Groove Science: The “Dilla Feel”

by

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Thank you all.
to my parents Bridget and Robert

to the Yancey family

and to J Dilla
Introduction

“One day I’ll come up with the word to explain to people what makes, in my eyes, [J Dilla], one of the greatest drum-programmers of all time. And I know people will look at me like ‘Oh, Blasphemy! There’s Premier, there’s Pete Rock – but I will debate it like it’s a presidential debate…

I’ll campaign for that guy until the end of time.”

-Questlove¹

In rap music, underneath the linguistic creativity the word-smiths lies the rhythmic mosaic of drums and samples that carry the music. The ‘beats,’ as they’re called, stride with the poetry spoken over them. This is the sacred relationship between DJ and MC that began in the 1970s Bronx. Good beats can turn rhymes from stump-speeches to sermons and James Dewitt Yancey was the ultimate pastor.

Hip hop beats began as drum-break sections from popular records, looped by a turntablist with duplicate copies. While it left the source material relatively un-changed, the repetition of groove allowed for hours of dancing and rhyming. With the sampling and playback technology that developed in the 1980s, musical alchemists chopped and re-formed material from these records, speeches, and other live instruments into entirely new compositions.² By the time a high-school aged, Detroit-native, James Yancey got his hands on an AKAI MPC sampler in the late 80s, electronically-sampled

music was moving forward and hip hop, a fresh sample-based genre, quickly gaining steam in New York City.³

Yancey’s production style stood out beginning with his first attempts. An early mentor noted that most young DJ’s would “[start looping] on the one of the kick, but [Yancey] would start on the high hat or snare or some other shit and just fit it into the equation.”⁴ Yancey’s knack for innovative “woozy, falling down the stairs”⁵ rhythmic interplay that stood in direct opposition to the hyper-rigid r&b, hip hop, and rap of the era like P Diddy or Biggie Smalls, set him apart.⁶ He’d go on to apply his groove-craft to dozens of records over his tragically-short career that ended in Los Angeles in 2006, after suffering from Lupus and thrombotic thrombocytopenic purpura (TTP), a fatal pair of auto-immune disorders.⁷ The sound of The Pharcyde, Busta Rhymes, A Tribe Called Quest, De La Soul, The Roots, Common, D’Angelo, Erykah Badu, Bilal, and Talib Kweli all benefitted from his direct collaboration, not to mention his prolific discography under his own name J Dilla (Jay Dee): Frank & Dank, Jaylib, Slum Village. The collective he started in the 90s with Questlove, D’Angelo, Common, and James Poyser called “The Soulquarians” would go on to invent the genre Neo-soul, where the infectious “wooze” of Dilla’s production style became a hallmark of contemporary groove music.

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⁴ Jordan Ferguson, *J Dilla’s Donuts*, 19
⁷ Jordan Ferguson, *J Dilla’s Donuts*, 2
The Revolving Door

Since his death, outspoken support by innovative jazz and hip hop drummers like Chris Dave, and musicians like Robert Glasper sparked a resurgence in stylistic attention to J Dilla. Dilla’s famous “tipsy lilt” made international waves with bands like Hiatus Kaiyote and Moonchild, clear descendants of the neo-soul style the Soulquarians created. Jazz, hip hop, and neo soul have all seen the effects of J Dilla’s ‘woozy’ rhythms and thick textures. Journalists like Giovanni Russonello and Nate Chinen, track these innovative shifts as they’re appearing in contemporary music.⁸

In his deeply thorough analysis of contemporary jazz music Playing Changes: Jazz for the New Century, Nate Chinen masterfully outlines a multitude of observations about shifts in improvised music, notably that while “The Soulquarians didn’t set out to revolutionize the pulse of contemporary jazz,” the sound they developed, the “tilted, woozy…smudged” rhythmic sensibility that J Dilla pioneered certainly did.⁹ Giovanni Russonello, a correspondent for NPR and The New York Times, noted in 2013 that the connection should be rather obvious between contemporary jazz and hip hop musicians considering that aside from their necessary study of 20th century ‘greats’ like Miles Davis and John Coltrane, “millennial jazz musicians grew up listening to hip hop, r&b, and rock.”¹⁰ Russonello caught this trend early on, noticing that Dilla’s posthumous influence has “recently cast a long shadow over contemporary jazz,” that and it “helped

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⁹ Nate Chinen, Playing Changes: Jazz for the New Century, 157
pull [jazz] back into kissing contact with modern popular music.”

Certainly one of the reasons for this is a sort of “revolving door” that churns both the music and the personnel in jazz and hip hop contexts. A listener of jazz from infancy, Dilla frequently lifted samples from jazz records with dense harmony and rhythm, intriguing an audience with its sophistication.

Dilla’s style may also have attracted jazz-interested listeners due to its trademark sampling techniques. Also, because he wasn’t simply using a looped sample lifted directly from another recording, rather dicing it up and re-arranging it, the chord changes were likely to be interesting and unusual. This harmonic usage differed from the origins of hip hop sampling because rather than lift a melody-less drum-break from a popular record and looping it and building harmony on top with bass or guitar, Dilla’s samples already contained relatively dissonant melodic material. Robert Glasper points this out, “If you’re a hip hop producer who wants a lot of melodic stuff happening, you’re probably going to go to jazz first.” Glasper also notes the musicality of J Dilla, and how his feel lends itself to real instruments, “That’s one of the things I got from Dilla – He made people actually want to play like his beats.” A J Dilla beat contains a lot of harmonic material for an expert player like Glasper to work with, and it’s this material that “brings jazz musicians to unpack the genius of J

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12 Steve Bilodeau, Personal Interview, December 2018.
14 Mark Katz, Groove Music, 1-69
16 Ibid.
Dilla time and again,” according to jazz guitarist and hip hop producer BillaJoints.17

Akin to re-purposing melodic and harmonic material to composing an improvisation, Dilla creatively re-purposed jazz material to develop a looping compositions, this not only tied the two musics’ sonic and philosophical aesthetics, but reminds listener of the entangled history of jazz and hip hop as black American protest musics.18

It’s not surprising that there’s tremendous crossover between jazz and hip hop even before Dilla’s contribution, “jazz is the mother and father of hip hop. Both musics were born out of oppression, both were sort of protest music, you know, going against the grain.”19 Even if a fickle listener ignored the cultural relationship between the two, Glasper notes another important characteristic prevalent in both jazz: the expressionist’s music, and hip hop: the re-inventor’s music: jazz and hip hop are both perfectly suited to absorb from other that jazz musicians pulling from hip hop is so logical that it’s almost expected. According to Glasper, the styles are also fluid, “You can learn so many different things from everywhere. It’s full circle.”20

Young jazz musicians may have turned to J Dilla in their attempt to “reinvest in the discourse of contemporary culture.”21 Other reasons young players gravitate to hip hop include: opposition to neo-traditional revivalism at the end of the century led by trumpeter Wynton Marsalis,22 “jazz’s withered commercial infrastructure post-

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17 Steve Bilodeau, Personal Interview, December 2018.
19 Ibid.
20 Ibid.
22 Chinen, Playing Changes: Jazz for the New Century, 16-30. Chinen outlines the progression of Marsalis’s collaboration with Lincoln Center that, combined with other racial and
Another significant reason musicians find themselves attracted to J Dilla is his “innovator” legacy within his field. He broke the idiom after mastering them. Dilla dequantized his patterns and disobeyed the unwritten code of sampling and production, frequently sampling well known records by fellow hip hop artists, sampling multiple elements from the same record, and sampling other hip hop records. “Few producers seemed to flagrantly violate the established rules of hip hop like J Dilla.” The facility to change and re-work are at the heart of both hip hop and jazz, and J Dilla’s innovation earned him admiration as “in the same category” as giants like Herbie Hancock and Tony Williams. Like the work of these jazz greats he’s often compared to, he “broke down the rigidity and the rules and the boundaries” of his genre.

Millennial drummers, too, appear determined to innovate. They tend to change or omit the ride-cymbal pattern quite a bit more to focus on the bass drum and snare, and while many “jazz” drummers innovated in this way before Dilla rose to popularity, the inclusion of hip hop-style vamps and backbeats signal his influence. Contemporary musicians also tend to emphasize temporal interplay and off-kilter

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24 Petersen, “Something Real,” 37
25 Joseph Schloss, Making Beats, 101-121
26 Ferguson, Donuts, 34
28 Ibid.
rhythms rather than supporting a soloist who’s aim is an “exhaustion-seeking solo” aimed at an “emotional summit.”

More generally, Dilla’s music gave new structural life in hip hop, a style that had so-far-been a verbally fluid but musically rigid. Hip hop’s dynamic use of the turntable liberated the musicians from the static printed record but kept musicians beholden to the temporal relationships of the tracks since the vinyl couldn’t be augmented. Using an AKAI MPC3000, Dilla expanded the possibilities of the source material for more nuanced expression. Part of the beauty of improvising artforms, “jazz” or other, are their space for the musician to relate to their environment by re-inventing source material revenant to their experience. That environment includes the musician’s physical, emotional, cultural, and sonic landscape. According to saxophonist, Greg Osby, who was on the forefront of experimenting between jazz and hip hop in the early 90s, spoke to Russonello and explained that Dilla as someone who’s “helped young jazz musicians square their belief in instrumental expressionism with their love for the modern blues and hip hop.” Dilla is even referenced as a jazz musician for his clever re-arrangement of existing material, but what’s marked him most is his approach to drum programming.

Objective

There are a lot of different feels that a piece of music can adopt beyond the standard straight, swung, duple, or triple. Gnawa music traditions from Morocco

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31 Ibid.
expresses a type of quasi-triplet lilting ostinato called the “Ganawa triplet,” a fine example of a sturdily established musical tradition that employs a different subdivisional understanding.\textsuperscript{32} Akan musicians in Ghana bend and warp multi-layered choruses of drums to create a flexible fabric of rhythm tied to a cyclical bell rather than a strict “meter.” Due to increased exposure to these types of rhythmic cultures, and J Dilla’s influence, backbeats no longer remain trapped in the dichotomy of “swing” and “straight.” Jazz and improvised music, with its categorial imperative to integrate the worlds’ styles into a swirling pool of expression, has pulled from many of these influences.\textsuperscript{33} There are many ways express rhythms with microscopic nuance even far beyond the abilities of current western temporal understanding. With respect to jazz, hip hop, and r\&b, there had only existed “straight” and “swung.” However, spending a week at jazz jam sessions in 2019 New York City might lead to the conclusion that three possible feels exist: straight, swung, and Dilla.

A common occurrence in a performance or recording setting is for musicians to have a “reference song” or style on which to base a piece of music. It helps orient the feeling of the composition around a recognizable existing sound aesthetic. Drummers are particularly subject to this as they’re frequently absent actual notes to play but left to their own devices to accompany based on a “feel” or “vibe.” An increasingly common vibe direction is to “do a Dilla thing.” My investigation in this paper is to unpack how musicians approach this increasingly common request. Other writers and

\begin{itemize}
\item \textsuperscript{32} Christopher Witulski. “Light Rhythms and Heavy Spirits: Entertaining Listeners through Gnawa Musical and Ritual Adaptations in Morocco.” \textit{Ethnomusicology Forum} 25, no. 2. (May 2016): 173
\item \textsuperscript{33} It’s common to see “afro-Cuban” or “Latin” as an indicator of time-feel at the top of sheet music.
\end{itemize}
musicians have done an excellent job outlining individual ways to achieve a Dilla feel. Daniel Akira Stadnicki thoroughly breaks down drum pedagogy post-Dilla and outlines a popular strategy of using quintuplet subdivisions to achieve a lilted rhythm in his 2017 paper entitled “Play Like Jay: Pedagogies of Drum Kit Performance After J Dilla.”

Online drum lesson videos regularly cover Dilla with videos like “How to Play Dilla Beats” and “The Dilla Feel.” Based on contemporary compositions and performances, I’ll consolidate the two main ways musicians achieve a “Dilla feel,” and provide a short discussion on their ability to capture the nuance of J Dilla’s Compositional style.

