Analysis of Sampling Techniques by J Dilla in Donuts

Zachary Diaz
zachary.diaz1993@gmail.com
Analysis of Sampling Techniques by J Dilla in Donuts

Creative Commons License

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License.

This thesis is available at SFA ScholarWorks: https://scholarworks.sfasu.edu/etds/197
ANALYSIS OF SAMPLING TECHNIQUES BY J DILLA IN DONUTS

By

ZACHARY BENNETT FISHER DIAZ, Bachelor of Music

Presented to the Faculty of the Graduate School of

Stephen F. Austin State University

In Partial Fulfillment

Of the Requirements

For the Degree of

Master of Music

STEPHEN F. AUSTIN STATE UNIVERSITY

August 2018
ANALYSIS OF SAMPLING TECHNIQUES BY J DILLA IN DONUTS

By

ZACHARY BENNETT FISHER DIAZ, Bachelor of Music

APPROVED:

________________________________________________________________________
Samantha Inman, Ph.D., Thesis Director

________________________________________________________________________
Stephen Lias, Ph.D., Committee Member

________________________________________________________________________
James Adams, M.M., Committee Member

________________________________________________________________________
Court Carney, Ph.D., Committee Member

________________________________________________________________________
Pauline M. Sampson, Ph.D.
Dean of Research and Graduate Studies
ABSTRACT

The late James Yancey, known by his producer name of Jay Dee or J Dilla, is considered by many hip-hop scholars and musicians to be one of the most influential producers of the genre. His techniques of sampling are some of the most creative and intricate in the world of hip-hop beat making and are viewed as virtuosic in their own right. By analyzing his compositional process through selected tracks on his seminal (and final) album *Donuts*, I will be exploring how Dilla used over seventy-five samples from a variety of music genres and artists to create a sonic collage that is one of the most influential instrumental works of hip-hop genre. This analysis will demonstrate the sampling techniques of J Dilla, illustrating methodologies for analyzing specific sampling techniques. Out of the thirty-one tracks on the album *Donuts*, I will be analyzing several tracks within the three main chapters of the thesis: “Workinonit,” “Mash,” “Time: Donut of the Heart,” “Glazed,” and “Don’t Cry.” By applying specific methodologies of analysis to specific tracks on *Donuts*, I highlight the complexities and nuances involved in transforming the original sampled audio into an entirely new piece of music.
# TABLE OF CONTENTS

Abstract

Introduction: The Producer as Composer and the Rise of Instrumental Hip-Hop

I. The Influence of J Dilla and the Story of *Donuts* 10
II. Plunderphonic Tension, Resolution, and Artifacting in “Don’t Cry” 26
III. Digital Processing Effects in “Mash,” “Time: Donut of the Heart,” and “Glazed” 40
IV. Sample Collage Techniques Through Amanda Sewell’s “Typology of Samples in Hip-Hop” in “Workinonit” 55

Conclusion: J Dilla’s Influence on Current Hip-Hop Music Production 70

Bibliography 74

Vita 79
LIST OF FIGURES

Figure 1: Image of the Akai Professional MPC60
Figure 2: Image of J Dilla in his home studio
Figure 3: Comparison of “Quantized” and “Un-Quantized” Stylized Drum Patterns in “Untitled/Fantastic” by Slum Village
Figure 4: Transcription of “Get Dis Money”
Figure 5: Example of “Chopping” Technique on the MPC, from Mike D’Errico’s “Behind the Beat” thesis
Figure 6: Tracklist of Donuts and occurrences of the “Dilla Siren”
Figure 7: Description and Features of Ableton Live 9 Software
Figure 8: Ableton remake of “Don’t Cry”
Figure 9: Lyrics that feature Plunderphonic Transformation in “Don’t Cry”
Figure 10: Rhythmic transcription of composite drum pattern
Figure 11: Transcription of Composite Melody at 0:40 of “Don’t Cry”
Figure 12: Layout of the Boss SP-303 “Dr. Sample”
Figure 13: Audio Loop and melodic transcription of Guitar Melody in “Time: The Donut of the Heart”
Figure 14: Vocal sample playing simultaneously with Guitar Melody, Ableton and Sheet music transcription
Figure 15: Time-stretched guitar melody vs. original guitar melody in “Time”
Figure 16: Diagram of Ring Modulation
Figure 17: Audio of “It’s Strange” sample from Lou Rawls’ “Season of the Witch”
Figure 18: Table Listing all samples in “Workinonit, Sample Type, and times in which the samples occur
Figure 19: Featured Samples in “Workinonit,” 0:00-0:20
Figure 20: Highlighted Rhythmic “Stabs” of “Sweet” Charles Sherrell Sample at 0:40 of “Workinonit”
Figure 21: Transcription of guitar & synthesizer melody at 2:09 of “Workinonit”
Figure 22: Rearranged lyrics in “Workinonit” vs. original lyrics in “Worst Band in the World”
Figure 23: Repeated audio samples at 0:13 and 1:44 of “Workinonit”
Figure 24: Reversed snare at 0:22 or measure 9 of “Workinonit”
INTRODUCTION

The Producer as Composer and the Rise of Instrumental Hip-Hop

In a 2012 interview with hip-hop magazine *XXL*, drummer and founding member of the acclaimed hip-hop group The Roots, Ahmir “Questlove” Thompson, expressed great admiration of the late producer J Dilla. Born as James DeWitt Yancey to a family of Detroit musicians, J Dilla is considered by many hip-hop scholars and musicians to be one of the most influential producers of the genre. His techniques of sampling (or as Questlove puts it: “tricks”) are some of the most complex and intricate in the world of hip-hop beat making and are viewed as virtuosic in their own right.¹ When asked about what specifically is so appealing about a J Dilla production, Questlove answered:

I like his kick patches better than anyone; I love his snare patches better than anyone; I love his sample chops better than anyone; I like his ability to flip samples better than anyone; I like his chord structure better than anyone; I love his bass tones better than anyone. It really just starts there. And having listened to all of his beat creations, and overanalyzed them over a hundred times each, there's just an extreme pristine presentation.²

A multitude of skills and techniques go into creating an instrumental hip-hop track, also known as a hip-hop “beat.” Several scholars have explored the nuances of hip-


hop production, with the most influential work being Joseph Schloss’s *Making Beats: The Art of Sample-Based Hip-Hop*.³ According to Schloss, although more traditional musical skills are involved with hip-hop music production, such as an understanding of harmony, melody, and rhythm, one of the most innovative aspects is the process of sampling, or borrowing recordings from another source, such as a vinyl record. This process of sampling has allowed the genre of hip-hop to be influenced by other popular music genres (from popular funk and soul records in earlier days of hip-hop in the 1970s to more obscure jazz and R&B records in the 1990s) and has aided in the development of hip-hop’s own sound and identity, becoming an amalgamation of other sounds and music styles from a wide variety of other popular music genres.⁴

As music technology and production have evolved, the sound and production of hip-hop has also evolved with it. The use of the MPC, or Music Production Center, has shaped the compositional process of hip-hop beat making since its release by Akai Professional in 1987. With the machine’s sixteen pads, this device allows the user to digitally sample audio, rearrange said audio, and sequence audio into one or several patterns or loops. As the technology of sampling has evolved over time, so too have the producers who use said technologies, taking what was once a tool for aggregating sequenced musical patterns from other instruments and samples and using the sampler


⁴ Throughout this document, the term “sampling” will refer to the general act of digital musical borrowing, as well as the act borrowing a specific sonic event from another recording.
itself as an instrument. Several scholarly works have even observed this use of digital samplers, with the most recent example being Michael D’Errico’s master’s thesis discussing the history and evolution of the MPC and its influence on hip-hop instrumental composition. Composer John Oswald even prophesized this use of the sampler as an instrument in his essay “Plunderphonics, or Audio Piracy as a Compositional Prerogative,” written several years before the MPC was created. Figure 1 shows an image of the MPC (or Music Production Center) digital sampler, first released in 1987 by Akai Professional.

---


6 John Oswald, "Plunderphonics, or audio piracy as a compositional prerogative," Musicworks no. 34 (Spring 1986): 5-8.
Due to this technology of sampling other audio and creating new compositions with sampling technology, the producer acts also as a performer and composer. This function of a “producer” is starkly contrasted from the original role of a music producer in commercial music from earlier eras of popular music production, which involved popular artists with more traditional processes of arrangement and orchestration with studio recordings.

---


8 Harkins, 6.

Hip-hop’s evolution in conjunction with the evolution of music technology has allowed the genre’s history of sampling to mature and evolve into its own form of compositional process. Since the dawn of hip-hop’s early years in the early to mid-1970s, the “beat” has served as the backdrop or musical accompaniment to dancers or rappers and has maintained that musical role for almost all of hip-hop’s history.\(^{10}\) These “beats” would usually come from looped drum breaks from funk and disco records that were popular at the time of the genre’s infancy. Throughout the 1980s, the use of sampling in hip-hop gradually transitioned from disc jockeys looping drum breaks on turntables to digitally sampling records with MPC technology.\(^{11}\) One of the pioneers of sampling techniques in hip-hop is producer and radio DJ Marley Marl, who sampled individual drum sounds from popular drum breaks and use them to create his own sequenced drum patterns. Producer Pete Rock, a contemporary of Marley Marl on his radio show in New York, also became a pioneer in hip-hop production, and was one of the several producers during the early 1990’s who brought influences of looping jazz and funk samples into mainstream hip-hop, mainly with his collaboration with rapper CL Smooth.\(^{12}\) During the mid-90s, Pete Rock’s jazz influence impressed and greatly influenced the style of a young producer from Detroit, Michigan: J Dilla. This sort of informal “family tree” of

---


\(^{11}\) Ibid, 5.

hip-hop production has become common knowledge within the hip-hop community, and could be expanded on all the way up to current producers working today.\textsuperscript{13} By providing this sort of “family tree” as context, we can observe how J Dilla used these techniques by expanding them into a much more nuanced and complex compositional process.

