted in ibid.). As Prince and Stevie Wonder had found ways to retain the live feel of collective performance in one-man band recording, the Bomb Squad consciously sought ways to infuse MIDI tracks with the ethos of group dynamism, thus creating an antidote to purely digital music and reimagining the “band era” R&B collective for “the DJ era” and hip hop (Stephney 2016).
Epilogue: Solo Producer and Collective Practice in early 21st Century Black Popular Music Production

In 2014, Earth Wind and Fire’s Philip Bailey considered the shifting of musical style in the eighties:

EWF was the archetypal group of the 1970s, and yet we didn’t understand the dynamics of the 1980s. Michael Jackson understood the 1980s. Maybe the Concept didn’t apply anymore. The world wasn’t about peace, love, and positivism. The 1980s were about economics and music for cold hard cash (Bailey with Zimmerman and Zimmerman 2014, 206).

For Bailey, “we” to “me” was more than a change from bands to solo artists, but representative of a shift in ethos of American culture:

We came up in an environment where it was a little more community-minded. It was the in thing to be spiritually searching, to be aware of one’s self, one’s environment, one’s humanity. . . . I don’t think [Earth Wind & Fire] would fly so much today because it’s just become a me/mine society (quoted in Walser 2004, 275).

The general trend in black pop styles from the 1970s to the 1980s was a shift toward individual performers, in conjunction with a movement away from collective recording practices. Recording artists marketed as instrumental/vocal groups (such as the Commodores, Earth Wind & Fire, Parliament/Funkadelic, The Jacksons, and Zapp) were increasingly replaced on the charts by soloists from these groups (Lionel Richie, Philip Bailey, George Clinton, Michael Jackson, and Roger Troutman respectively) as well as other solo performers. Although young vocal groups like New Edition, Boys II Men, and Guy remained popular through the 1990s, the era of recordings by funky R&B bands was on the wane, and recording sessions increasingly relied on producer-based recording practices as widespread use of MIDI technology, drum machines, and digital synthesizers became the norm.
Following the “we” to “me” trend in instrumental groups, the movement away from marketed bands of instrumentalists in the 1980s precipitated the disappearance of vocal groups after the 1990s. R&B vocal groups remained popular through the 1990s, with Jodeci, Guy, Boys II Men, Xscape, SWV, 112, and Destiny’s Child (as well as R&B-styled teen pop boy bands Backstreet Boys and NSync) representing a range of engagements with R&B/hip hop styles. In addition, although MIDI production dominated, some marketed vocal/instrumental R&B bands remained in the 1990s, including Toni Tony Tone, Mint Condition, and Guy. But by the time Beyoncé left Destiny’s Child in 2005 to become a solo artist, the practices of vocal groups and marketed bands of instrumentalists had all but vanished from R&B.

These phenomena, foreseen by Nelson George in his seminal 1988 work *The Death of Rhythm and Blues*, impacted music considerably. But R&B musicians were anything but inactive after 1990. New engagements with the aesthetics of hip hop, the proliferation of new digital software-based production practices, and stylistic trends such as the wide use of Autotune emerged after 1990 in the wake of rapid technological and stylistic changes that marked the 1980s.

*Urban Contemporary, Emergence of New Jack Swing, and the Rise of Neo-Soul*

Following models established by Stevie Wonder and Prince, many producers increasingly crafted music as a solo enterprise in the 1980s. This trend is well explained by the work of Harlem-born producers Kashif and Teddy Riley (mentioned by Hank Shocklee in the previous chapter), who came to prominence respectively in the early and late 1980s, and whose career archs exemplify shifting practices. Kashif Saleem (*b* Michael Jones December 26, 1956; *d* September 25, 2016) rose to prominence as a
keyboardist of funk/R&B/disco group B.T. Express (Brooklyn Transit Express) in the 1970s before shifting toward record production in the 1980s. In addition to solo hits, disco/R&B hits for Evelyn “Champagne” King and others, Kashif crafted Whitney Houston’s first hit single “You Give Good Love” (Arista, 1985). His 1980s productions featured layers of MIDI drum machines, digital synthesizers, and other instruments – mostly performed by him. But while Kashif exemplified the increasingly digital aesthetics and production practices of early 1980s post-disco R&B marketed on “Urban Contemporary” radio formats, he also represented the end of an era when R&B resisted interaction with hip hop.