**Methodology**

To discuss contemporary emulations of Dilla’s feel is both a pleasure and a challenge. To analyze specific performances and tactics seems to require some transcription, however, with such a rich musical style, particularly one full of nuance which by definition does not fit precisely within the boundaries of western musical notation, I have made certain decisions about what and whether to transcribe passages or not. As it is known in musicological discourse, “Total accuracy” of transcription is impossible, because “no system of transcription...can preserve all of a musical

example accurately.” The microtiming practices of Dilla fall into one of these notational cracks. I have not transcribed any of Dilla’s music within the pages of this thesis. Aside from his deep discomfort with detailed examination of his work, I felt it was neither my objective nor my place to write out passages of his music. In order to do that justice I felt that I would have had to develop a system of notating his rhythmic nuance that I don’t believe exists, or would have had to adapt an existing system. I did, however, transcribe various examples of exercises and rhythmic techniques employed by musicians attempting a Dilla feel, and transcribed particular grooves from those songs. In those cases, I wrote them out for description purposes and graphically indicated rhythmic discrepancy. With this informal system I merely suggest that there’s a change in the rhythmic expression of that note rather than attempt to visually replicate the rhythmic complexity of Dilla and Dilla-inspired music.

The discourse around Dilla makes frequent use of the word “Human.” It’s a potent word to describe what Dilla accomplished because it contrasts the sound of Dilla with both the musical stylings of the time and the rigid technological equipment on which he made his music. A reader will notice that while I do mention it several times, I do not spend much time unpacking how Dilla’s rhythms manifest as “human” to the listener, even though they certainly do, that “humanity” is likely an essential part of what makes Dilla such a compelling composer to improvising musicians. My intention with the paper, rather, is to investigate the ways in which musicians, particularly but

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39 Ferguson, *Donuts*, 38
41 Vox. “How J Dilla Humanized His MPC” YouTube, 2018
not exclusively drummers and composers, replicate the style of J Dilla in their playing. While J Dilla’s appeal lies largely in his trademark rhythmic world where “human error was perfection, where warmth and organic playing mattered more than precision,” my interpretation is that all the following strategies for replicating Dilla’s drumming understand that notion. For my study, it’s enough to understand J Dilla’s humanity the way Bassist and Educator Adam Neely phrases it: “One intention of this style is to capture the feeling of being un-balanced and off center. After all, what’s more human than feeling off-center?”

Sean Michael Petersen’s doctoral dissertation “Something Real: Rap, Resistance, and the Music of the Soulquarians” expertly interweaves deep analysis and cultural commentary to provide the most thorough discussion on J Dilla and the Soulquarians’ musical and cultural effects I’ve been able to find. His research collects an immense body of knowledge on the history of these musicians and on rhythmic understanding which he employs to great effect. Primarily important here is his breakdown of the mechanics of J Dilla’s rhythmic nuance on an audience, and its implications on hip hop and soul. Of the skyscraper that is understanding the vast implications of Dilla’s work, Petersen lays many strong several stories and the scaffolding to continue. I humbly submit this paper to build perhaps one room, or an elevator shaft, which is to similarly add knowledge and some analyses on the ways in which contemporary musicians, drummers in particular, approach emulating the J Dilla style. Daniel Akira Stadnicki’s article on drum set pedagogy post-J Dilla achieves a

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42 Petersen, “Something Real,” 38
43 Adam Neely, “How to Play Music with a Drunk Feel.” YouTube Video. Dec 18, 2018
similar result, however I intend to add an additional strategy, new pieces of literature on the subject, and discuss the strategies’ effectiveness.45

In order to properly analyze the subject, I must clarify some important terms I’ll use to present the music I’ll present. The first is the concept of being “ahead” or “behind” the beat. As I’ll discuss in more detail later, the underlying feature of groove-based music is a “pulse.”46 The pulse denotes the structure of the rhythms that are played on top of it. A metronome is used to express this pulse.47 Musicians can play their notes exactly in metronomic precision with this pulse or not. In other words, to play a note just before or a little “early” compared to where the pulse exists, is to play “ahead” of the beat, where playing just after the denoted pulse is considered playing “behind” the beat. Musicians use this freedom to express rhythms differently depending on the musical context, and different cultures throughout the world express music differently according to these principles. Fine changes to the expressivity of rhythm in this way fall under the concept “microtime,” and are difficult to notate under the current subdivisional hierarchy of western notation but exist, nonetheless.

One concept of “microtime,” accounted for by western music notation is the “grace note,” a small, often quiet note that embellishes a musical phrase. A “flam” is a type of grace note, typically used to describe snare-drum strokes, where a snare hit is preceded by a quick and quiet grace note. It’s not microtime as much as a dual-sounding note, since it’s typically intended to fall before an in-time note, however, with respect to

45 Stadnicki, “Play Like Jay,” 2017
47 Noah Baerman, Personal Interview, March 30, 2018
Dilla, flams are used to describe individual voices that sound at the same moment with respect to the pulse (say, the “and” of beat 3) that in fact occur at perceptively different moments. Iyer discusses various possibilities for why non-western musics may employ a pulse, including “a form of “expressive timing against an isochronous pulse,”48 which Petersen elaborates as an underlying history of Dilla’s style.49

Regular or exaggerated use of microtime or “ahead- and behind-the-beat” playing can, to many ears, sound “off-kilter.”50 This is a common categorization of J Dilla’s music, sometimes called “Drunk,”51 “Falling-down the stairs,”52 or “woozy,”53 and while in some ways reductive, it gets at the popular understanding that there is something rhythmically sophisticated about J Dilla’s style having to do with the placement of beats. I will attempt to isolate some of the ways this is technically occurring.

The primary intention of this thesis, especially the next three sections, is to consolidate some fantastic literature and media on Dilla’s rhythmic techniques and evaluate the two most prevalent ways in which contemporary musicians (especially, but not limited to, drummers) approach playing in the style of Dilla. The main reason I want to do this, as I’ve mentioned, is not only is there a lack of literature on the subject, but much of that literature focuses on a single strategy for approaching the “Dilla School of Drumming.” Also important is that I do not intend to police the drumming

48 Vijay Iyer, “Microstructures of Feel,” Chapter 6
49 Petersen, “Something Real,” 50
50 Ibid. 111
51 Adam Neely, “How to Play with a Drunk Feel,” 2018
52 The 80/20 Drummer, “How to Play Dilla Beats,” 2019
53 Bilodeau, Personal Interview, 2019
or musicality of any musician. Dilla’s music is an ethereal, beautiful rhythmic pivot in the story of groove music and musicians and listeners are free to interpret and replicate that as they wish. My guiding objective is to only shed light on how complicated it is to address the various levels of genius complexity in Dilla’s music, and hopefully show that J Dilla was not “just” a beatmaker, but a brilliant composer and drummer.

There are certainly patterns to the ways musicians replicate Dilla, and they are more or less effective depending on the execution. I’ll cover in more detail, the first approach is to rely on odd meters and odd metric subdivision to achieve the Dilla sound, and the second is a more intuitive, feel-based, approach that requires an intense internal understanding of rhythmic phrasing. In an instructional YouTube video on the prevalence of Dilla’s drumming in contemporary jazz, New York City Drummer Nathaniel Smith (known as The 80/20 Drummer) gets the closest to addressing both strategies, proposing that a drummer could take either the “5-ilated/9-ilated metric precisions approach,” or they could more internally understand them as “badly lined-up samples within your track software.”

My research has not yet revealed an instructional video, piece of writing, interview, or other document has outlined these two approaches side-by-side, organized the knowledge on the approaches and, even if cursorily, evaluated the two and how they achieve the J Dilla feel. For that reason, I intend to do so.

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**Part I - Rhythmic Concepts**

My research has revealed two primary strategies to achieving the Dilla style. The first way approaches the drums mathematically, using odd-numbered tuplets and time-signatures to achieve micro-temporal pushes and pulls. The second relies on limb independence and a strong internal sense of time in order to selectively rush and drag individual elements of the drum set within a groove, often times affecting the notes by more than one degree of augmentation.

There are a number of important concepts to address before a full discussion of these strategies. I’ll work up to why it’s significant to augment feel and how musicians do so by outlining first my understanding of pulse, how Vijay Iyer explains pulse, and an adjacent teaching concept called the Cosmic Groove Wavelength developed by pianist Noah Baerman, author of educational music texts like *The Big Book of Jazz Improvisation*. Then I’ll move up to a short discussion of meter, the organization of pulse, and how that structure implies strong and weak beats. That will transition into backbeat, the emphasis of weak beats against strong beats in a four- or six-pulse cycle. I’ll end it by articulating a concept called “pocket,” which is an amorphous and ubiquitous aspect of groove-based music dealing with tension and release of the backbeat.

Following those concepts, I’ll provide some examples. The first example, starting with a discussion of Daniel Stadnicki’s section “Quintuplets: my route to J Dilla,” is an analysis of the ways Vijay Iyer’s “Human Nature,” Mark Guiliana’s

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ensemble BEATMUSIC, and Stargazer’s composition “Drunk” all exhibit uses of
tuplets and meter to attempt a Dilla style. I will draw from the aforementioned writings
by Iyer and a rhythmic theory by Malcolm Braff to support my conversation.

After that I will begin a discussion of the second main strategy for Dilla-re-
creation, which is dependent more on a tactile ability of a musician to push or pull
elements of their playing against a beat (or to separate limbs in a drummer’s case), and
a relatively abstract approach to “bending” time to achieve a “Dilla lilt.” To support
this argument, I will draw from popular YouTube lessons focused on these techniques.
Stadnicki does a great job breaking these down, and I will add to his analysis some
more recent materials that elaborate these ideas. I’ll conclude with a discussion of
effectiveness of these and why some of these techniques tend to miss the point with
creating a “Dilla” sound.

Pulse

The first thing to grasp about the way humans perceive rhythm is the “pulse”
of a song because this is a fundamental aspect of music that some contemporary
composers choose to manipulate. The pulse is the continuous string of beats on which
a song is constructed. Like beads spaced out on a string, the pulses of a song guide the
placement of rhythms within it. The pulse’s speed (or tempo) can change throughout a
piece, and the pulse be implied or directly outlined, but it nonetheless governs the
rhythms on top of it. In his doctoral dissertation, Microstructures of Feel,
Macrostructures of Sound, pianist and composer Dr. Vijay S. Iyer discusses research
on entrainment, the process by which humans understand and keep track of a musical pulse.\textsuperscript{56}

Briefly, the bedrock study on entrainment of pulse is a 1978 study by Dr. H. H. Schulze on variations in regular pulsations.\textsuperscript{57} To investigate the basic hypothesis that if exposed to a sequence of intervals, “the listener compares successive intervals” until a threshold of irregularity is passed whereby the listener can indicate that the pulse has varied, Schulze tested how subjects detect that there’s been a shift in the “periodic input signal.”\textsuperscript{58} The results of Dr. Schulze’s study showed that rather than compare the periodicity of the pulse to the preceding pulses, or compare the pulse to some more “ideal” pulse at that tempo, subjects co-perform the pulse with the one they’re hearing.\textsuperscript{59} In other words, listeners detect variation by internally “playing along” with the pulse. This partially explains why as listeners we comprehend the “average” groove established by the rubbing elements of a J Dilla groove. While listeners feel the broader pulse as we follow along, however it’s also why listeners are still momentarily disrupted by the shifting layers of the groove.

Humans have a relatively “low tolerance” for detecting variations in the timing of this Periodic Input Signal. We’re good at feeling the change, so when J Dilla places a snare drum hit earlier than it’s supposed it to occur based on the pulse established by the rest of the musical elements, audiences notice it. In order to organize these pulses, music is often organized into meter.

\textsuperscript{56} Iyer, “Microstructures of Feel,” Chapter 5
\textsuperscript{58} Ibid.
\textsuperscript{59} Ibid.
**Meter**

Meter is a “periodic grouping of a musical time unit.” Often in multiples of two and three, it can “connote but *does not strictly imply*” strong and weak beats within the grouping. Vijay Iyer masterfully manipulates where strong and weak beats are meant to be placed. Mark Guiliana and Adam Neely likewise experiment with pulse, which I’ll discuss in Part II.