Within the context of hip-hop production and composition, digital sampling has become an integral part of the genre's evolution and cultural aesthetic. Since the act of sampling contains several negative connotations (such as not being original or “stealing” musical ideas from other artists), it has become customary among many hip-hop producers to sample in more unique and transformative ways.\textsuperscript{14} As opposed to simply creating a loop of a jazz or funk sample like earlier hip-hop production, Dilla would rearrange parts of an audio sample into a re-sequenced pattern on his MPC. This process, known by hip-hop producers as “chopping,” allows the producer to create new rhythmic, harmonic, and melodic material with preexisting audio recordings.

Although J Dilla did not implement this technique until towards the middle of his career, he is known as the “king” of chopping by many figures in the hip-hop community. In a 2013 lecture with the Red Bull Music Academy, producer and drummer Questlove described J Dilla’s ability to chop a sample as “…the equivalent of solving a 10,000-piece puzzle in record time.” His comment refers to the speed with which Dilla would chop samples into new compositions; many of his contemporaries claimed he would take

\textsuperscript{13} Broadway.

\textsuperscript{14} Schloss, 63.
only around 10 minutes to produce an entire completed hip-hop instrumental beat. Because of Dilla’s intense work ethic, he was able to produce several hours’ worth of music a day at the height of his musical output, leading to numerous collaborations with other rappers and artists, as well as a substantial amount of instrumental compilations or “beat tapes” that would be passed around others in the industry.\textsuperscript{15} Initially, these beat tapes were to attract rappers or label executives in order to be sold and used in other artists’ works.\textsuperscript{16} As underground hip-hop culture evolved throughout the 1990s and “bootlegging” (making unauthorized copies) became popular with both fans and artists alike, many admirers of J Dilla listened to his beat tapes as pieces of music in their own right (rather than as accompaniment for other artists).\textsuperscript{17} This functional change in the beat tape allowed this medium to evolve into its own musical form, as opposed to its original purpose of being a simple compilation of recorded beats.

From about 1995 to 2005, J Dilla produced a multitude of beat tapes, exploring different musical ideas with each subsequent release. \textit{Donuts}, his last instrumental beat tape, is considered the culmination of J Dilla’s production skills and highlights the virtuosic “chopping” skills that he became known for throughout his career. The thirty-one tracks on this album feature a sporadic and eclectic collection of samples from a

\begin{itemize}
  \item \textsuperscript{16} The term “beat tape” stems from the fact that the instrumental compilation would be put onto a cassette tape, although the term today is more of a slang term for any type of instrumental hip-hop compilation.
  \item \textsuperscript{17} Broadway.
\end{itemize}
multitude of periods and genres of popular music, from classic rock to R&B and everything in between. This work emphasizes that the instrumental “beat” has evolved into an art form in and of itself, and with the rise in popularity of the instrumental hip-hop subgenre, producers have become artists and composers in their own right.

J DILLA’S DONUTS AND ITS CONTRIBUTION TO HIP-HOP STUDIES

Over the past twenty years, hip-hop studies have evolved into an international and interdisciplinary field, with more and more scholarly works published in this area every year. Most of this research has focused on the rhythmic and timbral qualities of rappers, only more recently exploring the instrumental “beats” that support rappers in hip-hop music. This thesis contributes to the field of instrumental hip-hop analysis by applying several techniques of harmonic, rhythmic, and melodic analysis to the beats found on J Dilla’s Donuts.

Furthermore, it is important to shed light on the complexities and nuances of the works of J Dilla for the very reason that he is considered by many to be the greatest and most influential producer of the genre. His production equipment (such as his Moog synthesizer and MPC 3000 sampler) are featured in Smithsonian’s Museum of African American Music and Culture, and his music is revered by critics, fellow producers, and even contemporary composers, with artists such as composer Miguel Atwood-Ferguson arranging an orchestral suite of several of J Dilla’s most well-known tracks, titled Suite
for Ma Dukes. It is surprising, therefore, that relatively little academic research has been done on J Dilla’s music within the fields of music theory and musicology. By analyzing his compositional process through selected tracks on his seminal (and final) album Donuts, I will be exploring how Dilla used over seventy-five samples from a variety of music genres and artists to create a sonic collage that is one of the most influential instrumental works of hip-hop genre.

---

18 Fitzpatrick.
CHAPTER 1

The Influence of J Dilla and the Story of Donuts

In Rhymin’ and Stealin’: Musical Borrowing in Hip-Hop, Justin Williams discusses how the influence of artists’ music and character can influence popular culture postmortem, using the late rappers Notorious B.I.G. and Tupac as examples.19 This occurrence is true of many prominent figures of hip-hop, as well as with popular music in general (artists of the “27 club” such as Jimi Hendrix, Janis Joplin, and Kurt Cobain). A premature death at the height of an artist’s career can sometimes catapult him/her into the status of cultural icon.

This mythological transformation from the passing of an artist holds true especially for J Dilla, who died due to complications from lupus at the age of thirty-two. After his passing, his music, as well as his image of the “King of the Beats,” became ingrained within hip-hop music and culture, especially within the community of hip-hop producers.20 Images of J Dilla sitting in front of his MPC, such as the one shown in Figure 2, have gained popularity among fans since his passing. Several of his contemporaries also have taken part in supporting this visual representation, such as in

---

19 Williams, 103.

20 The nickname “King of the Beats” stems from a track of the same name by the popular rap group Mantronix, which J Dilla would sample from frequently.
rapper Phife Dawg’s music video for his 2014 single “Dear Dilla,” which portrays J Dilla on his MPC while bedridden in a hospital.\textsuperscript{21}

Figure 2: Image of J Dilla in his home studio.\textsuperscript{22}


J Dilla’s final album, *Donuts*, released three days before his passing on February 10, 2006, was the result of Dilla facing his own mortality at the end of his life. He spent his last nine months in the hospital. Here it became difficult to continue to produce music than in his home studio, where he had access to much more instruments and equipment. This limited him to creating music using portable music hardware, such as the Boss SP-303 sampler and the Numark PT-01 turntable (as well as the digital audio software Pro Tools). Dilla created twenty-nine of the thirty-one total tracks on *Donuts*, as well as several unreleased instrumental beat CDs, with this relatively limited equipment.

**“THE MOZART OF HIP-HOP”**

Several aspects of J Dilla’s production style became popular among other hip-hop producers both during and after his lifetime. One significantly influential aspect was the rhythmic patterns of his sampled drum sounds that were featured prominently in most of his musical output. The best musical example of this rhythmic pattern is Detroit rap group Slum Village’s “Untitled/Fantastic” off of their 2000 album *Fan-tas-tic Vol. 2*. J Dilla was one of three members of Slum Village, and produced almost all of their instrumental beats. As shown in Figure 3, this pattern, also known as an “un-quantized” pattern to many producers, “humanizes” the sampled drum sounds by creating more

---

23 Hart.

24 Ferguson, 57.
imperfect or “offbeat” pattern. When observing Figure 3A, all drum sounds are lined up exactly within the rhythmic grid of eighth notes within a one-measure loop. This is changed in Figure 3B, where the upbeats of hi-hat and kick drum patterns occur slightly after the eighth-note divisions and the snare pattern occurs slightly before beats two and four.

\[\text{\textsuperscript{25}}\] This is usually created by turning off quantization that is featured among many drum machines and samplers, in which the machine automatically lines up eighth-note or sixteenth-note patterns when played into the system’s memory.
Another aspect of J Dilla’s production style that he became known for both during and after his career was the compositional style of his basslines. With more conventional basslines featured in earlier hip-hop production of the 1980s and early 1990s, many basslines were sampled from older music genres, such as producer Dr. Dre’s frequent use of funk basslines by George Clinton (e.g. “What’s My Name?” by Snoop Dogg).27

26 Recreated by the author using MIDI Notation in Ableton Live 9. This diagram uses MIDI notation from Ableton Live to notate the drum pattern as opposed to traditional sheet music notation, as it provides a clearer picture of the microrhythmic differences between quantized and unquantized patterns.
took an entirely different approach greatly by creating countermelodies in his basslines that contrasted with the main melody of the instrumental, as well as featured more nuanced synth-bass sounds using a Moog synthesizer. One of the best examples of this technique is another track off of the Slum Village album *Fan-tas-tic Vol. 2* called “Get Dis Money,” which features a synth bassline that acts as a countermelody to the sample of Herbie Hancock’s “Come Running to Me” that is featured throughout the instrumental beat. As shown in Figure 4, the seven-measure bass melody acts as a countermelody to the sampled synthesized voice from the Herbie Hancock sample. As the main vocal melody descends chromatically, the bassline by J Dilla sticks to an Aeolian modal countermelody, as opposed to playing only the pedal bass notes featured in the chord progression.