The producer that would represent the next generation of R&B producers (those who merged hip hop and R&B) and would have the most impact on the development of the 1990s R&B style known as New Jack Swing is Teddy Riley (b October 8, 1967). Trained as a musician in church, Riley first made an impact as a hip hop producer with rapper Kool Moe Dee’s “Go See The Doctor” (Jive/RCA, 1986) when he was only seventeen, before founding the group Guy in 1987. As Patrick Rivers states:

By 1986, hip hop sound aesthetics were becoming firmly established in the wake of sampler usage by Marley Marl, Kurtis Blow, Public Enemy, and Herbie Luv Bug. Hip hop beat making and production aesthetics extended from deejay practices and privileged sonic ruptures in the form of a variety of musical sample types and drum breaks that were then used toward the creation of groove-based ostinatos. More importantly, hip hop aesthetics are embedded in the figure of the digital musician. . . . In creating the New Jack Swing, Teddy Riley privileged the MPC 60 [a sampling drum machine that was primarily associated with hip hop] while negotiating the legacies of the blues and R&B (Rivers 2016).

Guy’s sound, which merged aggressive sampled drums on the Akai MPC-60

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66 I had been in contact with Kashif shortly before his tragic passing and was in the process of scheduling an interview with him. I had hoped to discuss his reflection on the shifting production practices.
drum-machine with hard-edged synthesizer riffs, would soon be described as “New Jack Swing.” For Riley, the style was drawn from various aspects of “gospel, funk, hip hop, R&B, and pop” (quoted in *Keyboard* magazine 1992), with the fusion of various R&B influences:

I tried to just take James Brown—and what I did from the James Brown sound—and lock it in with the smooth chords of The Isley Brothers, and put the vocal backgrounds of the Temptations, or the Gap Band, and make it Guy (quoted in *Producer’s Edge* magazine 2009).

Riley describes his sound in terms of a hip hop sampler’s aesthetic, drawing elements of previous producers toward a new style, and putting together sampled live instrumentation with digital synthesizers toward crafting an edgier R&B sound in line with the hip hop style of the younger generation. The influence of Riley’s sound is notable: Michael Jackson chose Riley to produce the majority of his *Dangerous* (Sony, 1991) album; and Prince’s single from that same year, “New Power Generation” (Paisley Park, 1990), clearly showed the influence of the New Jack Swing production aesthetics. The success of Guy as a R&B group with a hip hop edge paved the way for producers like Sean “Puff Daddy” Coombs (Jodeci, Mary J. Blige, Notorious BIG, Mariah Carey) and later Dallas Austin and Jermaine Dupri (TLC, Kriss Kross), ushering in an age in which R&B and hip hop production styles were increasingly merged in what was sometimes referred to as “hip-pop.”

Yet a divide remained. Many younger musicians thought both Urban Contemporary and New Jack Swing lacked the ethos of hip hop. Writing about Mary J. Blige’s 1994 sample-heavy second album, on which producer Sean “Puff Daddy” Coombs both sampled and remade 1970s classics, producer and Roots drummer Ahmir “Questlove” Thompson bemoaned the current state of R&B, but spotted potential for a
brighter future:

It took a year for us to digest it and accept that R&B singers were trying to be hip hop artists. There was nowhere left for them to go. I hated what contemporary R&B had become. It was trite. It was soulless. It had no authentic passion. It was doing very little for me. And then I heard D’Angelo and my head was turned (Thompson and Greenman 2013, 189).

D’Angelo (b Michael Archer 1974) was among a group of performers to emerge in the mid to late 1990s that had a different engagement with hip hop and R&B historicism. Their sound would be marketed as Neo-Soul, a term coined by manager Kedar Massenburg. D’Angelo was also operating primarily (as Riley and Kashif had) as a MIDI track-based solo producer for his first album Brown Sugar in 1995 (EMI). However, he eschewed the use of digital synthesizer sounds for analog instruments like the Fender Rhodes, Wurlitzer electric piano, and Hammond B-3 organ, and infused his rhythmic programming with a sloppy, un-quantized feel that was crafted to both evoke the natural, more human performance of a live drummer, and capture the off-kilter aesthetics of hip hop.

Like Riley, D’Angelo had grown up engaged in hip hop culture, as a teenage member of the rap group I.D.U. Productions. Further, like Public Enemy’s producers, he was actively engaged in historical study of black music genres through “crate digging,” a slang for searching through deejay record crates for records to sample:

[W]e went over to [I.D.U. deejay] Baby Fro’s house, he would always have some new record up, looking for breaks [to sample]. . . . Years and years of crate digging, listening to old music, you kind of start to connect the dots. And I was seeing the thread that was connecting everything together, which is pretty much the blues, and everything, soul or funk, starts with that. That’s kind of like the nucleus of everything, the thread that holds everything together (quoted in George 2014).