A meter of 3/4, where there are three quarter tones in a measure, typically implies that the 1st beat (downbeat) is the strongest (as with almost any meter) and the 2nd two beats are “weak.” In a measure of 4/4, the weaknesses are more balanced out with beat three still considered a “strong beat,” beats two and four considered “weak beats.”

With an evenly-divisible number like 4/4, the strong and weak beats are perfectly balanced, and in groove-based music where the weak beats (backbeats) are emphasized, they’re equally important to the strong downbeats. In an odd-metered situation, say, 7/4, the groupings of subdivisions within the meter are much more fluid and musicians are then free to place strong and weak beats where ever they choose without having to worry about the audience’s preconceived notions about strong weak pulses interfering with the music’s pulse.

*Figure 1.1 – a bar of 7/4 with a pattern that implies a “shortened 8-beat phrase.”*

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60 Iyer, “Microstructures of Feel,” Chapter 5

61 Ibid.
Vijay Iyer takes advantage of this freedom in his performance of “Human Nature,” choosing to make those odd-metered phrases sound as close to a bar of 4/4 as possible, using down- and back-beats to mimic a standard 4-beat drum groove. For example, a bar of 7/4 can be understood as a shortened eight beat cycle, where the backbeat occurs every other pulse, or it can be felt as a lengthened 6/8 feel where the pulses group into [3 + 4].

*Figure 1.2 – a bar of 7/4 with a pattern that implies a “lengthened 6-beat phrase.”*

These arrangements manipulate the tension and release of strong and weak beats. The same interplay dissonance (tension) and consonance (release) is well known to listeners in harmonic and melodic material. In harmony, these patterns are evident in the tonic/dominant relationships made widespread by western art music: the physical relationship between wavelengths of octaves and fifths, paired with hundreds of years of music written to create tension and resolve that relationship, has led the listener of today to expect dominant V chords to resolve to the tonic. In rhythm, similar expectation of pulse and backbeat may come from the habituation of idiomatic themes that we expect in music. For example, after hearing backbeats, “oompah patterns,” and various even strong-weak beat relationships for centuries, listeners may tend to expect them to appear in a metrically even pattern where the backbeat is resolved by the downbeat. Odd meters and odd-tuplets disorient this understanding to create patterns with far less-regular beat groupings where micro-subdivisions (sixteenth-notes in this case) that can be used to displace the occurrence of downbeats and backbeats.
Groove and Backbeat

Groove is a difficult notion to articulate. According to Iyer “Groove gives rise to the perception of a human, steady pulse in a musical performance.” In a sense, it’s the sum of temporal elements that evokes a deep bodily rhythmic sensation. Grooves can roll and need not have a meter or even obviously strong and weak beats. However, the emphasis on “weak beats” of a 4-beat structure, called a backbeat, is the type of groove most often at the foundation of a J Dilla composition.

A short history of the backbeat from Iyer’s paper smartly reveals part of what is so powerful about its continued use in hip hop and other genres. Iyer connects the backbeat to the in the “ring shout” ritual from west Africa:

The backbeat that is so prevalent in postwar African-American popular music seems to reference the role of the body in the ring shout -- the bass drum (struck with a foot pedal in the modern drum set) and snare drum (struck manually with a stick) replacing the stomp and clap, respectively. In fact, a real or synthetic handclap sound is often superimposed on the backbeat's snare drum sound in popular urban dance music. The hard-edged repetitiveness of the backbeat embodies the cyclic, earthy atmosphere of the ring-shout ritual.

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62 Iyer, “Microstructures of Feel,” Chapter 6
63 Ibid.
Essential to understand here is that this demonstrates the functionality of the contemporary backbeat as a hypnotic and ancient human behavior “stylized through centuries of African-American musical development.”

Dilla’s playing is often described as having a particular “swing” but almost always includes the qualifier “kinda or sorta” It’s almost never just “swing” because it doesn’t match the 2:1 relationship of the “long and short” notes in “jazz swing.” Likewise, a backbeat is categorically barred from being swung under the typical definition of it being exactly halfway between two strong beats with the exception of the “microscopic lopsidedness” characteristic of it. The backbeat on the snare drum is often played ever-so-slightly “later than the midpoint” of the two downbeat pulses. It’s a “sorta” swing that is “subtler than the salient long and short of [jazz]swing” and implies that expressive microtime is at the heart of even this straightforward time-keeping device. According to Iyer, along with careful attention to “loudness [or] tone,” a musician’s feel may very well significantly include their “fine-scale rhythmic delivery.” This is consistent with Anne Danielsen’s account of feel as being “something a musician adds to an otherwise stiff rhythmic structure through their performance of it.”

Micro rhythmic feel becomes very important in the discussion of Dilla because of his accentuation of the backbeat. Iyer’s definition of the pocket is closely tied to the

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64 Iyer, “Microstructures of Feel,” Chapter 5
65 Bilodeau, Personal Interview, 2019
66 Iyer, “Microstructures of Feel,” Chapter 5
67 Ibid.
slight delay in the backbeat, “if the backbeat is played ever-so-slightly behind the midpoint of the two strong beats…the drummer is said to play ‘in the pocket.’”69 If viewed as a “balance of two forces” where the snare drum’s delay is satisfied by the bass drum’s precision, then the pocket is the “ultimate offset…that maximizes the accentual effect of the delay without upsetting the pulse.”70 Much of J Dilla’s drum programming exhibits rhythmic executions that are in-front of and behind the typical location of the backbeat. Dilla’s compositions are often viewed as multiple off-beat components, however, through Iyer’s lens it’s revealed that J Dilla’s placement of musical elements is an intentional work of manipulating the tension and release of multiple layers of micro-temporally expressed components.

Playing the “behind the beat” is “definitely a cultural aesthetic in African American music, especially jazz,”71 which gives Dilla’s rhythmic intrigue a premise in today’s musical landscape.72

**Pocket**

Pocket, the amorphous yet ever-essential element of groove-music, is the interplay between one or more rhythmic elements against a pulse. It was first described to me by Ivan Johnson, my elementary school jazz ensemble teacher. The way he described it then was the area

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69 Iyer, “Microstructures of Feel,” Chapter 6
70 Ibid.
71 Ibid.
72 Bilodeau, Personal Interview, 2019
surrounding the intersection of the quarter note-driven walking bass and the drummer’s eighth-note-based swung ride cymbal. I distinctly remember his arm motions. “This arm is your ride,” jutting his right arm diagonally towards me. “This arm is me walking,” his left arm came down from the other direction, bouncing at a quarter note while he sang a walking bass line. His fingertips made a “V” against his other hand. He motioned with his eyes to the intersection, “that is the pocket.” Ivan nailed two concepts in his description to me then: the first, that the pocket exists when an element is juxtaposed against another (or a pulse). The second, a much deeper concept, is that the pocket is intensified when the two elements “rub.” The quarter notes of the ride and of the bass match very well, but that swung eighth note ever-so-slightly de-stabilizes the regularity of the underlying pulse.

Figure 2.3: A line-drawn representation of the pocket as described to me as a child

It was once thought that a pocket necessarily required two musicians, as Ingrid Monson outlined “the basic rhythmic hookup, or synchronization, between the drummer and the bass player, in this sense is a function of how well the walking bass line locks or is in the pocket with the ride cymbal rhythm.”73 On the other hand, if the pulse is the 2nd element, then any one voice can be “in the pocket” by itself. The interlocking texture of a ragtime pianists’ two hands is a perfect example of a single individual’s ability to create the pocket themselves.

The hip hop producer creates a pocket by overlaying samples and drums in a particular manner.74 In hip hop, where time is usually in 4/4 and the subdivisions are

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often sixteenth notes or triplets, the producer can automatically snap any not onto the established temporal grid by a technique known as quantization. Invented by Roger Linn and available first in his 1980 Linn LM-1 Drum Machine, Quantization moves inaccurately expressed notes or samples to the nearest programmable subdivision of the given time-signature. The sequence of notes is then executed with perfect metronomic accuracy by the machine or quantize-enabled program. Quantization can leave drum parts, grooves, and samples feeling quite robotic. As revealed in my research, however, the pocket tends not to refer to metronomic “accuracy” as much as it implies “togetherness.” Grooves have many components. It does not rest solely on the notes that line up with the strongest beats, or with the lines of quantization. The notes in between them, and their microrhythmic expression have equally important job in pushing and pulling the beat to make it feel good. One understanding of pocket that entertains this adherence to and deviation from a pulse while maintaining strong rhythmic accuracy is called the Cosmic Groove Wavelength.

The Cosmic Groove Wavelength

The Cosmic Groove Wavelength (referred to from here on as CGW) is a concept and teaching device used by Noah Baerman, a pianist, author, and educator. Baerman’s CGW combines the idea of pulse with pocket and rhythmic fluidity. The “wavelength” foundation of the CGW the is the same as Iyer’s understanding of the

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76 Modern Digital Audio Workstations like Ableton, Pro Tools, and Logic offer quantization features modeled from Roger Linn’s invention.
77 Baerman, Noah. Personal Interview, 2019
pulse, and the qualifier “Cosmic” alludes to the ethereal nature of pulse, that it can exist without direct expression. The invisible nature of it recalls Anne Danielsen’s characterization of rhythmic templates as, the “non-sounding schemes that structure sounding events.” According to Baerman, the pulse cannot be created, but is “attached-to” or joined. A drummer’s playing, or the pulse of a metronome are not “time-keeping” devices, but rather “time-articulating” devices. Any given pulse at a particular tempo exists as a natural force at all times,” so a musician’s duty in keeping “good time” is to “tune-in to the time,” say 112bpm, and express it accurately.

The second layer of understanding the CGW is of subdivisional expression of the pulse, “Not only does 112bpm exist somewhere [in the cosmos], but 112 swung also exists.” It’s at this level that subdivision enters the equation with the CGW. It could be 112bpm with a triplet subdivision, a straight eighth note subdivision, or a swung sixteenth note subdivision. Implementing that feel, however, has another key element: personal style. Each player approaches the same temporal and subdivisional levels of the CGW in a different way. For example, a player might generally play quite on-top (ahead) or perhaps behind the pulse. These nuances exist at a third level of the CGW, where playing a “[triplet] swung 112 bpm like Art Blakey or Paul Motian” will have a radically different effect on the execution of the tempo.

It is a multi-layered sense of time like the CGW that musicians who play Dilla tap in to. The ideal “Dilla feel” is conversant with multiple levels of a Dilla-style CGW.

Baerman’s example Stevie Wonder’s “Superstition” can assist in conceptualizing the levels of awareness of the CGW. The Talking Book recording of

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“Superstition” is at 100bpm, with a mostly straight eighth note groove underneath it. However, picking up that there’s actually a swung feel at the sixteenth note level shows attention to the Cosmic Groove of “Superstition.” If a band plays a cover of the song with a strict straight-eighth feel, where no one implies the swung sixteenth note, they’ve missed an important part of what makes it groove even if all the notes and chord voicings are played accurately. Here is where I find an important connection to the replication of J Dilla: simply “offsetting” the elements of the groove misses the nuance at the finer levels of J Dilla’s various CGW’s. It’s as if each element of a Dilla beat has two CGW’s: the global pulse, and its own secondary wavelength.

This is something musicians miss when they’re trying to achieve a Dilla feel. Musicians tend to understand the figurative “eighth-note level” but have missed the underlying “swung sixteenth note level” so the feel lacks holistic understanding. Musicians might hear that a Dilla track sounds lilted, but in replicating it may only know to “flam” as many notes as possible, misunderstanding that the bass player, chordal instrument, and sample, all contribute to what the feel sounds like. The associated with the term “drunk” or “lopsided” could be the result of popular lore that when recording *Voodoo (2000)*, D’Angelo instructed his band to play as if “drunk,”79 or Questlove’s well known explanation of Dilla’s feel sounding like a “drunk three-year-old.”80 It may stand an accepted way to describe Dilla’s music as it indicates the

79 Petersen, “Something Real,” 42
“slow reaction time” of an inebriated musician, but to miss how it interacts with the CGW risks over-simplification.