27 Williams, 73.
Finally, one of the most influential aspects of J Dilla’s production style was his use of sampling. Many producers cite him as one of the prime innovators in sample manipulation and turn to his work to learn how to sample in unique and transformative ways. The best example of this (pre-Donuts) is J Dilla’s sampling of Roy Ayers’ “Ain’t Got Time” in the track he produced for the hip-hop group Black Star in their song “Little Brother.” In this track, J Dilla highlighted his skill of “micro-chopping” the original track (which features the vocals of Roy Ayers) on his MPC sampler and rearranging parts

28 In this example, although there is obviously an emphasis on the tonic in the bassline, the countermelody that is constructed still contrasts significantly both melodically and rhythmically from the vocoder synth part.
into an uninterrupted instrumental. Figure 5 shows an example of the “chopping” technique on the MPC, from Mike D’Errico’s “Behind the Beat” thesis, where a monoaural sample is separated into individual units. This example is not a transcription of J Dilla’s production of the “Little Brother” instrumental and is simply to serve as a visual aid for how a producer such as J Dilla would have seen the chopped audio on the main screen of the MPC.

Figure 5: Example of “Chopping” Technique on the MPC.

I have chosen to focus on specific tracks from Donuts for several reasons. First, J Dilla’s final album features an amalgamation of the sampling techniques that he became known for throughout his career, and which (in turn) influenced the sampling approaches

---


30 D’Errico, 32.
of many hip-hop producers in the decade after his death.\textsuperscript{31} Second, this album is an instrumental work, meaning that it features no rappers or singers and any sort of vocals that are featured are part of the music that he samples.

In contrast to this, instrumental hip-hop is somewhat more advantageous for analysis in that the music “speaks” on its own, just like any other genre or type of instrumental music. Relatively little research has been done on the analysis of instrumental hip-hop, mostly because the subgenre itself has had a relatively short history. Additionally, much of instrumental hip-hop music and culture has existed in the “underground” communities of hip-hop and received relatively little mainstream attention in its evolution up until the 2006 release of J Dilla’s \textit{Donuts}.\textsuperscript{32}

Several journalists have made comparisons to J Dilla and the creation of \textit{Donuts} to Mozart writing his final piece \textit{Requiem} on his deathbed, even going so far as to call J Dilla the “Mozart of hip-hop.”\textsuperscript{33} The exploration of one’s own mortality has been observed many times throughout Western music of the common practice period, from Beethoven’s exploration of death in his fifth symphony to Gustav Mahler in his second symphony.

\textsuperscript{31} Ferguson, 68.

\textsuperscript{32} Ibid., 11.

\textsuperscript{33} Fitzpatrick.
MOTIFS, THEMES, AND THE OVERALL STRUCTURE OF DONUTS

Considering the overall shape and form of Donuts contextualizes how the specific tracks I will be analyzing function as a part of the entire composition. It is best to interpret the structure of Donuts as one large thirty-one-movement composition as opposed to simply a collection of tracks. The name Donuts stems from the nickname for a 45rpm single vinyl record, as well as one of J Dilla’s favorite foods. Similar to the shape of a donut, the structure of the album itself implies that it can be played on a loop, with the first track titled “Donuts (Outro)” and the final track “Welcome to the Show” ending with the sample that opens the first track.

Throughout the album, the samples used by Dilla explore themes of death, love, and self-reflection. Many of these themes of death specifically have stemmed from interpretations by both fans and loved ones. As hip-hop photographer Brian “B+” Cross states, “Listen to Donuts. Do you really think the dude didn’t know what was going to happen to him? He fully knew what was gonna happen.” By sampling audio and lyrics and repetitive ways, Dilla is able to “speak” through the samples he used and highlight the themes he attempts to portray accordingly. In the penultimate track “Last Donut of the Night” for example, a somber string melody is repeated and “chopped” into several variations, along with a “micro-chopped” guitar and vocal melody dispersed throughout the track. This track signals the ending of the album, as well as the ending of J Dilla’s

34 Hart. J Dilla also named other instrumental compilations after other junk food themes, such as “Pizza Man.”

35 Ferguson, 90.
own life. This theme of self-reflection on one’s own death is also highlighted in the track “Don’t Cry,” which many believe is a perfect example of Dilla “speaking” through his samples and urging his friends, family, and fans to not mourn his death.36

Several samples reappear throughout many of the tracks as well, acting as motifs throughout the album. One significant sampled motif is the blaring horn sound that starts at the beginning of the track “Workinonit.” This sound is a sample of the rap group Mantronix’s 1985 single “King of the Beats.” Jordan Ferguson, author of the 33 1/3 book series focusing on the album Donuts, identifies the blaring horn sound as a fanfare within the context of the album, and also points out the implication that J Dilla is claiming the title as “King of the Beats” by using this sample.37 The siren sample returns frequently throughout the next thirty tracks on the album, and in seemingly sporadic and unpredictable ways. In the very next track on the album, “Waves,” for example, the horn sound is heard once again, but this time it returns halfway through the track, and appears and disappears almost instantly.38 Several other samples are used in this way, such as the sample of the Beastie Boys’ 1986 single “The New Style,” which appears in conjunction with the horn sample at the beginning of the previously mentioned track “Workinonit.”

36 Ferguson, 91.
37 Ibid., 82.
38 Several other samples are used in this way, such as the sample of the Beastie Boys’ 1986 single “The New Style,” which appears in conjunction with the horn sample at the beginning of the previously mentioned track “Workinonit.”
Figure 5 lists the tracks in *Donuts*, marking instances where the “Dilla siren” appears with an asterisk.

Figure 6: Tracks in *Donuts*

Bold and underlined indicates occurrences of the “Dilla siren”

1. “Donuts (Outro)”
2. **“Workinonit”**
3. **“Waves”**
4. “Light My Fire”
5. “The New”
6. “Stop”
7. **“People”**
8. **“The Diff’rence”**
9. “Mash”
11. “Glazed”
12. “Airworks”
13. **“Lightworks”**
14. “Stepson Of The Clapper”
15. “The Twister (Huh, What)”
16. “One Eleven”
17. “Two Can Win”
18. “Don't Cry”
19. “Anti-American Graffiti”
20. “Geek Down”
21. **“Thunder”**
22. **“Gobstopper”**
23. **“One For Ghost”**
24. “Dilla Says Go”
25. “Walkinonit”
26. **“The Factory”**
27. **“U-Love”**
28. “Hi.”
30. **“Last Donut of the Night”**
31. **“Welcome to the Show”**
IDENTIFYING SAMPLES WITH WHOSAMPLED.COM

Throughout this thesis, I will be frequently mentioning the sources of the original samples found in Donuts. The resource used to identify the source of these samples came almost exclusively from the website WhoSampled, which has served as an invaluable tool to identify samples found in popular music for both fans and scholars alike.

APPLIED METHODS

In many ways, the techniques implemented by J Dilla have more in common with contemporary electroacoustic music than they do with more conventional commercial hip-hop production. Jordan Ferguson notes that some of the tracks have more similarities to the musique concrète of Pierre Schaeffer than music of any of J Dilla’s hip-hop contemporaries. As mentioned earlier, however, there has been relatively little research done in the subgenre of instrumental hip-hop, and although comparisons can be made with other contemporary or experimental music, no standard methods of analysis have been established.

Throughout the next several chapters of this thesis I will be looking at several methodologies by other scholars and applying them to specific tracks from Donuts. In the track “Don’t Cry,” I will explore the rearrangement of audio samples in order to create a
new composition, as well as provide a section of tension and resolution within the track, using the writings of composer John Oswald as a basis for analysis.\textsuperscript{39} In the chapter three I will be looking at specific moments within the tracks “Mash,” “Time: Donut of the Heart,” and “Glazed,” which exhibit digital signal processing effect and effects that transform the timbres and textures of the original audio samples, using Michael D’Errico’s discussion of digital effects in his “Behind the Beat” thesis as a basis for analysis.\textsuperscript{40} Finally I will be looking at the track “Workinonit” in chapter four, using Amanda Sewell’s “Typology of Samples in Hip-Hop” as a basis for analysis.\textsuperscript{41}

**DECODING DILLA: RECREATING SELECTED TRACKS ON DONUTS USING ABLETON LIVE 9 SOFTWARE**

Throughout these next three chapters, the majority of diagrams and transcriptions presented will come from screenshots of my own recreations of the tracks using Ableton Live 9 audio software. Since these tracks do not feature any type of published musical score or anything similar, the best way to represent these tracks visually is using this software in order to recreate (to the best of my ability) these tracks. I used the original


\textsuperscript{40} D’Errico, 48.

samples and emulated the rearrangements and processed effects found in the J Dilla versions of these tracks. D’Errico set a precedent in his “Behind the Beat” thesis by showing recreations of specific tracks by producers using the same software. Using this software has many benefits when discussing electronically-produced or digitally-sampled music, in that it provides both a source of audio playback as well as a visual aid that can serve as a helpful diagram for observing how samples are manipulated. Figure 7 is an example of a type of diagram that will be used throughout this thesis. This shows measure numbers and subdivisions of each measure on top, the stereo sample that is being played, and the timecodes below the stereo sample. I will also occasionally include traditional sheet music transcriptions, but only when discussing specific melodic or rhythmic aspects of a track in which showing notation is more appropriate.