For D’Angelo, who developed his first album as a track producer making MIDI
sequences, playing all the keyboards, and performing all of the vocals, crate digging was also an opportunity to study models: "I was one of those guys who read the album credits and I realized that Prince was a true artist. He wrote, produced, and performed, and that's the way I wanted to do it" (quoted in Onnell 1997, 138-9). The Romantic concept of a “true artist” forging a path as an individual, the cultural importance of autonomy discussed in Chapter Two, and the media fascination with self-made neoliberal operators all factor into the way in which modern pop stars are marketed. Engineer Russell Elevado, who worked with D’Angelo extensively from late 1995 to the present, describes the importance of a home studio in D’Angelo’s early process, and how the performer would show up to the studio with the tracks pre-sequenced:

The thing about Brown Sugar, he did all of that in his house on the [Ensoniq] EPS 16 [sampling keyboard]. He wrote and sequenced the whole thing in his house. I believe that he had some cheap eight-track [recorder]. The whole album was written before [album engineer and co-producer] Bob Power got involved. That was the whole reason why they [had creative differences] because D’Angelo wanted it to sound closer to the demo and more raw, but Bob Power cleaned it up (Elevado interview 2016).

The aesthetic divide between that which is perceived as raw, dirty, analog, sloppy, and authentic versus that which is seen as clean, sterile, processed, digital, machine-like, and fake has a long history in popular music, and would play a role in the 1990s black music culture, leading to the development of this new neo-traditional subgenre of R&B. The reinfusion of pre-1980s analog aesthetics into 1990s R&B would also be audible in the work of Erykah Badu, Jill Scott, the Roots, Bilal and others. These recordings were marketed as Neo-Soul, an alternative to the slick and digital post-New Jack Swing productions of producers like Riley, Coombs, and Austin. While the two styles were varied in terms of ethos and aesthetics, New Jack Swing producers like Riley and those
associated with Neo-Soul shared the historical reflection on black music recordings.

Questlove notes that he and D’Angelo:

> were both obsessive fans of the same seventies soul, [in] that we had both memorized every Prince arrangement, every Stevie Wonder outro, every twist and turn in every Curtis Mayfield and Bill Withers song (Thompson and Greenman 2013, 193).

Although D’Angelo would work as a largely autonomous MIDI producer on his 1995 debut *Brown Sugar*, he made an abrupt switch for his follow-up album, *Voodoo* (EMI, 2000). Settling into Electric Lady studios (which Hendrix had built in 1970 but reportedly only used once), D’Angelo, Questlove, and a group of musicians wrote songs as a band in collective performance, jamming through ideas live-to-tape and then listening back for prospective songs to develop. The process of writing through jam sessions became extensive, as explained by album engineer Elevado:

> Elevado: We basically had a year of tracking. Not a lot of trying to finish any songs. There was never any thought of that.

> Fulton: so was there a lot of writing live-to-tape?

> Elevado: Oh yeah, definitely. We ended up with about 150 reels [of tape] (Elevado interview 2016).

In the age when MIDI sequencing had come to dominate pop music and black music culture in general, D’Angelo and Questlove consciously sought to reclaim the collective process of earlier black popular music production, purposely crafting a return to the age that Michael Jackson had romantically described “when R&B first started in the south and blacks would get together in a shack and jam” and were “able to feel each other” (Jackson quoted in Vogel 2011, 38). The collective process on *Voodoo* was a response to a historical ideal. Pursuant to this study, D’Angelo’s more recent album, *Black Messiah* (2014), was produced as a synthesis of both techniques: MIDI tracks with
overdubs by live musicians, and tracks written during collective jam sessions that were then overdubbed and re-sequenced in post-production (see Fulton 2015b).

Throughout the late 1990s and early 2000s, however, the dominant sound of black popular music remained MIDI-based, as the rise of ProTools and Digital Audio Workstations dramatically transformed record production, and home project studios became the norm for even novice producers (see Milner 2009). Hip hop, the aftermath of New Jack Swing and post-disco R&B continued to be central influences. Jackson’s groove composition, beatbox instrumentation, and sonic experimentation, and Prince’s minimal sound aesthetics also influenced popular music profoundly.