**Drunkenness**

In his video “How to Play Music with a “Drunk” Feel,” YouTuber, Bassist, and composer, Adam Neely dives into the post-Dilla world of rhythm to investigate music that sounds ‘drunk’ due to the lopsided nature of its rhythms or harmony. At the outset Neely characterizes the way modern drummers play lopsided backbeats as the “Dilla” style of drumming, referencing the way they tend to replicate the “glitchy-ness” of hip hop production. One intention of this style is to capture the feeling of being unbalanced, or not-centered.

There are two important ways that off-kilter manifests. These are the main, if not only, two ways post-Dilla music tries to emulate the Dilla feel. The first is by feeling it out. Drummers with a lot of control can intentionally rush or drag precise elements of a groove. The second way is to map it out mathematically. Subdivisions that are strictly expressed commonly come in groups of two, three, and four, as triplets and duplets and often evenly divisible meters. Using odd tuplet groupings and odd meters can give the sense of off-kilter-ness that resembles J Dilla-style playing.

The first way, a more “manual,” or “Organic” strategy is to intentionally play ahead or behind the beat. Each hit can fall appropriately on beat, or any number of them can fall right before or behind the beat. Drummers with concentration, a strong sense

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81 Petersen, “Something Real,” 40
82 Adam Neely, “How to Play with a Drunk Feel,” YouTube, Posted 2017.
83 Ibid.
of time, and ample limb inter-dependence can place specific notes ahead or behind to accommodate the song or intensify the “J Dilla feel.” This takes crazy concentration to pull off as something resembling a groove because of its reliance on accurate repetition.

According to Neely (and to Schloss in *Making Beats*), Repetition *Legitimates*, “play it once, and it’s a mistake. Play it twice, and it’s music.” This concept is essential to this “drunken style” because while it seems disorganized, it repeats exactly in the same way based on a reoccurring pattern (often one, two, four, or eight bars). A sample used for a hip hop beat may be quite unrelated to the actual pulse or rhythm of a song, but if it repeats, and its moment of repetition is somehow related to the pulse or underlying rhythm, the cycle begins to make sense within the context of the rest of the instruments. Anything in a Dilla beat that sounds wrong is nonetheless consistently throughout the loop or song, a perceived lack of precision that becomes not only musical, but integral to the sound of the composition. Controlling the un-orthodox hits of this style takes tremendous control.

Original Soulquarian and Drummer, Questlove is cited as one of the “pioneers” of performing this style on a drum set. Neely cites an interview that Quest did with Red Bull Music Academy where he explained the playing style that D’Angelo (another Soulquarian) asked him to execute when the collective began work on D’Angelo’s sophomore album *Voodoo (2000)*. While Questlove is intentionally playing the bass

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84 Adam Neely, “How to Play with a Drunk Feel,” 2017
85 Schloss, *Making Beats*, 5-15
86 Neely, “How to Play with a Drunk Feel,” 2017
drum in an un-orthodoxically dis-jointed manner, the high-hat stays even with the snare. The first way to achieve this “drunken feel” is to map it mathematically.

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Part II - Dilla Via Meter

Odd numbers are, by definition, lopsided. This makes them excellent tools for de-stabilizing a groove. By metrically outlining the ways in which certain notes fall before or behind a perceived beat, a beat subdivided into small, odd-numbered, tuplet divisions allows for a musician to play notes that don’t seem to fall within the normal 4/4 duply-divided grid. Quintuplets are a popular subdivision for achieving this feel. Binky by Snarky Puppy and Unluck by James Blake both use quintuplet subdivisions within beats to slightly disorient the feel of the songs. In addition, the use of fast subdivision permits downbeats and backbeats to be placed closely adjacent to the typical location, playing with the listeners expectations. A combination of the two is even more interesting, as odd-bar lengths at fast tempos can cause a groove to feel nearly in 4/4. In this section I’ll cover pieces by the virtuoso drummer Mark Guiliana, Composer-Pianist-Scholar Vijay Iyer, and powerful bass and drums duo Sungazer. Each of them takes a different approach to manipulating the mathematics of music creating a Dilla-esqe rhythms.

Tuplets

The first way of attempting a J Dilla feel is through the use of odd-tuplets and odd-meter, which, because of their inherent lopsided-ness lend themselves to creating a “peculiar swing” or “lilted” time-feel within a quarter note structure. By maintaining a recognizable backbeat pattern at the quarter note level, with tuplets diving the quarter note, musicians can achieve a lopsided groove that hints at the lilted swing of J Dilla’s

88 Stadnicki, “Play Like Jay,” 260
production. Some musicians disagree that this is an effective or authentic method but it’s still a popular approach to access an unusual backbeat feel.\textsuperscript{89} “Instructional video clips…that feature quintuplets and septuplets…have become increasingly popular” as Stadnicki established in his 2017 article on post-Dilla pedagogy.\textsuperscript{90} Not every case of tuplet math on a backbeat intends to replicate J Dilla’s production. Many prog-rock ensembles, metal bands, and jazz musicians like Meshuggah or Tigran Hamasyan make use of these techniques. However, in a post-Dilla, post Robert Glasper world of jazz, where hip hop and jazz lovingly intersect, tupletized back beats and lilted rhythms are often referenced in the same breath as J Dilla,\textsuperscript{91} if not explicitly called “the Dilla-School of Drumming.”\textsuperscript{92}

Drummer/author Daniel Akira Stadnicki outlines a strategy for the use of quintuplets in his paper on post-Dilla drum set pedagogy. His section “Quintuplets: My Route To Jay Dee” emphasizes the idea that a quintuplet-subdivided beat might “generate the in-between, swung/straight time-feel” is explicitly clear.\textsuperscript{93} Stadnicki’s inability to intuitively replicate the Dilla feel (that he saw in a Chris Dave video\textsuperscript{94}) led him to attempt a quintuplet subdivision since the playing in the video felt “somewhere in-between swung triplets, straight eighth and sixteenth notes.”\textsuperscript{95}

\textsuperscript{89} Stadnicki, “Play Like Jay,” 263
\textsuperscript{90} Ibid. 260.
\textsuperscript{91} The 80/20 Drummer, “How to Play Dilla Beats,” 2016
\textsuperscript{92} Adam Neely, “How to Play Music with a Drunk Feel.” YouTube. 2018
\textsuperscript{93} Stadnicki, “Play Like Jay,” 263
\textsuperscript{95} Stadnicki, “Play Like Jay,” 262
Quick Subdivision

Combined with the use of odd-tuplets or not, fast subdivision and a willingness to displace the essential strong and weak beats of a groove lead to an approach like the one employed by Mark Guiliana, a drummer and leader of BEATMUSIC, his groove-based ensemble. Guiliana brings creativity and finesse to the rhythmic and textural aspects of composition as a powerful drummer and bandleader. A forward-thinking composer, not to mention extraordinary instrumentalist known for explosive improvisation with Brad Mehldau\textsuperscript{96} and for piloting the rhythm section of David Bowie’s last album, \textit{Blackstar}.\textsuperscript{97} Guiliana boldly experiments with the intersection of rhythm and texture. Mark Guiliana’s pocket-driven ensemble “Beat Music,” particularly the opening two songs from a 2014 performance at Zinc Bar in New York City, captures an intriguing rhythmic sensibility that’s notable for its clever subversions of a steady \textit{entrained} pulse.

Dilla’s influence on these pieces is noticeable in two distinct ways. Beat Music performs works for bass, drums, synthesizers, and electronics that push traditional beats written for hip hop and electronic dance music. Guiliana takes the cyclical nature of “beats” and experiments on their foundation. Though beats are usually meant to support another element, Guiliana focuses on them as a stand-alone concept, often times rhythmically and melodically expanding the groove into a full instrumental composition. Guiliana explores the typical ways that grooves function as the “underlying” element of a composition, bringing rhythmic complexity to the

\textsuperscript{96} Bradley Mehldau and Mark Guiliana, \textit{Mehliana: Taming the Dragon}, Spotify. Nonesuch: 2014
\textsuperscript{97} David Bowie, \textit{Blackstar}, Spotify. ISO Records: 2016
foreground and calling upon the sonic tradition of J Dilla by metrically subverting the entrained pulse. Guiliana does not use overtly odd groupings of beats or tuplets but plays the bass drum and snare drum notes ahead or behind the expected location by small subdivisions. He’ll often augment a groove with slight subdivisions that enhance the groove’s pocket, and even though his strategies for doing so don’t precisely mirror J Dilla’s techniques, the instinct to play with an audience’s expectations of a backbeat to deepen the rhythmic feel is a notably Dilla-esque mentality.

Guiliana’s trademark sound is not exclusively a product of J Dilla’s influence, nor am I certain that he’s intentionally altering the beat in the way I outline for the affect I’m arguing, but as far as I can trace Dilla’s rhythmic sensibility to contemporary drummers, Mark Guiliana exhibits a fine example of conceptualizing back-beat rhythms in an innovative way. His strategy works because listeners expect to follow a rhythmic flow where a pulse is established, that is augmented by slight subdivisions.

Mark Guiliana’s “My Life Starts Now,” the second piece of the performance starting at [14:02], disobeyed the notion that not only does the meter not need to be strictly outlined, but by placing notes commonly associated with strong and weak beats like a kick and a snare just slightly ahead or behind where they’re expected to be, a back-beat feel can be established without traditional “backbeat” phrasing. Effectively, this strategy creates new strong and weak beats within a measure just different enough from where we expect them to land that still recall their “platonic” “even” version.

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The opening section uses sixteenth note subdivisions to establish a backbeat, then plays a similar back beat that only lands downbeats about once per measure. All other times that Guiliana doesn’t hit a downbeat, he hits the downbeat a sixteenth note ahead or behind.

Guiliana’s piece at the beginning of the video executes this strategy to an even greater extreme. With a synth playing chords about every bar, about half of the time on a downbeat, the drums and bass play a nauseating ostinato that’s in perfect time and implies a strong driving pulse without structurally adhering to it. A few cycles through a mostly bass drum and snare centered execution of the bassline ostinato, the introduction of semi-regular hi-hats and auxiliary cymbals give the phrase much more context but still leave it skipping around the downbeats.

**Odd-Meter**

Vijay Iyer’s version of “Human Nature,” first popularized by Michael Jackson, is an excellent example of the way odd-metered bars can be used to create a rhythmic lilt akin to the feel associated with Dilla. One important note is that I do not insinuate that Iyer intended to use this technique to represent J Dilla’s music. His arrival at this rhythmic template may have come from J Dilla directly or indirectly, however, my research indicates that Iyer’s understanding of microtiming within the development of African-American music with respect to the backbeat is in line with the development of J Dilla’s rhythmic compositions. Whether or not J Dilla specifically inspired in the

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arrangement of this particular song is less important than the strength this type of micro-rhythmic backbeat as a technique for achieving J Dilla’s sound.

In summary of the rhythmic concepts so-far mentioned, we follow music as we co-perform the rhythms, so oddly placed elements disorient the listener. Additionally, odd-numbered tuplets and meters lend themselves to irregular-sounding rhythms because of their inherent irregularity, especially when organized as-closely-as-possible to a four-beat backbeat structure. The relationship between the downbeat and backbeat within that structure, particularly with respect to delay or anticipation against the satisfaction of precision, is extremely important for establishing the “feel” of a song. Dilla closed and widened many of these relationships to great effect. “Human Nature” builds on all of these elements by re-arranging a very steady, squarely-timed composition.

As mentioned, according to H. H. Schulze and developed in Iyer’s doctoral dissertation, humans understand rhythm and pulse because of a concept called entrainment.\textsuperscript{100} Humans are quite good at determining incremental changes to this pulse, and in the case of “Human Nature” Iyer adds only a small hiccup in the time signature, that, while perceptible, doesn’t wholly change the feel of the song.\textsuperscript{101} Iyer tastefully employs the use of odd meter that de-stabilizes to engage the listener, while drummers Marcus Gilmore and Justin Brown (in different versions) hide the irregular time-signature with a backbeat feel that’s near-even. It’s “near-even” because the

\textsuperscript{100} Iyer, “Microstructures of Feel,” Chapter 6.
\textsuperscript{101} Ibid.
proportions of the main rhythmic structure very closely mirror the structure of a normal back beat, with only a missing eighth note.