42 D’Errico, 52.
Figure 7: Description and Features of Ableton Live 9 Software
CHAPTER 2

Plunderphonic Tension, Resolution and Artifactoring in “Don’t Cry”

“PLUNDERPHONICS” AND WHAT IT MEANS FOR HIP-HOP BEATS

In the 1985 essay “Plunderphonics, or Audio Piracy as a Compositional Prerogative,” composer John Oswald describes the transformative power of digital samplers, stating, “a sampler, in essence a recording, transforming instrument, is simultaneously a documenting device and a creative device, in effect reducing a distinction manifested by copyright.”43 This statement on the power of digital samplers holds true today, especially as samplers have become more technologically advanced throughout the 1980s and 1990s and more musicians and producers use them in their own music. What Oswald does not expand on, however, is how exactly these samplers which became so popular among electronic music and hip-hop music producers can function as creative devices. I will expand upon this idea throughout this thesis using J Dilla’s Donuts as an example.44

---

43 Oswald, 5.

44 I am borrowing the term “plunderphonics” as a way of referencing Oswald’s concept of the use of samplers as compositional and creative devices. In many ways, Oswald’s concept of plunderphonics shares many characteristics with musique concrète, a style of electroacoustic music popularized by Pierre Schaeffer and later implemented in compositions by composers such
The term “plunderphonics” has also been used by music critics and journalists to describe previous works by hip-hop artists and producers. For example, The Avalanches feature sampling from a wide array of other popular music genres and recordings (especially in their 2000 album, *Since I Left You*).\(^{45}\) Although this term has been used as a sort of musical style or subgenre in past writings, the term has yet to be explored in-depth by both popular music journalists and scholars alike. This chapter defines the compositional “plunderphonic” techniques more clearly in a hip-hop context.

Using the eighteenth track on the album, “Don’t Cry,” I show how sampling can function as a creative style of composition by highlighting and analyzing the transformative properties of J Dilla’s rearrangement of the sample of the soul group The Escorts and their song “I Can’t Stand (To See You Cry).”\(^{46}\) Hip-hop producer and Duke University professor 9th Wonder (Patrick Douthit) frequently features an analysis of this track in his lectures on hip-hop production.\(^{47}\) With discussions that focus on the

---


\(^{46}\) George Kerr and The Escorts, “I Can’t Stand (To See You Cry),” *3 Down 4 to Go*, Alithia, 1974.

construction or composition of this track, scholars such as D’Errico or producers such as
9th Wonder point out that the use of the sample from The Escorts and its subsequent
rearrangement is unique and transformative. I expand upon their observations by going
into more detail as to how exactly the function of the transformed audio differs from its
original sample, as well as how the “chopped” audio functions as a newly composed
work.48 The terms I will use to describe specific aspects of the composition are my own
terms: “Plunderphonic Expectation,” “Plunderphonic Fulfillment,” and “Plunderphonic
Transformation.” These refer to the presentation of a sample in its original form, the
rearranged or “chopped” version of the sample, and the resulting effects of the lyrics or
melody and its rearrangement, respectively. Although these terms may be a bit perplexing
as to how the original playback of a sample qualifies as “expectation” while its
rearrangement results in “fulfillment,” in the context of sample-based composition it is
expected that the sample being used be manipulated in some fashion, thus leading to a
lack of transformative properties as expectation and the subsequent rearrangement as
fulfilling said expectation. This recontextualization and reorganization of samples is
represented visually in Figure 8A, where the introduction and The Temptations sample
occurs, then the subsequent “expectation” and “fulfillment” sections take place.

48 The analysis I will be mainly referring to is Michael D’Errico’s breakdown of the track
in his chapter on the experimental hip-hop subgenre in the Cambridge Companion to Hip-Hop.
In “Don’t Cry,” the track starts with the introduction from the original song by The Escorts. In the opening section of the track, a brief chopped rearrangement of the original intro of “I Can’t Stand” is heard, with the original melody somewhat obscured and sped up significantly from its original tempo. Another sample is played simultaneously, which derives from a section of a 1969 album by popular R&B The Temptations, titled *The Temptations Show*. This introduction serves as a teaser for the heavily chopped section that appears later in the track, with the vocal sample acting as a way of J Dilla “speaking” through the vocal samples that he presents throughout the album. The vocal sample that appears during this introduction states, “…alright, you sing it, and I’ll show you how my voice would’ve made it unbelievable.” In the vocal sample’s original form, the statement refers to one of the members of The Temptations during the live recording stating how his vocal talent can turn one of the songs by the group into a “hit record.” J Dilla recontextualizes the meaning of this statement to refer to his talents as a producer. His reinterpretation of the sample by The Escorts highlights his skills. In many ways this statement is accurate, as the track “Don’t Cry” is considered to be a highlight of *Donuts*.

---

49 “Don’t Cry” exhibits a similar aesthetic to most of the other tracks on *Donuts* in that it features a sample from one of many popular soul and R&B groups of the 1960s and 1970s.


52 Ferguson, 82.
PLUNDERPHONIC EXPECTATION AND FULFILLMENT

Upon first listening to this track, it may be a bit confusing as to what exactly is happening with the sample presented, as very little of it is transformed in any way. “Don’t Cry” is the eighteenth track featured on *Donuts*. Up until this point in the album, samples have been pitched up, down, reversed, and even halted with the sound of a record needle being moved. The comparatively little rearrangement or recontextualization of the opening section is what we will label as “plunderphonic expectation,” as the section features very little if any transformative properties for the listener. Within the context of sampling in hip-hop (as well as other genres of sample-based composition), the listener expects an audio sample to be transformed in some way in order to highlight the skills of the producer. With the introduction of “Don’t Cry,” Dilla creates a sense of expectation by a relative lack of “chopping,” only replaying sections of the original with very minimal transformative properties. Shown in Figure 8 is a recreation of all of the samples that occur in the first 50 seconds of “Don’t Cry.” With the “expectation” section, only three main “chops” are heard where the audio is rearranged. Once the “fulfillment” section is heard, the chops heard increase in up to sixteen fragments, or two measures in divisions of eighth notes.

At the beginning of what I will call the “plunderphonic expectation” section, the beginning of the first verse from the original song occurs, which originally appears

---

53 This occurs at the beginning of the track “Airworks.”

54 Schloss, 103.
seventeen seconds into the original recording by The Escorts. The first phrase “I can’t stand to see you cry” is repeated by the solo vocalist and backup singers. Then, as the lead singer begins the second phrase of the verse, he is seemingly interrupted by the backup singers singing the title of the track once again. The words “with tears” are heard as a part of the second phrase and is immediately cut off by the repetition of the title phrase from the backup singers. After the repeated phrase by the backup singers occurs, another lead singer appears, singing the title of the track once again with a more “soulful” inflection, stating, “I can’t stand to see you cry, now, baby.”

During this section, there are several moments in which the audio is chopped and rearranged, and features transformative properties by repeating the phrase “I can’t stand to see you cry” from different members of the group. Although this could be interpreted as still transformative in some sense, it is apparent that the “chops” in this section occur much less frequently then the section featuring the “fulfillment” of the track.

Then, at forty seconds into the track, the introduction is then “chopped” into individual sections, at an approximate length of an eighth note each. The tempo increases significantly from the intro, from around 70 beats per minute to 88. At this moment, “plunderphonic fulfillment” occurs, with the rearrangement of the original sample finally revealed. This section contrasts with the previous one by using parts of the unaltered sample previously presented and chopping it into a new musical section with a new tempo and seemingly contrasting melodic and harmonic material. By doing this, J Dilla uses the section featuring “plunderphonic expectation” as a way of presenting to the
listener the (largely unaltered) section of audio, then featuring the “plunderphonic fulfillment” and showcasing his chopped version.

Figure 8A and 8B: Ableton remake of “Don’t Cry.”

A: Ableton remake of “Don’t Cry,” 0:00-0:50
B: “Fulfillment” section at 0:40, where chopped or rearranged audio occurs.

PLUNDERPHONIC TRANSFORMATION

Throughout much of “Don’t Cry” there are words or phrases heard that are seemingly cut off or interrupted by other sections of audio. This is first heard in the introduction of the track, when the phrase “don’t cry” is heard but then cut off in the middle of the word “cry” by the repeated introductory melody. During the tension section this happens as well, with certain phrases (such as the snippet “with tears” heard) not completed. During the resolution section this is most apparent, with words and phrases rendered almost unintelligible, with the exception of a part of the word “baby” being recognizable at 0:44. This constant use of interruptions and unintelligible vocal snippets are what will be referred to as “plunderphonic transformation.” When rearranging or “chopping” this audio in this track, an emphasis is put on the phrase, “I can’t stand to see you cry,” and because of this, any other phrases or lyrics featured in the track become secondary.