Jackson’s vocal composition was a distinct influence on the work of Timbaland and Pharrell Williams, two producers who have crafted groove-based compositions with integrated vocal percussion for a range of artists with a considerable impact on popular music, and both of whom who describe Jackson as being an important influence on their approach to music making. Timbaland’s beatboxing approach to track composition is exemplified in Aaliyah’s “Are You That Somebody” (Blackground/Atlantic, 1998) and Justin Timberlake’s “Cry Me A River” (Jive, 2002). Pharrell Williams’s similar combination of vocal and electronic instrumentation, audible in Snoop Dogg’s “Drop it Like It’s Hot” (Geffen, 2004) and Justin Timberlake’s “Rock Your Body” (co-produced with Chad Hugo of the Neptunes and originally written for Jackson to sing; Jive, 2002), clearly exhibit Jackson’s influence, as well as the continued dominance of solo producer, MIDI-based recording practices, and the wide popularity of Autotune pitch-correction.

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software to create robotic vocal timbres.

21st Century Black Music Production: Historicism and Distanced Collaboration

Yet to argue that Autotune, MIDI technology, and the cultural climate of neoliberalism have depleted black popular music of its ethos, as well as its collective and collaborative spirit, would be both reductive and inaccurate. Following the release of D’Angelo’s *Voodoo*, the early 21st century saw the concept of black music being increasingly politicized, as well as increasingly historicized. When asked in a 2012 interview how he would classify his sound, which merges elements of soul, gospel, funk, blues, rock, and hip hop, D’Angelo responded succinctly: “I make black music” (quoted in George 2014). This trend is similarly exemplified in the later work of Prince. In the early 1980s, Prince had fought to not be categorized in marketing as a black artist, but his work became increasingly political in his last decade (see Rivers and Fulton 2016).

Prince’s ode to black women (and black music), “Black Muse” (NPG/ Warner, 2015), features the lyric:

Black muse, we gonna make it through
Surely people that created rhythm and blues
Rock & roll and jazz
So you know we're built to last
It's cool . . .

In what has been called “Post-Ferguson America,” when the crisis of police aggression in African American communities often without apparent justice has led some to question racial progress in the United States since the 1960s, more artists have employed the concept to reflect a historically inspired fusion of African American styles (Frock 2015). Similar to the recent work of D’Angelo, Kendrick Lamar’s album *To Pimp a Butterfly* (Interscope, 2015) demonstrates a compounding of black music genres
including jazz, soul, and hip hop, reclaiming and reconciling styles and eras toward evoking a historically unified black music. To Pimp a Butterfly co-producer and frequent Lamar collaborator Terrace Martin comments: “I don’t know what to call this album. Some people call it jazz . . . but it’s heavily black in general” (quoted in Charity 2015). In the shadow of recent social turmoil as well as a renewed wave of appropriations of black cultural idioms by white performers, the identification of music as “black” rather than “hip hop” or “soul” takes on increased significance.

Lamar’s To Pimp a Butterfly is notable for its fusion of genres, but also for its recording practice, which exemplifies the collaborative practices also evident in the work of Beyoncé and Kanye West, in which several different producers and musicians can contribute to one recording in different studios at different times. In addition to MIDI beats (consisting of a combination of sequenced samples and programmed synthesizers) offered to Lamar by various hip hop beatmakers, Lamar and his studio collective (consisting of hip hop producers, jazz musicians, R&B singers, and engineers) would experiment with ideas, record collective jam sessions, and listen back looking for ideas, similar to the collective process employed by D’Angelo on the recording of Voodoo.

Since recording studios have historically been male-dominated spaces in black popular music, Beyoncé’s dominance both as an early 21st century pop performer (the heir apparent to Jackson’s pop music zeitgeist) and self-producing (although generally co-producing) recording artist serves as an appropriate balance to this otherwise male-dominated study. At the time of this writing, there is no male equivalent for the type of power Beyoncé wields as producer or performer in the music industry in general, or in the recording studio specifically. However, as is the case with Kanye West, Beyoncé has
been called a neoliberal pop star, a corporation of one that downplays the contributions of others and promotes a winner-takes-all capitalism (see Stephens 2016). At the same time, she is often accused of being an overrated talent, in part due to the number of songwriters and producers who contribute to her music (see Greenwald 2015). While Beyoncé’s business is certainly structured as a top-down corporation, her art relies on creative collaboration at every turn.