Iyer’s cover can be counted in 13/8, only one eighth note from being 12/8. 12/8 is often conceptualized by musicians as 4/4 with a triplet subdivision and is therefore the closest of all structures to signify the swing associated with jazz.\textsuperscript{102}

A shuffle, effectively a swing-feel with more emphasis on the backbeat, can also be considered a 12/8 feel. This supports that the time signature 13/8, grouped as \([3 \begin{array}{c} 2 \\ \\ 3 \end{array} - 2 \begin{array}{c} 3 \\ \\ 3 \end{array} - 3\) lends itself very well to implying feel close to 12/8. In addition, the tempo of “Human Nature” is a swift 230bpm, which means the length of that extra eighth note is only about 130ms long. That difference is certainly perceptible, but by hiding that eighth note in the middle of the bar and leaving the typical strong and weak-beats (down and back beats) as close to where they would be in a 12/8 time signature, it is possible to perceive 13/8 quite closely to a standard back-beat rhythm.\textsuperscript{103} The reason this feel implies so closely a tripletized backbeat or shuffle is that drummer Marcus Gilmore plays the bass drum on the first eighth note [a], and the snare on the fourth [b], exactly as a bar of 12/8 with a backbeat would begin. On top of that, the other accented snare drum hit occurs three

\textsuperscript{102} While generally ill-suited for transcription of rhythmic nuance, triplet-feel is the typically-agreed-upon subdivision for a swing feel as evidenced by its ubiquitous appearance in Jazz drum set study books. John Riley’s \textit{The Art of Bop Drumming}, Los Angeles: Alfred Music Publishers, 2009.

eighth notes before the end of the bar [c], resulting in a “backbeat – downbeat – backbeat” that mirrors the same phrase in Figure 1.5. As the groove cycles, the ear is tricked by those equidistant hits into thinking the pulse will continue as such, only to have the extra eighth note in the middle of the bar ever-so-slightly delay that second snare drum [d]. The section between the two snare drums in Figure 1.5 is one eighth note shorter (six eighth notes) than the same section in Figure 1.4 (seven eighth notes).

*Figure 1.4: The basic groove repeated by Marcus Gilmore on “Human Nature”*

*Figure 1.4a: Beat-one bass drum hit.*

*Figure 1.4b: First backbeat, three eighth notes after the downbeat.*

*Figure 1.4c: Second backbeat, three eighth notes before the end of the bar*  
*Figure 1.4d: The lengthened section that delays the backbeat and makes the groove thirteen eighth notes long*

*Figure 1.5: The “Human Nature” groove, if it were in 12/8, with all of the corresponding letters from figure 1.4*

This hiccup delays the backbeat and the groove signals a similarity to the hiccups and micro-timing that exists in J Dilla’s music. It’s an excellent example of a mathematically-delayed backbeat, in agreement with the “ever-so-slightly” delayed backbeat Iyer discusses in his writing, “In groove-based music, pulse is the chief structural element, and it may be articulated in a complex, indirect fashion.”\(^{104}\) There are plenty of examples of implying pulse and meter in an indirect fashion that do not fall into the category of a deep-pocketed groove, but J Dilla implied pulse in a complex fashion that also fell within a backbeat template.

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\(^{104}\) Iyer, “Microstructures of Feel,” Chapter 6
Dilla’s microrythmic variations, while not “new” in the scheme of world music, were definitely novel to their time and place. They were contrary to the quantized styles of hip hop and r&b at the time, likely drawing from jazz’s slightly augmented rhythmic template of the rhythmic expressiveness noted in the aforementioned West African rhythmic traditions like Akan and Ewe. Iyer’s concocted backbeat in Human Nature draws from his study of backbeat as is relates to these music traditions, writing tactile micro-temporal shifts into the composition. It’s a way of playing with our entrained expected version of a backbeat. It intrigues the listener because it only slightly shifts from what we’d expect, but importantly, the listener perceives the strong and weak beats over the much less-perceivable fast subdivisions that occur in between them.

Adam Neely

I mentioned an instructional video by Youtuber Adam Neely called “How to Play with a Drunk Feel.” His band Stargazer has a song called “Drunk” from their album Stargazer, Vol. 2. Neely gives an example this piece. Technically in non-tuplets (nine pulses between the kick and the snare), the song’s rhythm is perceived by the musicians as ¾ played in triplets, while felt by the listener to be a slow 4/4 backbeat. He received a comment on his video “Kinda disappointed it’s only in 4/4.” The comment expresses disappointment

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105 Petersen, “Something Real,” 10
because his listeners likely expect complicated-sounding music, but that the listener mistook the meter, to Adam Neely, is the “exciting gray regions of music where conception, perception, and execution don’t neatly align with one-another.” What’s happening here, he says is that “this fast triplet subdivision gives the impression that it’s in 4/4 even though it’s not.” The fact that the listener mistook the complicated rhythm for a simpler one is quite Dilla-esque. His music tends to be complicated where listeners perceive it to be relatively straightforward.

Listeners, according to Neely, want symmetry. He explains, “While there’s a number of ways that we can notate these strange things. We feel it more like this. We’re caught up in the familiar pattern of the kick and the snare, so we relish that micro rhythmic blurring that occurs between the downbeat and the backbeat in the drunk groove.”

Figure 1.6: Neely’s transcription of the main groove in “Drunk.”

Figure 1.7: Even with all of the subdivisions, the downbeat and backbeat are the perceived strong beats.

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106 Adam Neely, “How to Play with a Drunk Feel.” YouTube, 2018.
107 Ibid.
108 Ibid.
Part III - Dilla Via Feel

On the opposite end of the approach spectrum lies a strategy that encompasses much more nuance and allows for more variety. To “feel” your way to the Dilla sound involves intentionally rushing or dragging particular elements of the groove. This is a difficult approach, relying on the rhythmic depth of a musician to micro-temporally augment individual notes against a groove structure. It relies slightly more on a musician’s tactile self-awareness,109 “A lot of people think playing hip hop is easy. But the feel is really hard. If you can’t feel it, it don’t sound right.”110 I propose that while it takes advanced rhythmic ability to execute difficult odd-meters it’s easy to allow its structure to carry the weight of expressing the feel, rather than a deep rhythmic foundation. Executing a groove via feel, on the other hand, allows the musician to be more focused on the composition as a whole.

Karriem Riggins is one of the hip hop producers and drummers most recognized for his relationship with J Dilla. An experienced jazz musician who entered the scene touring with Diana Krall, his music oozes with Dilla’s influence and even credits Dilla for his own drumming style.111 Riggins’s own projects cite Dilla both overtly and not, naming songs after the late producer, weaving Dilla’s aesthetics into his tracks, and leading initiatives to “attract more listeners [to Dilla’s work]” and to “keep the legacy alive.”112

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109 Vijay Iyer, “Microstructures of Feel,” Chapter 6
112 Ibid.
Riggins’s discography includes many representations the Dilla-school of hip hop, however, a recent project called *August Greene* honors J Dilla’s influence by bringing together two other Dilla disciples, Common and Robert Glasper. Common enlisted Riggins and pianist Robert Glasper, a prominent crossover musician with respected mastery of both hip hop and jazz performance.

A Frequent Glasper collaborator, virtuoso drummer Chris “Daddy” Dave, is considered the “progenitor of Dilla-inspired drumming in modern jazz.” Because of his astounding technique and ability to syncopate drum set rhythms he’s frequently recruited to play Dilla-style music, particularly with jazz musicians like Robert Glasper. These musicians individually and collectively honor Dilla in their music, employing a non-mathematical feel-based approach to his style.

*Chris Dave*

Chris Dave came to the attention of the jazz community playing with accomplished saxophonist Kenny Garrett on his 2003 album *Standards of Language*. The album was jazz audiences’ first opportunity to see the spunk with which Dave infused his playing, and which served as foreshadowing for the way Dave would “take a cue from J Dilla” and “shake up notions of contemporary time.”

Reviews for *Standards of Language* immediately recognized Dave’s approach to timekeeping,

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noting that his “hip hop roots definitely show through” on what would otherwise be “boring [Sonny] Rollins-esque hard-bop.”

Joining the Robert Glasper Experiment gave Dave a sturdy platform to expand jazz drumming with J Dilla-School hip hop rhythms. The Experiment’s two Grammy winning albums Black Radio and Black Radio 2 (the first of which credits Dave’s drumming) are notable for more than simply high peak rankings on Billboard charts. Both back beat-heavy soul-derived r&b albums, it made sense that they landed high on Billboard’s Top US hip hop/r&b Chart. What’s so notable is that they both topped the equivalent Jazz Albums charts at #1. It was through projects like this that Chris Dave rose to prominence as the first of many crossover Jazz/Hip Hop drummers, and it was through particular songs on Robert Glasper Experiment and Robert Glasper Trio albums like “Downtime” (which appeared on Glasper’s 2009 jazz trio record Double Booked) and “Dillalude #2” (which appeared on a Black Radio outtakes record) where Chris Dave could stretch out with a lilted Dilla-influenced backbeat on a record with other esteemed jazz musicians.

This style of drumming, which expanded young jazz musicians' rhythmic repertoire, began to establish itself as staple vocabulary after Dave. It was a perfect combination of relatable contemporary music that would also improve their time-feel and elasticity. Analyzing recordings and YouTube videos of Dave and his contemporaries is a common tool for musicians to study their playing. It is a well-

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known practice in jazz and improvised music to transcribe the melodic, harmonic, and improvisational material of preceding musicians in order to learn their styles. Just as records used to function as source material for, YouTube videos of performances can offer valuable audio and visual insight into a playing style.120

YouTube, the social media giant established in 2005, is home to endless instructional videos on drumming and other music-related subjects, including videos that discuss J Dilla’s rhythmic style.121 Nathanial Smith, a well-known percussion instructor by the YouTube handle The 80/20 Drummer, and graduate of the Manhattan School for music, dedicates lessons to showing students how to emulate that “Dilla Feel” that the “Chris Dave diaspora of the last few years” has brought back.122 Arthur “LA” Buckner, another drummer well known for drum instruction videos has a conversant lesson on the “J Dilla feel.” Together, the two videos “How to Play Dilla Beats” and “The Dilla Feel” try to outline how to “feel” your way to the “Dilla school of drumming.” Chris Dave, according to Smith “is arguably one of the most influential drummers of the last decade,” and since he’s the main touchstone for the Dilla feel, drum set analyses of “Dilla style” tend to center around him rather than grooves extracted from Dilla’s music.123

The main thesis of Buckner and Smith’s videos centers around various degrees of swing in different limbs to emphasize rhythmic “rub.” For many musicians, “swung” and “straight” are the two distinct ways that rhythm is expressed. The main difference

120 Stadnicki, “Play Like Jay,” 260
121 Stadnicki, “Play Like Jay,” and Adam Neely “How to Play with a Drunk Feel,” and the 80/20 Drummer “How to Play Dilla Beats,”
122 The 80/20 Drummer, “How to Play Dilla Beats,”
123 Ibid.
between what Buckner or Smith proposes and the tuplet strategy articulated in the previous section is rather than re-contextualize the “Dilla swing” in terms of quintuplets, they instruct a drummer to play in the “Strung”\footnote{Behind the Beat with Arthur "LA" Buckner | Lesson 1: The Dilla Feel”. YouTube Video, Posted April 6, 2016.} “grey area”\footnote{How to Play Dilla Beats,”} between straight and swung. I’ll break down the way Buckner and Smith instruct drummers in order to better illustrate the “feel-based” approach to Dilla.

In its most basic form, a simple drum groove reminiscent of a J Dilla beat would be expressed as in Figure 2.1. Each downbeat of the 4/4 pulse is divided evenly, with the high hat articulating the eighth note pulse, and without any swing or other rhythmic expression. Both instructors explain that Dilla’s swing falls “somewhere between a triplet feel and a [straight] eighth note.” Figure 2.2 symbolically shows this grey area. For context, jazz swing is similarly described as falling somewhere between the last partial of a triplet feel and the last partial of a straight sixteenth note, however, in doubt, it errs closer to a triplet. Figure 2.3, likewise, shows the difference between a “triplet swing” and a “sixteenth note swing.”