As previously mentioned in the tension section of “Don’t Cry,” the phrase “with tears” is heard, but is then interrupted by the repeat of the title phrase, rendering the
original reference unintelligible. This is not only done with specific phrases, but also with individual words and syllables. This is most prominent in the fulfillment section of the track, with individual vowel sounds (“oohs” and “ahs”) only heard and a small snippet of the word “baby,” which is also rendered unintelligible by its repetition of its first syllable (sounding like “bay-bay”). When the sample is being chopped and rearranged in various ways, the lyrics and vocals being heard in the original song become secondary to the individual sounds or pitches that the vocals are producing, thus transforming the individual consonant or vowel sounds in the final production. In relation to John Oswald’s concept of plunderphonics, this relates directly to the transformative power of sampling by recontextualizing not only phrases or lyrics of a sampled voice, but the individual syllables and pitches as well.\(^\text{55}\) Figure 9 shows the instances in which these lyrics are cut off or repeated at 0:14 to 0:40. The lyrics “with tears” are cut off by the repetition of the phrase “I can’t stand to see you cry”

![Figure 9: Lyrics that feature Plunderphonic Transformation in “Don’t Cry”](image)

\(^{55}\) Oswald, 6.
IT’S ALL ABOUT THE DRUMS

Throughout the “fulfillment” section of “Don’t Cry,” the rearranged and heavily chopped sequence of patterns contrasts heavily with the significantly less manipulated “tension” section. When listening to this resolved section (which occurs between 0:40 and 1:12 of the track, and then again between 1:18 and 1:42), it is apparent that although the melodic parts of the sample, such as the vocals or other instruments, seem to have a “chopped” and rearranged sound, the drums sound as if the drum patterns in these sections are constructed separately from the original sample. This is not the case, however, as the drums that are prominently heard throughout the section are the original drum sounds from the sample. These are arranged and sequenced in such a way that no matter what is being heard from the vocals or other melodic instruments, a steady drum pattern is always present, with the snare drum sounds mostly occurring on beats two and four of each measure and kick drum sounds occurring on beats one and three of each measure. By focusing specifically on the drum sounds from the original track by The Escorts, J Dilla uses the drum sounds already present in the original recording as a reference point for when each individual chopped section should be sequenced. This creates a sense of rhythmic cohesion throughout the track while also creating a sort of aural illusion that the drums are actually separate sounds from the original sample.56

---

56 This technique of using drum sounds (more specifically, the kick and snare drum sounds) as a reference point is also featured in tracks like “Waves” and “Bye,” while the original samples (which featured a 6/8 or other compound time signature) are manipulated in such a way that the drum sounds featured in each track still occur in a distinct kick and snare drum pattern, with the snare occurring on beats two and four of each measure and the kick drum sounds occurring on beats one and three.
Figure 10 shows this composite drum pattern that is present at 0:40 of “Don’t Cry,” with the kick drum and different snare drum sounds transcribed.

Figure 10: Rhythmic transcription of composite drum pattern at 0:40

```
Snare 1 (x)  Snare 2
\n\n\n\n\n\n\nKick Drum
```

TRANSFORMATION OF MELODIC COMPONENTS THROUGH CHOPPING

In the “fulfillment” section the rearrangement of these vocal and instrumental melodic components create some type of composite melody. Figure 12 shows a transcription of this composite melody, along with labels that show the source of each note heard throughout this melody. The words “baby,” “you,” and “I don’t” are heard throughout these sections as plunderphonic transformations from the vocals of the original sample. In this section, specific instrumental sounds from the original song (xylophone, electric bass, strings, etc.) also show up as a part of Dilla’s chopped samples. The melodic and harmonic components that were originally present in the original song are now obscured through the process of the chopped version in the resolution section of “Don’t Cry.” Through this sections rearrangement, a new composite melody is featured, along with the harmonic components from the original sample. As opposed to the simple
diatonic major seventh chords of the original song (featuring mainly the chords I, IV, and V in the key of D-flat major), the harmonic qualities in “Don’t Cry” are much more tonally ambiguous, using mainly a harmonic ostinato that alternates between E-flat and F minor triads. The melodic components are also more simplistic, with E-flat being featured prominently.\(^57\)

---

\(^57\) In D’Errico’s transcription from the *Cambridge Companion*, this section is referred to as a loop, implying that this section is a two-measure section that is repeated multiple times. Upon further listening of this section, however, it seems that specific chops throughout this section come from different parts of the original track, as well as different sorts of drum patterns. Although I agree with the fact that this section has an overall “stabilizing effect” that seems to repeat in certain instances, the overall form of the section features parts from different samples that appear across all different parts of the original three-minute recording by The Escorts.
OTHER PLUNDERPHONIC FEATURES THROUGHOUT DONUTS

Although “Don’t Cry” contains the clearest examples of these plunderphonic concepts, there are other tracks on Donuts that feature these characteristics as well. Examples that feature some form of plunderphonic transformation include the tracks “Waves” or “Bye,” which similarly to “Don’t Cry” also feature lyrics or vocal sounds that are seemingly unintelligible in comparison to the tracks’ original samples. The track “Waves,” for example, includes a sample of the British rock band 10cc’s song “Johnny Don’t Do It,” but only features individual syllables or vowel sounds from the original song’s chorus, stating the title of the track. Many fans have interpreted the rearrangement of these vocal snippets to be stating “Johnny, do it,” and have even concluded that this is referring to J Dilla’s surviving brother John Yancey, encouraging him to go into hip-hop producing after his own passing. This sort of reinterpretation of manipulated lyrics, as well as the many interpretations of manipulated lyrics by scholars and fans alike, appear frequently throughout Donuts, and although it is intriguing to discuss these many interpretations and how they relate to the possible themes of death and mortality in the album, they are speculative at best.


59 Ferguson, 90.
SUMMARY

Throughout this chapter, I have discussed how J Dilla used the The Escorts’ “I Can’t Stand to See You Cry” in his track “Don’t Cry” through the lens of John Oswald’s concept of “Plunderphonics.” Plunderphonic Expectation, Fulfillment, and Transformation can be used as well as expanded upon in future research dealing with sampled compositions in instrumental hip-hop production. I will be referring back to these concepts I have presented in the next chapters as well, as this style of chopping samples is also present in the other tracks.

The benefits of this approach are that, through melody and rhythmic patterns, we are able to observe the transformative properties and results of the rearrangement of audio samples. This is apparent in this analysis of “Don’t Cry,” as we observed how the heavily chopped resolution section at 0:40 was rearranged, and the resulting melody and drum pattern that came from this rearrangement. The effectiveness of this method, however, may not be as strong in some other cases of digital sampling, where the chops or rearrangement of audio samples are not as near as prevalent. Throughout the next two chapters, I will be discussing other techniques that J Dilla uses in several other tracks on Donuts, such as the use of digital effects and the use of sound collage techniques.
CHAPTER 3
Digital Processing Effects in “Mash,” “Glazed,” and “Time: The Donut of the Heart”

THE EVOLUTION OF DIGITAL PROCESSING EFFECTS

Michael D’Errico mentions the use of “digital processing effects” that many hip-hop producers apply to their beats. 60 Although his discussion of digital effects mostly focuses on dynamic compression, a much wider variety of digital effects are used by producers to achieve what both D’Errico and I refer to using Adam Krims’ term, “hip-hop sublime,” which is defined as musical “layers marked by clashing timbral qualities.” 61 Recent developments in sampling technology include the ability to manipulate and affect a sample’s pitch, tempo, or timbre, and the number of different types of effects available to the modern producer has grown exponentially.

In the case of J Dilla and his album Donuts, a plethora of digital effects are used throughout all thirty-one tracks. These range from more commonly-used effects such as compression and delay, to more unorthodox effects like ring modulation. These effects are used as compositional devices that transform timbres and textures of audio samples used in each track.

60 D’Errico, 48.

MULTI-FX ON THE BOSS SP-303 SAMPLER

Many earlier samplers that D’Errico discusses only featured a small number of digital effects, such as dynamic compression. During the early 2000’s, however, Boss released a portable sampler known as the SP-303 “Dr. Sample,” that featured a wide variety of different digital effects. Not only did this machine feature individual buttons that could apply effects to whatever audio was being inputted, it also featured an even wider array of effects under the “MFX” button, which contained a variety of unorthodox effects that could be used to electronically manipulate samples in various ways. Figures 12A and 12B show the overall layout of the interface on the SP-303 from the owner’s manual, as well as a section from the owner’s manual that describes how the eight pads play back loaded samples. Figure 12C shows a close-up of the various digital effects that can be applied during the playback of a sample.

Because of the sampler’s portability as well as versatility, it became popular with many hip-hop producers after its release in 2001, with the most significant producer being J Dilla. Although J Dilla used a handful of different models of the Akai MPC throughout most of his career, he began to primarily use the SP-303 as its portability allowed him to continue to produce music during his hospital stays in the last year of his life. Although many considered this change in J Dilla’s workspace as extremely

62 D’Errico, 48.


64 Ferguson, 79. It is not known when exactly J Dilla started using the SP-303 sampler, and is only known that he used it significantly during the creation of Donuts.
limiting (in comparison to the use of his home studio), his adaptation to different hardware led him to create some of his most unique and innovative work: *Donuts*. By adapting his workflow to exploit the unique textures that the digital effects on the SP-303 could produce, Dilla used these digital effects to his advantage by implementing them as compositional devices and even motifs that are present throughout *Donuts*.\(^{65}\)

Figure 12A, 12B, and 12C: Layout of the Boss SP-303 “Dr. Sample”\(^{66}\)

---

\(^{65}\) Other hip-hop producers came to favor the Boss SP-303 for its portability as well as its built-in effects, with one significant figure being Madlib (Otis Jackson, Jr.), who collaborated with J Dilla frequently.

\(^{66}\) *Boss SP-303*, 24.
B:

**24 Pads (1–8)**
When [PATTERN SELECT] is not lit, pressing a pad plays the sample assigned to that pad. The pad is lit while the sample plays.
When [PATTERN SELECT] is lit, pressing the pad plays back and stops the playback of patterns.