Her collaborative approach is exemplified by her 2013 album *Beyoncé*, which credits twenty-seven writers and nineteen contributing producers (West’s 2014 album *Yeezus* similarly had forty-nine writers and twenty-five contributing producers). The high number of writers is in part due to the number of samples incorporated, and in part due to a process of distanced collaboration that extends from earlier producer collective practices like those of the Bomb Squad. The recording process, while relying on a network of distanced freelancers, also has a social and competitive stage. Following production processes of Sean “Puff Daddy” Coombs’ Bad Boy Records’ “Hit Men” producers and others in the 1990s, Beyoncé often has two or more producers crafting tracks and lyric ideas in different adjoining rooms in a recording studio; these producers, working simultaneously while Beyoncé moves between rooms, would be competing for the better Beyoncé recording (see Jackson 2011).

In the process of distanced collaboration, Beyoncé (or West or Lamar) might license instrumental tracks (MIDI beats) from producers (largely freelancers) without ever meeting them, collaborate with other producers in different studios to write lyrics or add vocal and instrumental parts, or send half-finished tracks to other writers or performers to contribute parts or ideas. This often involves different contributors –
increasingly an international network of outsourced freelance songwriters, beatmakers, vocalists, and musicians – re-working one recording over a number of weeks or months. Her song “Hold Up” (2016) has fifteen credited writers alone:

Beyoncé’s creative process is harvesting ideas, reworking them, bringing in new people to add to them, reworking them again, all the while being the only person who knew how the pieces would slot together. [Songwriters] worked on the song “Hold Up,” albeit without ever meeting. The hook and sample comes from an Andy Williams song, written by Mort Shuman and Doc Pomus, and was used by Koenig and producer Diplo when they created the basics of the track in 2014. Other parts were written by Father John Misty and the British-Nigerian singer MNEK. There are fragments of songs by the Yeah Yeah Yeahs and Soulja Boy. Yet the final result is, unarguably, a Beyoncé song (Lynskey 2016).

The final recordings may contain ideas from samples of songs written and recorded decades ago that were assembled by several collaborators (who have never met), and whose contributions were then re-written or amended by Beyoncé or another member of the distanced collective. While this type of technologically mediated, distanced collaboration – which Prince was already experimenting with in the 1980s – is an entirely different process from real-time collaboration, it does employ a new type of collective process in the making of a recording.

As executive producer, Beyoncé controls the process throughout and provides her own vocal collective, layering as many as one hundred and twenty vocal tracks on a single song recording (digital platforms like ProTools offer a virtually unlimited number of tracks) (see Barrie 2014). Her 2011 song “Run The World (Girls)” features an army of vocal Beyoncé, performing dozens of group vocals, call and response choruses (“Who run the world?” – “Girls!”), adlibs, cascading harmonies, and leads. Beyoncé’s army of “girls” is a multitrack representation; she is known to overdub vocals alone in marathon recording sessions with the assistance of an engineer. Following Bailey’s technique of
altering timbres when overdubbing vocals, the dozens of different vocal parts are sung with varying vocal characters and mixed to represent a collective. That such a remarkable vocal performance could go largely undiscussed in the wide-ranging critical reception of Beyoncé shows the extent to which the vocal multiplicity and the reimagined collective have become the norm in 21st century popular music.

Conclusion

Whereas it is true that traditional collective recording (performing bands tracking live together) has been increasingly rare in black popular music since 1990, the type of collaborative techniques used on recordings for Lamar’s To Pimp a Butterfly, as well the new distanced collective process in the work of Beyoncé and Kanye West, illustrate that new models of technologically mediated collaboration have developed in the wake of MIDI-based solo producer practice. These production models seek to imbue recordings with the creative energies of multiple persons, and therefore can be seen as transformations of the ethos of collectivity. These practices are worthy of their own study, and historical distance will show their impact.

The preceding chapters have considered the impact of multitrack recording and electronic technology on the collective practice of music production, and the development of new techniques by musicians to negotiate collectivity in a technologically mediated recording process. By analyzing the way musicians imagined collectives in performance during the recording of these tracks – Stevie Wonder’s representations of communal spaces; Prince’s competing “players” and performative characters; Michael Jackson’s beatboxed collectives; and the Bomb Squad’s recontextualized and juxtaposed use of sampled collective performances – I hope to have
offered new insight into the conceptual process of black music production.