\textit{Figure 2.1: The basic structure of the drum part of a Dilla beat.}

\textit{Figure 2.2: “Strung” between an eighth note and a triplet.}

\textit{Figure 2.3: “Swung” between a triplet and sixteenth note.}
Based on these diagrams, it’s clear that what J Dilla has done is flip “swing” from the “back-side” of the last triplet partial to the “front.” This spectrum from the eighth note to the triplet partial is what LA Buckner referred to as “Strung,” “not straight, not quite swung.”

This, on its own, is quite difficult to do. It requires a drummer to feel a subdivision where there is not one. This, more than anything, takes independence. Another common aspect of J Dilla beats are the way the individual drums agree or disagree with the type of “strung” groove template that the song has established. As Petersen insightfully describes this phenomenon, “the uneasy relationship between elements, as straight and swung elements compete to define the rhythmic basis of the beat.”

The second thing Smith suggests is to leave the bass drum in the strictly subdivided grid, so that the slightly late “strung” high hat “flams” with the bass drum. He then suggests to play both the straight and swung high hat notes which accentuates the lilted feeling by clearly outlining both the straight and “strung” aspects of the groove. Additionally, if the drummer slightly anticipates the backbeats

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127 Sean Petersen, “Something Real,” 141
128 The 80/20 Drummer, “How to Play Dilla Beats,”
with the snare drum, they will start to emulate the urgency of Dilla’s often “early” snare hits. LA Buckner suggests two other shortcuts for replicating the Dilla feel. Using the left foot to slightly loosen the high-hat’s tension on beats two and four makes its combination with the snare drum have a layered “sizzle” effect. Also, playing soft “ghost notes” on the snare drum in conjunction with the “strung” high-hat seems to give the whole groove a much thicker texture. While this last tip is least grounded in J Dilla’s music, it’s an example of ways live drummers, who have only four limbs, can replicate complicated multi-layered grooves with dense textures, “It’s a lot” to play but it “all combines for the big picture.”

Figure 2.4: the flam between the straight bass drum and strung high hat. The strung high hat is indicated with a dotted stem, and the occurrence of the bass drum against the high hat indicated with a dotted line.

Figure 2.5: The groove with both strung (s) and straight/even (e) high hat notes outlined.

Figure 2.6: The groove with an anticipated snare drum on beats two and four, indicated “ahead” with a dotted line.

130 A percussion term for “grace notes” as described in Part I.
All but the last of these techniques are executed by Chris Dave in “Dillalude #2,” which my research suggests is likely where drummers and teachers like Nate Smith or LA Buckner got these ideas. It is clear that how they suggest playing is a generalization taken from Dave’s interpretation of Dilla on “Dillalude #2,” because this specific orchestration is not characteristic of any one Dilla track more than it is a distillation of Dilla’s rhythmic ideas. Because both drummers prescribe this groove formula (strung high hat, with an even bass drum, and anticipated snare), this strategy misses the mark on J Dilla’s drum-programming style which greatly varied song to song. An album review of *The Shining* praised his sense of “unified variety,” noting song qualities as disparate as the “crackling swoon” of “sumptuous Neo Soul” to the “vertiginous Madlib-esque fire” that “weaves…thunderclap drums” and “demonic incantation.”

J Dilla’s music is far from regular. In order to “replicate” his style, a drummer must have the sense to know for which grooves it’s most appropriate to push the bass drum forward or pull the snare drum back. In many of Dilla’s popular tracks like “Mash,” “Lightworks,” “Love,” and “Over the Breaks,” the eighth note pulse outlined by the high-hat is notably "un-strung."

While these drummers articulate a reduced version of Dilla’s playing, they’re still approaching it from a “feel based” perspective rather than a mathematically defined one. For better for worse, this simplicity engages its audience. in response to

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Neely’s video “How to Play Dilla Beats,” one commenter highlights its importance, “Damn bro you just explained my generation of music…big ups.”

In Part IV, I’ll discuss in more detail the benefits and pitfalls of this strategy and the tuplet strategy, globally, however, what’s significant about J Dilla’s influence, and the way it’s permeating contemporary music is that “Dilla gave us permission to feel the [swung pulse] in other parts than the last triplet partial.”133 This “permission” to shift individual elements of a drummer’s groove, as it relates to either the pulse or to other instruments, is what’s so exciting to young drummers and musicians constantly encouraged to play in “perfect time.”134 It feels much more “human” because as a drummer it seems to require less robotic control, while in reality the ability to push and pull individual elements of a groove requires tremendous control. J Dilla’s implicit sermon that rhythmic potency comes from a messy, imperfect rub that mirrors the uneasiness of life, and perhaps not from a grid on a musical staff, is a powerful release from the confines of metronomic accuracy.

Robert Glasper

Robert Glasper has produced outstanding live arrangements of Dilla’s music (namely, the “Dillalude” series) which has made him one of the most celebrated jazz musicians pushing the genre into a hip hop mindset. “Dillalude #2,” which features the drumming of Chris Dave, is a prime, if obvious, example of Dilla’s influence on Robert Glasper’s music. The dissemination from there is evident as Glasper’s ten albums listed

133 Neely, “How to Play with a Drunk Feel,” 2018
134 Steve Bilodeau, Personal Interview, 2018
on Billboard have all made the its Top Ten Jazz Albums list at their respective times of release, with all but Glasper’s early *In My Element* (2007) and *Double Booked* (2009) making the top three.\(^{135}\) Billboard’s ratings are most relevant as measures of popularity, where they measure relative sales, downloads, and streams.\(^{136}\) It’s particularly interesting because it shows what a wide audience Glasper has, with critical acclaim for all of his projects: jazz, hip hop, r&b, and in between. “Ducking categorization” may have been a mission for Glasper, but he’s also strongly noted for his legitimacy as a jazz pianist.\(^{137}\) While attempting to cross genres his irrefutable mastery of the piano was unfortunately required to “legitimize” his entry into hip hop and r&b:

> They could only backlash to a certain extent because I had proven so much with my trio records. I got a lot of great accolades, record sales, this and that, but also a lot of people saying, ‘wow, he’s one of the best cats out here.’ But if you’re African-American, they’re quick to make you an r&b or hip hop pianist, and not want to give you that jazz credibility. That was my main thing: I’m going to get the respect first.\(^{138}\)

> These first albums where he sought to legitimize his playing capabilities saw the beginning of a hip hop influence. His first album *Mood* (2004), not only features "Interlude," a track that features a backbeat played by drummer Damion Reid, on top

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\(^{135}\) “Robert Glasper Chart History,” *Billboard*. 2019

\(^{136}\) Ibid.


\(^{138}\) Ibid.
of which Glasper loops a re-phrased melody of “Blue Skies,” a jazz standard by Irving Berlin that Glasper deconstructs on the track before. J Dilla was famous for repurposing jazz samples to create his beats. This use of a jazz “sample” on top of a backbeat on a jazz record, while may not signal J Dilla obviously, is consistent with Dilla’s strategy. The appearance of “J Dillalude” on his 2007 In My Element certainly reveals the Dilla influence implicit in the original “Interlude” from Mood.

While In My Element remains a jazz trio album, it features a track called “F.T.B.,” which is an early version of “Gonna Be Alright” that appears on Black Radio (1). The wheels turn early for Robert Glasper who attempts to stay with changing genres.\(^{139}\) Black Radio Recovered: The Remix EP, an album of remixed Black Radio songs and a bonus “Dillalude #2” catered strongly to Dilla fans with a “panoramic nine-minute opus” by the Robert Glasper Experiment that, now released from the textural confines of a typical acoustic piano, upright bass, and drums, dove deeper into rearranged J Dilla compositions. On “Dillalude #2,” Saxophonist and Vocalist for the Experiment Casey Benjamin admirably replicates Dilla’s flipped sample of Giorgio Moroder’s 1979 “E=MC2” while Glasper and bassist Derrick Hodge reharmonize it, and Chris Dave plays the soon-to-be-famous drum interpretation of Dilla’s drumming that Buckner and Smith analyze. While Dave doesn’t replicate Dilla’s drums from E=MC2 (The Shining, 2006), the groove becomes well known as a live-drums Dilla replication, and Glasper’s regular attention to J Dilla’s music make him recognized as the musician who has “arguably done (and is going) more to keep the Donut legacy

alive than anyone,” especially “forcing the world to recognize Dilla’s contribution as a bona fide, real life composer, not just a beatmaker in the conventional sense.”

August Greene

August Greene is a Dilla-connected “supergroup” made up of Common, Glasper, and Karriem Riggins. Not only did all three know and collaborate with Dilla and express gratitude for him as a composer, but they also each reference Dilla in their own music. It’s the Brainchild of rapper Common, an early collaborator of J Dilla and one of the four core members of the innovative hip hop/r&b collective the Soulquarians. As mentioned, Riggins worked directly with Dilla on many projects, including finishing The Shining after Dilla’s passing. And Glasper knew Dilla personally through working with young-Soulquarian Bilal, after which he became involved with Soulquarian undertakings. All three members of August Greene worked closely with Dilla during his career.

Riggins’s own production technique is very reminiscent of Dilla, employing gritty synthesized textures and rhythmically savvy drum programming. In August Greene, Riggins’s drumming on recorded and live versions of “Black Kennedy” by August Greene showcase special attention to Dilla’s legacy through his placement of rhythmic elements. As Common puts it, “Black Kennedy” is about black excellence

141 Sean Petersen, “Something Real,” 12
143 Ibid.
144 Ibid.
and “black people as royalty,” and calls to Dilla by name in the lyrics, “If I was a Kennedy I’d be a black Kennedy / black car, black tux this is black symmetry. / Raised in the Chi though my family from Tennessee, / I remember Me, ‘Riem, Dilla we was in the D.” Riggins’s groove lilts hard off the beat, not simply pushing elements uniformly forward or backward throughout the groove as a YouTube instructor might have suggested, but changing the feel within the bar, only to snap it back into place on the downbeat. Glasper’s chords ooze over Riggins, landing in their own time on top of the drums. Common deftly slides his words into rhythms that dance around the pulse. The “big picture” groove in Black Kennedy is a deep-pocketed groove that reminisces on Dilla’s greatness both lyrically and musically.

Riggins’s groove is a one-bar loop whose elements pulses only match up with a musical grid on beats 1 and 3. In between, he pushes the kick, snare, and high hat more than a 32nd note ahead of where they’re supposed to land. Figure 3.1 manifests the groove on paper, missing all of the lilt that characterizes it, and Figure 3.2 shows the waveform of groove superimposed on a grid. Where the drum teachers Nate Smith and Arthur “LA” Buckner prescribe shifting elements like the upbeat of the high hat or anticipating every snare drum, Riggins takes a much more dynamic approach. While the first snare ghost-note is consistent with the downbeat of every bar to maintain temporal accuracy over the song’s duration, he drastically anticipates the bass drum, snare, and high hats in beats one and two, with a slight anticipation of the bass drum on beat three. In
contrast, nearly immediately after, he drags the snare drum ghost notes that come on the “e” and “+” of beat three.

Figure 3.7: Riggins’s groove on “Black Kennedy,” transcribed.

Figure 3.8: The wave form of Riggins’s groove on “Black Kennedy,” on a grid view.

[a]: Riggins’s first ghost note lines up well with beat one.

[b]: Anticipated bass drums

[c]: Heavily anticipated snare drum on beat two.

[d]: Anticipated ghost notes on “e” and “+” of beat three.