C:
PITCH SHIFTING AND TIME STRETCH/COMPRESSION IN “TIME: THE DONUT OF THE HEART”

The tenth track on the album, “Time: the Donut of the Heart,” mainly features a sample of the 1975 single by the Jackson 5, titled “All I Do is Think of You.” The overall structure of this track is fairly straightforward in comparison to most other tracks on Donuts, with a two-measure looped melody of the guitar riff from the intro of the Jackson 5 track, and handful of vocal samples from either other sections of the Jackson 5 song and from vocals samples of “Sweet” Charles Sherrell’s 1974 album For Sweet People From “Sweet” Charles. What is unique about this track, however, is how the sampled guitar melody was transformed in comparison to its original source.

One of the features on the SP-303 sampler (located under the “SAMPLE EDIT” section) is the ability to manipulate the tempo of a sample by using the “TIME/BPM” button. When applied, the user is able to adjust the tempo of whatever sample is being played without affecting the pitch of the sample. This is one advantage of digital sampling in comparison to earlier analog sampling technology, where the speed of tape loops would always affect both the sample’s speed and pitch. In the case of “Time:

---


68 Boss SP-303, 15.

69 With analog recording technology, the playback of audio on devices such as a magnetic tape or vinyl record can be slowed down or sped up, but by doing this the pitch as well as the tempo will both simultaneously be lowered or raised.
Donut of the Heart,” the tempo is sped up significantly from a standard pop ballad tempo of approximately sixty beats per minute to a much more upbeat ninety-three beats per minute.

In D’Errico’s analysis of “Don’t Cry,” he states how the “microrhythmic gestures” contained in the heavily chopped section at 0:40 create a “feeling of forward motion.” This same sense of “forward motion” can be applied to the main guitar melody in “Time,” although the aesthetic of forward motion was achieved by digitally manipulating the tempo of the original sample as opposed to the rearrangement of eighth-note fragments. This effect of forward motion also relates to the fact that the guitar melody resolves in step-wise descending motion in each reiteration of the two-measure loop as shown in Figure 13, with the last notes of the melody featuring the third and second scale degrees, which then descend to the tonic of A-flat major once the melody is looped and repeated.

Figure 13:

A. Audio Loop of Guitar Melody

---

70 D’Errico, “Experimentalism after the golden age,” 285.
B. Guitar Melody Transcription

While the increase in tempo would customarily be coupled with raising of pitch, the pitch is in fact is lowered by a minor third, from its original key of B major to A-flat major. The decrease in pitch in conjunction with the increase in tempo gives the manipulated sample a unique timbre gives an impression of a distorted and somewhat unnatural sounding texture. This is most apparent when snippets of vocal samples from the Jackson 5 song are played on top of the guitar melody, and produce a manipulated vocal range that sounds similar to a male baritone range, which contrasts greatly with Michael Jackson’s much more vibrant high tenor vocal range. Figure 14 shows a transcription of the vocal and guitar melody. The section in which these two audio samples are played simultaneously are shown using another screenshot from Ableton.
Figure 14:

A: Vocal sample in “Time” playing simultaneously with Guitar Melody

B: Sheet music transcription of both melodies
Although this two-measure melody repeats throughout the first half of the track, at 1:00 the tempo of the track seems to slow down into a half-tempo feel, with a noticeably distorted timbre. This half-tempo section is played along with another sample from the “Sweet” Charles album, a female moan that seems to also have been slowed down along with the main Jackson 5 sample. The distorted texture of this section comes from another aspect of digitally manipulating the tempo without adjusting the pitch to a sample, and occurs when the tempo of a sample is slowed down significantly. This effect can be heard when a digital sample is slowed down significantly from its original tempo and is especially apparent in this case when the tempo is being halved from 93 beats per minute to 46.5 beats per minute. Although most producers tend to avoid this distorted sound when manipulating samples as it creates harsh sonic textures that distort the audio, J Dilla embraces this effect by featuring an entire section that breaks the repetition of the two-measure guitar melody by cutting its tempo in half. Figure 16 shows the relative lengths of the two versions of this melody.
“IT’S STRANGE…” RING MODULATION IN “MASH” AND “GLAZED”

On the Boss SP-303 sampler, one of the featured digital effects is the ring modulation effect, marked as “RING MOD,” the eighteenth featured effect under the “MFX” panel. This effect is rarely used in the context of hip-hop production, as the resulting effect produces a harsh distortion effect that is created by amplifying and multiplying the digital signal that is inputted into the circuit. The name “ring modulation” stems from the fact that the circuit that produces this effect requires the signal and subsequent multiplied signals through a ring shape. The use of this effect in a hip-hop composition is a perfect example of the musical innovations and experimentation discussed by Michael D’Errico in his article discussing hip-hop production after the

---

71 Boss SP-303, 15.
“golden age” of the late 1980s and early 1990s. Ring modulation also has a history of being used in early electroacoustic works by composers such as Karlheinz Stockhausen, including *Gesang der Jünglinge*. Figure 16 shows a circuit diagram of ring modulation.

The sample that features this effect appears twice on two separate tracks. The ninth track on *Donuts*, “Mash,” features a collection of winding scalar piano melodies, which originally stem from a sample of Canadian pianist and composer Galt MacDermot’s 1971 piece titled “Golden Apples (Part II).” Within these winding piano

---

72 D’Errico, “Experimentalism after the golden age.”


melodies one can hear the voice of late rock guitarist and composer Frank Zappa, which stems from the track “Dance Contest” off of his 1981 live album *Tinseltown Rebellion*. As these two samples intertwine with one another throughout the brief 1:33 of the track, a distorted and haunting voice occurs during the last eleven seconds, along with a banging drum pattern and a collection of out-of-tune blues guitar riffs. The sample heard in these last eleven seconds comes from a recording of the 1969 Lou Rawls song “Season of the Witch.” The only intelligible lyrics from this sample are the phrase “it’s strange.”

The cause of the haunting and distorted timbre of this sample is the ring modulation effect, which transforms the sample from a soulful break section in the original song to a startling juxtaposition that seems to appear out of nowhere in “Mash.” This juxtaposition stems from its placement at the end of this track, and is further emphasized with the addition of the ring modulation effect.

The use of this sample with its ring modulation effect also appears at the end of the eleventh track “Glazed,” where over a minute’s worth of a pulsating quarter-note brass melody occurs. This comes from a 1970 recording of the song “You Just Can’t Win (By Making the Same Mistake)” by Gene Chandler and Jerry Butler. Once again, in the last eleven seconds of this track, the garbled phrase “it’s strange” is replayed, along with

---

76 Ibid.

77 Ibid.

its accompanying distorted drums and guitar melody. Figure 17 shows the original waveforms of the Lou Rawls shown both with and without the added ring modulation effect, with the shape of the waveform noticeably altered.

Figure 17: Audio of “It’s Strange” sample from Lou Rawls’ “Season of the Witch”

This modified sample serves as a motif that is used during the first half of Donuts, illustrating one of several ways in which J Dilla “speaks” through sampled words and phrases on this album. By repeating the phrase “it’s strange” on two of the more minimally produced tracks on the album, J Dilla implies not only that these two tracks are quite strange within the context of what is to be expected of an instrumental hip-hop beat, but that the ways in which he manipulates samples throughout all of Donuts can be considered strange. Writer Jordan Ferguson expresses this explicitly in his book on Donuts, who describes the plethora of unorthodox production choices as “hip-hop as musique concrète.”79 This desire to innovate and create entirely different sounds that

79 Ferguson, 78.
were not previously used for most conventional hip-hop production is certainly not out of
case for J Dilla and his compositional output, as he frequently experimented with
producing different genres as well as using different sampling techniques throughout his
career.

DIGITAL EFFECTS, DELAY, AND THE “HIP-HOP SUBLIME”
Throughout the entirety of almost every track on Donuts, the delay effect is used
in some capacity. On the SP-303, as well as a substantial amount of sampling hardware
and software, the delay effect is implemented by replaying a section of audio in a
repeated rhythmic series. The specific rhythmic pattern in which the sample is repeated
can be controlled by one of the knobs on the top of the SP-303 interface, and features
segments of quarter, eighth, sixteenth, and thirty-second notes. The volume in which
this playback is heard can also be controlled by another knob in which the “feedback” is
applied. Although this effect is used pretty frequently throughout the album, it can be
heard in “Mash” in which the title of the track is uttered and subsequently repeated
through the next measure.

Hip-hop scholar Adam Krims’ concept of the “hip-hop sublime” refers to the
sampled “layers marked by clashing timbral qualities.” The layers that Krims discusses

\[1\] This can be seen as the pad “DELAY” on the effects panel of the SP-303.

\[2\] The tempo of the delay is also determined by whatever tempo is set, which can be
controlled using the “TIME/BPM” button.

\[3\] Krims, 45.
refer to the implementation of multiple samples from different sources interacting with one another within a hip-hop beat. With the use of digital delay (as well as the other digital effects mentioned) the samples that feature these effects contrast, and even may clash with, other samples that feature no digital effects, creating a juxtaposition of samples that were much less digitally manipulated. For example, the untampered piano melodies featured in “Mash” contrast with the title phrase from the Frank Zappa in the same track, which features the delay effect prominently. This concept of a “clashing” of “timbral qualities” could also be applied to the ring modulation effect in both “Mash” and “Glazed,” as well as the time-stretched effects in “Time: Donut of the Heart.”