Although African American music is so often discussed in terms of physical (and bodily) events occurring “in the moment,” the examples in this dissertation show how producers consciously conceived and constructed such events through the careful layering of recorded moments (see Fink 2011). The overdubbing of instruments, samples, and voices in these case studies was not simply the functional, assembly line construction of recordings, but an evolving process of conceptualizing and reimagining collective performance in the multitrack studio.

Music industry structures have historically limited the creative control of performing musicians, and this has been especially true for African American musicians. Before the 1960s, studio sessions were generally controlled by record labels (both in terms of budgets and personnel). But the rise of artist-controlled independent studios in and after the 1970s, such as Prince’s Uptown home studios and Paisley Park complex, Jackson’s Hayvenhurst home studio, and the Bomb Squad’s Spectrum studio, provided critical localities for autonomous experimentation. As popular music after the late 1960s was increasingly record-driven (and those records were increasingly constructed representations rather than live-to-tape performances), musician-producers explored the uses of new technology through various processes (such as one-man band recording, beatboxed demos, and sampling producer collectives) in order to conceptualize ideas for records, composing not songs, but what Zak calls the “sonic artifacts” of the final recording.

Thus, “Beat It” was imagined in terms of its recording and began as a recorded vocal template. Wonder and Prince may have been in some ways imitating collective
performance on their one-man band recordings, but the playful call-and-response on tracks like Wonder’s “Love Having You Around” or Prince’s “Adore” came about not in a jam session, but from a solo producer-performer overdubbing in a multitrack studio. Further, Public Enemy’s “Welcome to the Terrordome,” while the product of a group of producers working in a collective process, could have only been produced in the studio. Each of these recordings are the product of ideas crafted in independent studio environments (sound laboratories for experimentation) by producers who developed skills at making records (wholly different skills than performing and composing songs) and who, in that experimentation, invented techniques to reimagine the group dynamism and collective practice of earlier R&B for the age of multitrack recording and electronic instrumentation.

In the production of these recordings, engineers became important allies in the process. Unlike record label staff and hired producers, engineers are largely neutral to industry politics, and are concerned primarily with the task of helping the producer (who in these cases is also generally the recording artist) realize the song concept as it comes together. Working extensively with the same engineers creates a workflow in which realizing such ideas are possible, as well as provides the producers with new ideas about what could be possible.

Thus, Susan Rogers finds a pitch shifter in the Publison Infernal Machine signal processor that she thinks Prince would like, which leads to the composition of “Bob George.” Sadler and the Shocklees are able to develop increasingly complex arrangements for Public Enemy due to their ongoing working relationship with engineers Nick Sansano, Chris Shaw, and Rod Hui at Greene St. Studio. Hank Shocklee states that
Fear of a Black Planet sounds so coherent “because now we've worked with the same engineers for long enough that they understand the concept” (quoted in Tatlock 2015). Yet the engineers likely influenced how the “concept” would take shape through their ongoing working relationship with the Bomb Squad. Similarly, Malcolm Cecil and Robert Margouleff, having no direct connection to Motown’s strict label-controlled production practices, could provide Stevie Wonder with an environment to experiment freely with electronic music with them. Meanwhile, Jackson was able to craft a mixture of vocal and electronic timbres at his home studio with Matt Forger and others to compose new sonic signatures in his “Laboratory.”

As Weheliye states, black cultural producers are far from “inherently Luddite” or passive in the development of technologies, as they are sometimes positioned (2005, 2). Rather, the history of R&B-centered black popular music has been continually shaped by recording studio innovators, including Gordy and Hendrix in the 1960s; Stone and Wonder in and beyond the 1970s; Prince, Jackson, Chuck D, the Shocklee brothers, and Sadler in the 1980s; and D’Angelo, West, and Beyoncé in the 1990s and early 21st century. George is right that technology strongly impacted the production practices of R&B in the 1980s, and neoliberal culture clearly played a role in the shift from groups to solo operands. Yet as the example of Earth Wind & Fire shows, 1970s performing groups were not always as collective as they may have appeared, either in corporate structure (Maurice White owned the band’s trademark outright) or in recording (Philip Bailey multitracked his chorus vocals toward a collective sound).

Neo-Soul in the 1990s and distanced collaboration practices of the early 21st century exemplify how both the revival of collective recording and new forms of
technologically mediated labors continue to revitalize black popular music production. To paraphrase Mark Twain, it may be fair to say that reports of R&B’s death by technology have been greatly exaggerated. Rather, the collective ethos of black popular music is continually reimagined in the recording studio.
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