A radical departure from the uniformly anticipated notes suggested by Buckner and Smith, the groove-template for “Black Kennedy” allows for snare hits to sound early, bass drum hits to occur anticipated to varying degrees, and ghost notes to occur on-beat or delayed. This is all in addition to the ghost note that occurs squarely on beat one of every bar. Importantly, this is not the same groove-template Riggins employs throughout the album, illustrating another counterpoint to Buckner and Smith: not only are drum elements temporally varied in a single beat, entire groove-templates vary throughout a body of work. To implement and repeat the same type of “off-kilter”
rhythmic style is only not what makes Dilla’s music interesting, despite what a drummer learning from YouTube might surmise. It’s tasteful and varied use of rhythmic interplay that benefits the song it’s meant to support.
Part IV - Developments

Dilla, as an individual and as an icon, represents far more than just drumming styles. His music is both a manifestation of a contemporary return to authenticity and a break from genre. He and the Soulquarians championed a shift in the imagery around American black aesthetics in music.\textsuperscript{145} His style is far more than just the approaches to it, including the deep connections to West African Akan and Ewe music styles and new life breathed in to hip-hop and rap music.\textsuperscript{146}

The two styles of achieving his rhythmic lilt are better and worse at certain aspects of replication of the “humanity” associated with them. On the one hand, a mathematical approach to Dilla tends to miss the authenticity of an unquantized style. To map something that’s supposed to sound “human” onto a mathematical grid, even an odd grid, sharply contradicts the initial intention. On the other hand, leaving the lilt to feel and intuition, while empowering the musician, also risks over-simplifying the sound to something “dis-jointed” in the way Smith, Buckner and others suggest. Akin to the all-too-common reaction of contemporary art audiences who boast “I could do that,” J Dilla’s beats include more than meets the eye, “it’s not until you get into the intricacies” that you begin to understand why they’re so difficult to play.\textsuperscript{147}

\begin{flushleft}\textsuperscript{145} Petersen, “Something Real,” 9\textsuperscript{146} Ibid\textsuperscript{147} Drumeo. “Carson Gant: Exploring hip hop Grooves”. YouTube Video, Posted December 11\end{flushleft}
What’s Missing

Much of the conversation around J Dilla is around “disjointedness” and that it’s “off the grid.” I’ve discussed these topics in terms of pulse, groove, and rhythmic structure, but technically this is a discussion about quantization. To “quantize” is to align sounds to a subdivided grid for musical precision. Digital Audio Workstations offer this function, but it started in the 80s with Roger Linn’s first drum machine, “the Linn Drum,” and ended up on Linn’s later product, the MPC. Dilla was famous for turning that function off. As a result, it’s a common misconception among musicians that executing a “J Dilla feel” is license to play things as sloppily as possible while maintaining coherence. While J Dilla’s style has reopened listeners’ ears to the beauty of imperfect time and left the door open for increasingly out-of-sync pocket-based music, simply “flamming” the backbeat of a standard drum-groove misses the point of J Dilla’s intention, “De-quantizing these patterns certainly impact the metrical precision of a beat, but merely ‘turning off’ the function oversimplifies what Dilla achieved”.

Dilla removed the quantization to fight the mechanical sound standard for hip hop at the time. In his book Mo Meta Blues: The World According to Questlove, Quest remembers searching for humanity in musical aesthetics as an antidote to the televised versions of Black Culture in the media that popularized Gangsta Rap’s value on money, sex, and power as symbol of success. For Questlove, Dilla’s “woozy”

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148 Roger Linn, Linn Drum Operating Instructions, (Linn Electronics, Tarzana, CA.) 1982
149 Carson Gant, Personal Interview, 2019
150 Stadnicki, “Play Like Jay,” 260
151 Petersen, “Something Real,” 13
152 Ibid.
rhythms and aesthetic choices represented humanity in musical form.\textsuperscript{153} “Humanity” meant an “alternate world of sound, where human error was perfection, where warmth and organic playing mattered more than precision.”\textsuperscript{154} This is essential to understand Stadnicki point that simply “dequantizing” “oversimplifies” the achievement. The musical innovation was to break the status quo in search of reality and freedom, to look back at the history of music and drumming all the way to its roots in West Africa Akan traditions where a “sound barrage” of many instrumentalists sounding together, playing overlapping polyrhythmic phrases lead to “discrepancies in rhythmic precision.”\textsuperscript{155} The feel-based recalls the “sound barrage” more directly than tupletizing strategy does. The “sound barrage” prioritizes volume and rhythmic thickness as a route to spirituality, with no sacrifice of rhythmic expression.\textsuperscript{156} The formation of a “sound barrage” is multiple ensembles all playing in the same location performing different styles at different tempos. The result is a cacophonous sounding of dozens of drums, where the louder and more overwhelming the sound, the more honor bestowed on the event.\textsuperscript{157} Often this takes place at funerals or celebrations, where honoring a person or the community is of highest priority.\textsuperscript{158} In these cases, each ensemble holds their own strong internal rhythmic precision in order to achieve a properly sounding overall ensemble. Like a composition by J Dilla, there’s no randomness within the separate

\textsuperscript{153} Petersen, “Something Real,” 13
\textsuperscript{154} (Quest, \textit{Mo Meta Blues}, 54).
\textsuperscript{155} Petersen, “Something Real,” 37
\textsuperscript{157} Ibid. 345
\textsuperscript{158} Ibid. 346
parts, only “expressive tension” among musicians.\textsuperscript{159} They all function together in their own time to create a broader cacophony, but in neither case is the goal to have any sort of internal rhythmic error. Just as Stadnicki outlines, while “de-quantizing” may be the first step in realizing the expressivity in slight error that makes music sound human, to play a phrase out-of-time for anything less than the pursuit of ‘realness’ and honest expressivity is to ignore, or at the least, radically over-simplify, Dilla’s original intention.\textsuperscript{160}

Scholars disagree whether or not the sounds of Dilla’s beat programming are possible to accomplish in live drumming.\textsuperscript{161} Anne Danielsen doesn’t particularly give an opinion on whether it’s theoretically possible, however she implies it’s unlikely, suggesting that the performances in \textit{Voodoo} aren’t authentically live, and that the off-swing in Quest’s “drumming” that permeates the album and signals Dilla’s influence is the result of “processes of technical mediation that add important and otherwise unachievable qualities to both sound and groove.”\textsuperscript{162} Likewise, Loren Kajikawa also thinks that “meticulous remixing” and “electronic revision” are what make Dilla records have their trademark sound. However, Questlove and Chris ‘Daddy’ Dave remain popular icons of playing the grooves live on the drums, and jazz/hip hop cross over musicians like Robert Glasper are regularly cited as purveyors of accurately arranging J Dilla inspired music for the live performing ensemble.\textsuperscript{163}

\begin{flushright}
\textsuperscript{159} Iyer, “Microstructures of Feel,” Chapter 6
\textsuperscript{160} Stadnicki, “Play Like Jay,”\textsuperscript{273}
\textsuperscript{161} Ibid. 257
\textsuperscript{162} Ibid.
\textsuperscript{163} Ibid. 256
\end{flushright}
The crux of executing the tasteful-yet-nauseous grooves of J Dilla, according to Stadnicki’s conversations with a number of musicians well-versed in the style, has a tremendous amount to do with concentration and a group of musicians acutely attuned to each instrument’s temporal space, rather than relegating elements to a piece of grid.\footnote{\textit{Stadnicki, “Play Like Jay,”} 273.} Anne Danielsen called this phenomenon \textit{apart playing}, where each musician is most conscious of their own part as it related to the guiding rhythmic structure.\footnote{Anne Danielsen, \textit{Presence and Pleasure: The Funk Grooves of James Brown and Parliament}, Middletown, CT: Wesleyan University Press. 2006: 50} Each element in J Dilla’s music, rather than simply occur at separate or unexpected moments, relates to the beat the beat consistently throughout the song, independent of the other instruments. These steady relationships all put together, just like the internal rhythmic accuracy of the African Sound Barrages, comes together to create the final rub. It’s this difference between randomness and intention that’s important to replicate in drumming practice.

This “rub,” where each instrument has an entirely different relationship to the beat, is a far cry from the popular understanding that “if you’re laid-back on the drums” you’re playing the style.\footnote{\textit{Stadnicki, “Play Like Jay,”} 273.} Guitarist Robb Cappelletto nails the point in an interview with Stadnicki, saying that drummers tend to want to “make the whole sound of the track only on the drums” and rightly points out that J Dilla’s music creates an “aural illusion” when the different elements of the track are laid over each other with imperfect rhythmic accuracy, but that “no \textit{one instrument} is creating that itself.”\footnote{\textit{Ibid.} 272} This misconception among musicians may, like it is for Cappelletto, be the problem of
shallow investigation: a “copy of a copy of a copy,” where musicians look at Robert Glasper and Chis Dave’s emulations of Dilla as the source material, not recognizing their years of deep study of the “rub,” and ability to hold down solid time with a simple beat. Combined with an internet movement of “how-to” videos that propose a quick solution to playing a “Dilla Beat,” the skill gets diluted.

It could also be a problem of awareness. Calgary-based drummer and educator Carson Gant, a drummer well known for his study of J Dilla and other hip hop producers noted in an interview that he sometimes has to “shift his hearing” when it’s clear he’s not getting something right about a Dilla groove, suggesting that perhaps the lack of awareness around hip hop drumming contributes to difficulties in hearing its nuance. It’s a young genre, and live-drumming within it is only about 30 years old.

According to musicians like Stadnicki, Gant, and Cappelletto, the Dilla “thing” is a “rub” and it’s not just what happens when you don’t quantize and play it “a little off.” It has much more to do with slight, but intentional, changes note-to-note, and the overall stack of the musical elements on top of the drums. Maxwell Roach, a drummer Stadnicki interviewed pointed this out, “the best ‘swings’ are not locked in, there are big discrepancies between every player in the group.”

Quantization is a relatively popular concept in the West, where musical execution with metronomic accuracy is the standard, if not the also primary form of musical pedagogy. With subdivisions and notation, math tends to rule. This is a logical progression from the prevalence of equal-tempered tuning, which forces musical

\[ \text{168 Stadnicki, “Play Like Jay,” 273.} \]
\[ \text{169 Ibid. 272} \]
intervals onto a standardized, or quantized, logarithmic scale. The shift from Just Intonation, the system based on the natural occurring ratios of the harmonic sequence, to Equal temperament, mirrors a similar shift towards music quantization from which J Dilla broke valiantly free. Not only should expression of J Dilla’s music remind the player and listener that there’s more to rhythm than subdivisions and metronomic execution, but it should also remind the listener that music comes from nature, from deep humanity, and just like equal temperament, rhythm needn’t always fall strictly into grids established for western convenience’s sake.

Malcolm Braff, a swiss pianist and lecturer, has developed a fascinating theory around reinventing the tuplet after drawing from non-western micro timings that proves to be very useful to understanding J Dilla.

**Groove Templates**

Malcolm Braff’s writings and lectures on rhythm theory are an excellent source for information for developing an understanding of J Dilla’s music, as they inform some of the ways that J Dilla’s swing functions, and suggests a much broader musical scope for Dilla’s playing than he gets credit for. It may not matter at all to be able to classify Dilla’s music in order to play it and it’s also possible to, as Gant says, “miss the plot” through codification and analysis. Without pandering or giving false stature

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170 Merriam-Webster, *Webster's Third New International Dictionary*. Merriam Webster Inc. 1986. In this case leaning on the definition of quantize “to express as multiples of a definite quantity.”


172 Gant, Personal Interview, 2019
to the western lens, understanding the intricacies of Dilla within a musicological framework may give the concepts more weight and appreciation. I believe appreciation of Dilla must include a juxtaposition against the traditions of Western classical music notation. If a technique like J Dilla’s rhythmic feel gets described as a “Drunkenness” or a one-dimensional “off-kilter-ness,” it dramatically over-simplifies the skill required to execute that technique.

Musicians all over the world have been and continue to be captivated by the eternally-amorphous “Dilla thing,” and it appears with increasing frequency.173 Malcolm Braff’s first essay “Basic Principles of Rhythm” outlines a philosophy of conceptualizing rhythm, particularly with respect to the subdivision of “tuplets,” that has high potential as a tool for analysis of J Dilla’s Rhythmic style.

Braff’s underlying principle is his definition of “tuplet subdivisions.” The standard definition of a tuplet lands somewhere in the ballpark of this definition by Carl Humphries, author of a well-known piano education guide called “The Piano Handbook:” “a tuplet is any rhythm that involves dividing the beat into a different number of equal subdivisions from that usually permitted by the time-signature (triplets, duplets, etc.)”174 This is the definition upon which all discussions of Dilla in this paper have assumed, particularly Part II on Dilla via meter. This is a fine definition for most purposes, notably because it’s the underpinning of Western Classical and

173 Neely, “How to Play with a Drunk Feel,” 2018

popular music, however it fails to address some of the nuances of rhythmic expression characteristic of J Dilla which made him so revered. A better way to describe these rhythms would prove very useful in finally articulating what it is that makes J Dilla’s music so compelling. Malcolm Braff’s approach to tuplets could possibly marry the concept of tuplets with the “feel” approach to J Dilla.