SUMMARY

Digital effects in Donuts significantly shape both individual tracks and the album as a whole. Many other digital effects could also be explored and discussed as a basis for hip-hop compositional techniques, such as vinyl simulation, noise generation, and LFO modulation. Using digital effects as a basis for analysis, however, may not work with all types of hip-hop beats, as this only works effectively when samples are manipulated with digital effects.
CHAPTER 4

Sample Collage Techniques Through Amanda Sewell’s Typology of Samples in Hip-Hop in “Workinonit”

Over the past decade or so, there have been a number of academic papers focusing on the topic of musical borrowing and intertextuality in hip-hop. One of the more significant works in recent years is Dr. Amanda Sewell’s PhD dissertation “A Typology of Sampling in Hip-Hop.” In this dissertation, Sewell classifies hip-hop samples into three types: structural, surface, and lyric.83 Structural samples function as the main source sound of the instrumental track. Surface samples function as extra sounds added within the texture of the track. Lyric samples are vocals sampled to be used within the lyrics of the track. This typology will be applied to the track “Workinonit,” which features collage-like sampled sounds similar to the heavily sampled hip-hop beats of the late 1980s.84

---


84 The 1989 Beastie Boys album Paul’s Boutique and the 1990 Public Enemy album Fear of a Black Planet are the main focus of Sewell’s dissertation.
SEWELL’S TYPOLOGY

Amanda Sewell’s typology was originally applied to more “traditionally” produced hip-hop production, mainly focusing on the two 1989 albums Fear of a Black Planet by Public Enemy and Paul’s Boutique by the Beastie Boys. The reason for focusing on this specific era of production (and, more specifically, these two albums) was that both were produced through “sound collage,” which arranges samples from several different sources and joins them into one cohesive composition. This typology was used mainly to highlight the specific compositional roles and functions of each sample used throughout these two albums. It is appropriate, therefore, that this typology be applied to hip-hop beats that are similarly constructed, which is most obvious in J Dilla’s track “Workinonit.” Although the track “Workinonit” was composed a number of years after the “golden age” style of hip-hop production, the compositional approach is noticeably similar, with up to eight samples played and manipulated into one cohesive track.

APPLYING THE TYPOLOGY TO “WORKINONIT”

The main sample used throughout “Work” originates in the British rock band 10cc’s 1974 track “Worst Band in the World,” off of their breakout album Sheet Music.

---

85 The term “traditionally” refers to more basic forms of digital sampling technology that was available during the late 1980s, as well as hip-hop production that was used as instrumentals for a rapper or rap group. This is in contrast with purely instrumentals such as J Dilla’s Donuts.

According to Sewell’s typology, this 10cc track in “Workinonit” serves as a structural sample, as the sample provides a basis for the rhythmic groove as well as the main harmonic and melodic content. The chords VI, VII, and i appear in the key of E minor and occur in the guitar accompaniment, a common chord progression in rock music of the 1970s. As the harmonic progression recurs and functions as a sort of ostinato in the first half of the track, a number of samples from other sources are used and function as surface samples, which serve as contrasting extramusical material for the beat. The famous “Dilla siren” is heard at the very beginning of the track, whose source is the 1985 Mantronix track “King of the Beats.” Later in the track, other sounds that also function as surface material, such as the faint yodel sound of Malcolm McLaren’s 1982 “Buffalo Gals,” as well as a small melodic sample of Raymond Scott’s “Sprite: Melonball Bounce.”

Finally, a series of lyric samples occur within the track. Sewell states:

Although a lyric sample has semantic function in both its original and new contexts, the syntax can be significantly altered when that lyric is sampled: words are truncated, phrases are truncated, words are used as homophones, words in the middle of phrases are eliminated, and phrases are placed in contexts which are opposite those of their source materials.⁸⁷

This description holds true with all of the lyrical samples throughout Donuts, but is best represented in the track “Workinonit.” Although there are no newly-recorded or written original lyrics, the samples of sung or rapped vocals serve as a basis for the themes and aesthetic of the track. At the beginning of the track the Beastie Boys sample is heard as

⁸⁷ Sewell 49.
part of what can be called the introduction section of the track, with the phrases “center stage” emphasizing that this section serves as introductory material. The phrase “Huh, What?” functions throughout the track as a sort of dissonant juxtaposition of the more consonant chord progression and drum groove.\textsuperscript{88}

In several cases, these samples serve more than one function within the track and are what Sewell describes as “aggregate samples,” meaning that the sample functions as more than one type within the typology. The phrases “buy me,” “play me,” and “fade me” are heard throughout the track as a part of the 10cc sample, but also function as a part of the structural sample as well as a lyric sample. The Beastie Boys sample, as well as the other vocal samples used, could also be labelled as lyric and surface samples, as they both provide lyrical as well as extramusical content. As seen in Figure 18 below, only three samples in “Workinonit” have only one individual function, with the two samples being “Sprite,” “Buffalo Gals,” and “Six Figures.”\textsuperscript{89} The majority of samples presented serve multiple functions, such as the structural sample also providing lyrical material, including the title of the track. Several of the lyric samples also change in function as “Workinonit” progresses, with samples such as “The New Style” beginning as a lyric sample then changing to more of a surface sample later in the track, with only individual syllable sounds used at 1:05.

\textsuperscript{88} The use of this sample is expanded upon even further throughout the track “Twister (Huh, What).”

\textsuperscript{89} As stated in Chapter 1, the resource used to identify the source of these samples came almost exclusively from the website WhoSampled, which has served as an invaluable tool to identify samples found in popular music for both fans and scholars alike.
## Table of Samples in “Workinonit”

<table>
<thead>
<tr>
<th>Original Artist Name</th>
<th>Sample Name</th>
<th>Sample Type(s)</th>
<th>Timecode(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10cc</td>
<td>“The Worst Band in the Word”</td>
<td>Structural, Lyric</td>
<td>All</td>
</tr>
<tr>
<td>Raymond Scott</td>
<td>“Sprite: Melonball Bounce”</td>
<td>Surface</td>
<td>2:00-2:10</td>
</tr>
<tr>
<td>Malcolm McLaren</td>
<td>“Buffalo Gals”</td>
<td>Surface</td>
<td>2:31-2:35</td>
</tr>
<tr>
<td>“Sweet” Charles Sherrell</td>
<td>“Yes It’s You”</td>
<td>Surface, Lyric</td>
<td>0:43, 1:00, 1:21-1:25</td>
</tr>
<tr>
<td>Mantronix</td>
<td>“King of the Beats”</td>
<td>Surface</td>
<td>0:00, 0:37</td>
</tr>
<tr>
<td>Joeski Love</td>
<td>“Pee Wee’s Dance”</td>
<td>Surface, Lyric</td>
<td>1:51</td>
</tr>
<tr>
<td>The Beastie Boys</td>
<td>“The New Style”</td>
<td>Surface, Lyric</td>
<td>0:01-0:09 0:14-0:16, 0:26, 1:05</td>
</tr>
<tr>
<td>Skillz and Ras Kass</td>
<td>“Six Figures” by</td>
<td>Lyric</td>
<td>2:48</td>
</tr>
<tr>
<td>Unidentified</td>
<td>Unidentified</td>
<td>Lyric, Surface</td>
<td>0:46, 2:07, 2:27</td>
</tr>
</tbody>
</table>
Figure 19: Featured Samples in "Workin on It," 0:00 - 0:20
RHYTHMIC QUALITIES OF SURFACE SAMPLES

Throughout the “Workinonit,” all of the samples function cohesively, providing both rhythmic and melodic interest. Now that the typology has been applied to all samples on “Workinonit,” we can now observe how these samples interact with one another.

The vocal samples presented as surface samples throughout the track both serve as lyric and surface sample, and provide rhythmic interest and texture to the composition. In some instances, these samples are better interpreted as rhythmic interruptions or “stabs” in order to contrast the more consonant sounds provided by the main structural 10cc sample. The term “stab” is borrowed from record scratching or “turntablism” terminology, in which the DJ plays a quick snippet of a sample, thus creating a “stabbing” sort of sound that interrupts the beat or drum break being played.  

Although J Dilla was never a DJ or “turntablism” in the more traditional hip-hop sense, he uses these vocal samples in order to emulate the hip-hop aesthetic of record scratching, thus providing a more traditional sonic characteristic of underground DJ sets while also featuring his own style of innovative hip-hop production by transforming the samples used into a sort of sound collage. Figure 20 highlights these rhythmic “stabs,” with the audio transcription in Ableton Live subdivided into thirty-second notes and measure numbers above.

---

MELODIC QUALITIES

Between all of these samples, there also lie melodic connections and interactions. The main chord progression from the structural sample implies that the of the track is in an Aeolian mode, due to the VI-VII-i chord progression. Towards the end of the track, however, a guitar melody is introduced, playing the scale degrees of a lowered seventh and raised sixth. This changes the pitch center to a Dorian mode, thus adding a sense of brightness that contrasts from the original chord progression at the beginning of the track. While the guitar melody plays and repeats, a countermelody is featured that stems from a sample of Raymond Scott’s “Sprite: Melonball Bounce.”91 The main chord tone featured in this motif is a ninth, which counteracts the raised sixth scale degree of the guitar melody. This melodic interaction between two melodies from entirely different sampled sources highlight the synthesis of samples that are presented throughout the track and

---

91 “Workinonit by J Dilla.”
show how the “sound collage” of several musical samples work as a single, coherent composition. As shown in the transcription below, the synthesizer melody enters in a sort of glissando fashion that ends on the ninth, which acts a countermelody to the repeated lead guitar that begins at 2:00.

Figure 21: Transcription of guitar & synthesizer melody at 2:09

INTERPRETATIONS OF LYRIC SAMPLES

The lyric samples that are present within “Workinonit” also provide phrases that J Dilla recontextualizes in order to provide introductory material for Donuts. The Beastie Boys vocals, for example, function as an introduction to this specific track as well as the entire album. In the original Beastie Boys track “The New Style,” the introductory vocals function in the same way, with rapper and member of the Beastie Boys Mike D introducing his fellow member MCA to the listener.\(^{92}\) The lyrics to the 10cc song “Worst

\(^{92}\) Similar to the Joeski Love sample, this is sample is also used later in the album on the track “The New (Huh, What).”
Band in the World” portray specific characteristics and stereotypes of the “rock ‘n roll” lifestyle as well as the state of commercial popular music the last verse and outro, stating:

Here I am a record on a jukebox
A little piece of plastic with a hole, ooh
Play me
Buy me and you play me then my plastic turns to gold

Here we are together on your hi-fi
A little piece of plastic with a hole, oh
Fade me, fade me, fade me, fade me...

Using these lyrics, J Dilla recontextualizes their original meaning by using only the phrases “play me,” “buy me,” and “fade me” throughout specific instances in the track.

Looking past just the lyrical features of the structural sample, other lyric samples used in this track also provide more context to the intended aesthetic of this track as well as the entire album. The phrase “Huh, What?” from Joeski Love’s “Pee Wee’s Dance” is a lyric sample that has been popular with producers and DJs since its release in 1985. By using this as well as the sample from the song “Six Figures” by rappers Skillz and Ras Kass (with the only intelligible lyric being “…this rap game…”), J Dilla balances out the samples from other genres with familiar phrases of the hip-hop repertoire, creating an authentic hip-hop aesthetic when using these samples in conjunction with one another.

“Workinonit” also features an array of techniques that were discussed in the previous two chapters, including plunderphonic chopping techniques, and digital effects. When viewing the chopped aspects of this track, almost all samples present feature some form of plunderphonic transformation occurs, with words and phrases cut off or rearranged to change their meaning. The best example of this is at thirty seconds into the track, where the phrases “play me” and “buy me” occur. At 0:34, although the phrase “buy me” seems to repeat in the same rhythmic pattern as the previous phrase without any sort of chopped or cut off vocals, the phrase is actually rearranged from its original lyrics, which state, “play me, buy me and you play me and my plastic turns to gold.” In this case, J Dilla combined the audio of the word “buy” with the word “me” from the previous “play me” phrase, giving off the effect that the two phrases are rhythmically equal. Figure 22 shows how these lyrics are transformed to create the phrase “play me, buy me” at 0:34 of “Workinonit.”

94 Gouldman and Stewart.
Unlike other tracks such as “Don’t Cry” that feature sections of plunderphonic tension and resolution, the rearranged audio of the structural 10cc sample in “Workinonit” rarely features an untampered section of the original 10cc song for longer than a few seconds, meaning that the original audio is never revealed. Also unlike “Don’t Cry” are the instances where the audio is chopped or rearranged. Whereas “Don’t Cry” had consistent eighth-note fragments in its plunderphonic resolution section, the fragments featured here tend to maintain lengths of about a measure each. Another aspect of the chopped audio that differs from most other samples on Donuts is that the instances
where a segment of audio is repeated almost never appears on beat one of any measure. The VI-VII-i chord progression that is present throughout the first half of the track occurs and repeats on beat three of each measure, with a repeated loop on beat one of each measure not occurring until 1:44 into the track, with the raised sixth Dorian guitar melody finally appearing.

Figure 23A and 23B: Repeated audio samples in “Workinonit,” with measure numbers and divisions of measures above

A: Repeated audio samples at 0:13

B: Repeated audio samples at 1:44
Quite a few digital processing effects also appear throughout “Workinonit,” with the most obvious being the use of digital delay on almost all of the surface samples. This use of delay further emphasizes Krims’s “Hip-Hop Sublime” aesthetic that was also present in the track “Mash.” Time compression is also present in this track, with the tempo of the structural 10cc sample being noticeably faster without any change in its pitch (from around 74 bpm to 93 bpm).95 One effect that is applied in this track that is rarely featured throughout the rest of Donuts is the use of reversed audio. This occurs several times throughout the track, but first occurs in measure 9 or 0:22, when a repeated loop of the guitar chords from 0:18 of the original track plays and the snare drum that occurs on beat two is reversed on its subsequent upbeat.

Figure 24: Reversed snare at 0:22 or measure 9 of “Workinonit,” with snare and subsequent reversed snare highlighted.

---

95 In Aram Bajakian’s analysis of “Workinonit,” he states that the sample is pitched up a half-step in order to match the tempo of approximately 93 beats per minute, which is not the case, as the use of the 10cc sample in “Workinonit” is clearly the same key as the original and is simply time-compressed.
SUMMARY

In conclusion, there are many benefits to using the Sewell typology when analyzing a hip-hop track of this specific “sound collage” style. The typology is especially effective when multiple samples from different sources are used together, which is why the typology was originally so effective when looking at hip-hop beats from the “golden era” of production in the late 1980s and early 1990s. This golden era also refers to the “golden era” of sampling, when enforcement of copyright law was considerably less strict, therefore allowing hip-hop producers to sample a considerably larger amount of musical content while also paying considerably less for royalties. The track “Workinonit” shares this similar aesthetic by combining a multitude of samples from different genres.
CONCLUSION

Compositional Influences of Instrumental Hip-Hop Beat Making by J Dilla in Current Electronic and Popular Music Production

The past several chapters catalog an array of different sampling techniques present in several tracks on Donuts by hip-hop producer J Dilla by using concepts and methods from other scholars in the field of musicology, hip-hop studies, and electronic music composition. These observations and analyses highlight some of the innovations that J Dilla implemented in his final album. The present chapter discusses how these innovations have influenced current sampling techniques in hip-hop production by producers and musicians.

INSTRUMENTAL HIP-HOP AND THE “POST-DONUTS” ERA

In the past decade since its release, the album Donuts, as well as many of J Dilla’s techniques and innovations on both this album and on other previous works, have gained more of a passionate following and appreciation both within hip-hop culture and within academia. In many circles of music criticism and journalism, the phrase “Post-Donuts” refers to styles of hip-hop production and other instrumental hip-hop works after the
release of *Donuts* in 2006.\textsuperscript{96} This also refers to the increase in production of instrumental hip-hop albums after the passing of J Dilla, as well as the growth of the underground hip-hop beat-making culture. This new generation of “beat makers” after the passing of J Dilla sought to implement the styles and characteristics of J Dilla’s works, with *Donuts* being an influential work to many working professional producers and musicians. For example, Los Angeles rapper and producer Jonwayne (Jonathan Wayne) described the impact of hearing *Donuts* for the first time and how it influenced his own desire to get into hip-hop production in his song “These Words Are Everything” off of his 2017 album *Rap Album Two*, where he states:

2006, 
Dilla died and I was living off his gift 
I just heard *Donuts* at the Borders on the corner in La Habra 
I was over all these people trying to tell me my aspirations were goners.\textsuperscript{97}

**J DILLA IN ACADEMIA AND AREAS FOR FURTHER RESEARCH**

J Dilla and his album *Donuts* have not only received an enormous amount of praise from fans and critics alike, but through a number of academic outlets as well. As stated in earlier chapters, Grammy award-winning producer and professor at Duke University 9th Wonder cites this album, as well as a number of other J Dilla works, as a


major influence on his own sampling techniques. At New York University in spring of 2017, journalist and professor Dan Charnas taught a seminar class that explored the aesthetics of production styles innovated by J Dilla and how they could be applied to other artistic mediums.

Because of this album’s extraordinary influence on the current state of hip-hop production, as well as J Dilla’s own legacy as a producer, it is therefore important to explore the sampling techniques present on Donuts as well as what exactly makes these techniques so innovative. This thesis shows in detail a few significant sampling techniques implemented by J Dilla, as well as how these techniques led to the construction and structure of the tracks discussed throughout each chapter. The analyses show how J Dilla was able to use the sampler as a creative and compositional device. Through the use of chopping and rearranging audio, adding digital effects, and combining samples from different sources into one track, J Dilla was able to create an entirely new set of compositions, all from a collection of 45rpm records and an SP-303 sampler.

As the genre of hip-hop music and culture evolve, techniques that have been observed and analyzed in this thesis will continue to evolve and develop. It is important, therefore, to bring light to how these techniques function from a theoretical or analytical perspective. This analysis will be useful to scholars looking to further explore the craft of

---

hip-hop production and the music of J Dilla. This will also be useful to a variety of producers and hip-hop musicians outside of academia, as many in this field, from amateurs to professionals, look to the sampling styles and techniques of J Dilla for inspiration. I hope that this thesis will serve as a basis for future studies on the influential sounds and techniques of J Dilla, *Donuts*, and the art of instrumental and sample-based hip-hop.
BIBLIOGRAPHY


Oswald, John. “Plunderphonics, or audio piracy as a compositional prerogative.” *Musicworks* no. 34 (Spring 1986): 5-8.


VITA

After graduating with honors at Wylie East High School in Wylie, Texas, Zachary Diaz entered Stephen F. Austin State University in 2012. In December of 2015 he graduated Cum Laude from Stephen F. Austin State University and received the degree of Bachelor of Music. In August 2016, he entered the Graduate School of Stephen F. Austin State University. His research interests include sampling in popular music, hip-hop production, and music in film and video games.

Permanent Address: 1210 Old Knoll Dr.
Wylie, TX 75098


This paper was typed by Zachary Diaz