The Humphries definition restricts “a tuplet” to an evenly-spaced division of a beat. A “triplet” would denote a beat divided into thirds, a quintuplet into fifths, a sextuplet into sixths and so on. To think of the tuplet at even subdivisions might explain why musicians, fans, music teachers, and copyists have for so long struggled to properly define and notate off-the-grid “groove templates” like the “swing” associated with jazz, or the lilting rhythmic patterns of Gnawa music. Perhaps they’re not off the grid, they just establish a grid of their own. Repeated musical phrases, such as the groove played by krakebs, a castanet-style time-keeper, while they have an “expressive feel,” are in fact very regular and appear consistently. This is the crux of my suggestion regarding Braff’s theory. Consistency in playing “off” should not be considered “off” just because it’s not on “the grid.” It’s quite often very intentional and repeated, which should simply change the viewpoint on the rhythm to a Groove Template rather than a “grid.” It can be re-defined as “non-isochronous,” which re-

connects Iyer’s research of entrainment and microtime with Steyn’s contemporary analysis of Braff.\textsuperscript{179} The repetition of the achronality legitimizes it much like repetition legitimizes a lifted sample.\textsuperscript{180}

Braff outlines two main problems with the western music system to describe non-western music, that are re-understood with the idea of groove-templates. First, the system only allows for a “single number of sub-divisions,” which are divided further into other “singly sub-divided” beats. In any case where the music requires a more specific or irregular description, the system fails.\textsuperscript{181} Second, nothing about the system describes the variety of ways in which microtime-sensitive musicians apply the microtime.

By the relating rhythms of a piece to a gankogui (bell) pattern, not strictly by some perfectly divided grid, Akan musicians manipulate and stretch time on a micro level in their own cyclical pattens and strokes, or on a macro-level: improvising for seconds at a time that depart from and return to the beat cycle outlined by the gankogui.\textsuperscript{182} Because of this understanding of cyclic rhythmic patterns, a “groove template” can emerge, defined by the music, where the rhythms are not strictly aligned to a grid except that it comes around again on the downbeat beginning of the next time-cycle. These repeated cycles establish patters for each style and performance instance. This in a sense, is a “groove template.”

\textsuperscript{179} Steyn, “Malcolm Braff’s Approach to Rhythm” 108
\textsuperscript{180} Joseph Schloss. \textit{Making Beats}. 2004. 151, Adam Neely, “How to Play with a Drunk feel.”
\textsuperscript{181} Malcolm Braff, \textit{General Principles}. General Theory of Rhythm. 2015
Ableton Live, a music software made popular for its flexibility, already understands this concept. Its definition of a groove-template is similar. The program, upon request, will “extract” the groove pattern of a song based on its transient markers, rather than based on a tempo. It maps with surprising accuracy the exact way in which an audio file’s transients appear, so the user can base later projects on that template or adhere other instruments in a session to that particular groove template.

A fine example of this is jazz’s the “swung” note. The spatial expression of the swung note between the triplet and sixteenth note, and often does, change depending on the musical setting, style, or members of an ensemble. The particular swing of an ensemble is a non-verbally agreed upon phrasing established by the first player to play or give an introduction, if not the drummer, on whom the responsibility falls in all other cases. The drummer is then responsible for determining the spacing between the swung notes by executing it on the ride cymbal. By establishing the “type” of swing they’re creating that song’s “groove template.” For as ubiquitous as “swing” is, the musical concept is still clumsily explained as “somewhere between a triplet and a sixteenth note.” While the particular arrangement of this “groove template” may be personal to the drummer, their intention is still to keep the relationship between all of the downbeats and the swung upbeats in perfect relationship to one another. A drummer’s ride cymbal is their “footprint,” and an extension of their hand and body. The feel that comes from a ride cymbal is the driving musical personality of a drummer, which dictates the feel of the ensemble. Since the standard Western Music Notation system is

poorly suited to describe these rhythmic relationships, Braff’s suggestion is to treat
tuplets as transmutable subdivisions that fit within the pulses of a groove by re-defining
the “tuplet.”

A “a tuplet” is a micro-pulse frequency that’s not a two-exponent of the main beat.\(^{184}\) A length of time between two beats, that has five beats within it, divided
equally, is a quintuplet. While commonly accepted to be the definition,\(^{185}\) it is in fact
just one example of a quintuplet. If there are an infinite number of ways that five notes
can occur over the course of time, the probability of them occurring evenly is miniscule.
The even subdivision is statistically the exception.\(^{186}\) According to Braff, a quintuplet
could be five notes within that time period phrased a variety of ways. Braff uses this
mathematical logic to establish his own definition where a tuplet is any “rhythm pattern
of \(n\) elements with a total duration of \(t\).”\(^{187}\) This definition allows for the rhythmic
variation that often occurs in music that’s either rhythmically varied in an unusual way,
or comes from a tradition that doesn’t recognize perfectly even subdivisions as the holy
grail temporality.

Because of the cyclical and often imperfect looping structure from which hip
hop developed, repeated loops of pre-recorded drum grooves where every two, four, or
eight bars is necessarily exactly the same as the last develop their own internal groove-
template. If a “groove-template” can be developed by some system for the specific type
of swing each high-hat, every bass drum, and every snare carries, then it may very well

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\(^{185}\) Steyn, “Malcolm Braff’s Approach to Rhythm,” 2017. 109
\(^{187}\) Braff 2015
be possible to notate and share written versions of Dilla’s music for proper study. It may even launch Dilla to the forefront of “swing theory” because it will be able to say for certain if he’s created a new type of swing that will be as long-lasting and impactful as the west-African descended “swing” popularized with jazz.

Carson Gant, a respected drummer in the realm of live-drum set applications of Dilla beats, noted about Dilla beats that “Every piece… has a clave built into it…if you’re always playing to that most of what you do should sound OK.”\textsuperscript{188} This “clave” is exactly what Braff began to articulate in his papers. It’s a “groove template” that’s both unique to the song and to the composer which carries the influence of where the music’s come from.

\textit{A Considerate Strategy}

Carson Gant is a Canadian drummer and educator who’s has made significant strides in replicating and unpacking J Dilla’s music. Known on YouTube for having “made a study of [J Dilla’s grooves].”\textsuperscript{189} His process for learning Dilla grooves is particularly illuminating on the notions of push-and-pull that are important to the idiom and on taking care to understand the “groove template” of each piece. Primarily, his strategy of listening to the bassline or sample as a tool for understanding the groove, shows nuanced appreciation for Dilla’s music, and acceptance of groove templates inspired by Braff.

\textsuperscript{188} Gant, Personal Interview, 2019
\textsuperscript{189} The 80/20 Drummer, “The Beat That’s Taking Over My Playlist,” 2019
In an interview, Gant made clear that his first step with any new J Dilla groove is to find what seems to be the important device for understanding the time feel and learn to sing it accurately. On a drum lesson with Drumeo, a popular online education tool, Gant notes that “it’s usually the bass line, a sub bass line,” or “a sample” that he attaches to for reference.190

Once he’s outlined the important aspects, whether it’s the bassline or a warped snippet of an old record, he’ll sing those parts for internalization. His focus on singing the parts as a device to understand the piece’s entire conceptual layout mirrors many oral music traditions and reinforces the inability of transcription to reproduce complex rhythms, “We learn how to play [printed] representations instead of how to do it in our minds.” Gant’s steadfast belief in keeping the grooves “off of the page and out of the math” is also consistent with some of the intricacies of Dilla’s music, “sometimes the loops didn’t line up. There’d be a little break at the end of it before restarting.” This particular type of nuance can, technically, be written in to a score with a fraction of a rest or extra beat, but it mis-represents the form. This strategy is in-line with other styles of music that rely on oral transmission rather than paper-reproduction.191 Akan drumming, for instance, is an immersive oral tradition. Considering the aesthetic, cultural, and rhythmic connections to West Africa Petersen proposes, not only does this fall in line, but it also bypasses any sort of transcription or mathematical interpretation.192

192 Petersen, “Something Real,” 93
Gant’s holistic approach also includes locating the source material for the beat with websites like whosampled.com, an excellent resource that logs the samples flipped for hip hop music.\textsuperscript{193} Understanding how Dilla warped the samples he pulled helps him wrap his head around the sonic palette for the loop.\textsuperscript{194}

One point that stood out in our conversation is his lack of faith in the mathematical approach to Dilla, tuplets, to him, don’t capture the full picture.\textsuperscript{195} He’s careful not to imply a “Dilla elitism,” and agreed that people are welcome to play whatever and however they choose, but doesn’t like to have Dilla’s rich intensity oversimplified by purposing a one-stop tuplet-solution to Dilla’s work. According to him it’s unlikely the musicians he listens to “are thinking about this in a tuplet format,” he’s also quite adamant that there was “no way J Dilla was thinking in this way either.”\textsuperscript{196}

Jared Falk, the host of the Drumeo interview with Gant, the host “The thing I find with these grooves is that, written out, this looks like a beginner drum groove,” and that it’s not until you get “into the intricacies” that you start to sound like “Chris ‘daddy’ Dave or some of these guys who not only can manipulate the whole bar, but manipulate ‘this eight note.’”\textsuperscript{197} The microrhythmic nuance, in all its clarity, is exactly the key with replicating this type of music. Jared Falk, Carson Gant, Karriem Riggins, and others are beginning a nuanced trend that sheds light on the nuance of this music.

\textsuperscript{193}“Discover Music via Samples, Cover Songs and Remixes.” Complex Media, 2019. \url{https://www.whosampled.com/}
\textsuperscript{194}Gant, Personal Interview, 2019
\textsuperscript{195}Ibid.
\textsuperscript{196}Ibid.
\textsuperscript{197}Ibid.
**Conclusion**

Dilla’s reach is legendary. There’s no reason he shouldn’t be considered one of the greatest composers of all time simply because he worked primarily in short-form compositions.

Robert Glasper, a modern groove-scientist exposing the ties between hip hop and contemporary jazz, sees the expressive impact of J Dilla. Chinen notes Glasper’s opinion that, “Dilla is a jazz musician. Even though Dilla was using samples, he brought all this tactile human imprecision.”198 Dilla shouldn’t need to line-up against great jazz musicians to be seen as world-class, but viewing his disruption of a previously rigid, machine-assisted, style as a great contribution to the idiom of spontaneous and genuine human expression, *should*.

A testament to Dilla is that that the jazz community can seem like a club where entry requires *copious* knowledge and years of practice out of respect for the artform. For anyone to become a “great” in such a demanding environment asks broad intelligence, craft, innovation, and independence of the artist. For a non-idiomatic musician to be considered a great within that field is an even higher accolade. D’Angelo’s *Voodoo* (2000) is a common reference point for Dilla’s influence beyond hip hop.199

As much as I love A Tribe Called Quest, the beats are the beats and then there’s some blowing on top. There’s not a real dialogue. It’s layers, and

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199 Stadnicki, “Play Like Jay,” 257
that continues to be the case really right up until around this turn of the century. *Voodoo* feels like a synthesis. And now, among this generation of musicians that includes Jason Moran as well as Glasper, drummers like Eric Harland, and Jamar Williams, and Justin Brown—they’ve studied Dilla the same way they’ve studied Tony Williams. If you’re a young musician today who’s forming your improvisational language, it would be complete folly to ignore this development. Dilla is now a part of the toolkit.200

On the replication and emulation of J Dilla’s work, I humbly submit these analyses to that great Cosmic Groove Wavelength J Dilla so masterfully employed, and to the many drummers and musicians who spend their days making great strides working on J Dilla’s Legacy. I mean only to shed some light on the strategies employed by emulators of J Dilla with the goal of helping improve knowledge on the difficulty and genius of James Yancey’s work. Using tuplets and odd-numbered beat cycles as an approach to achieve his famous lilted strut is an effective tool for beginning to understand that there are more levels to rhythm and feel than the most common subdivisions. It can even be excellently employed as in Vijay Iyer’s masterful rearrangement of “Human Nature” with an unusual beat pattern. It makes audiences move and achieves similar rhythmic excitement. Note the audience’s encouragement around

[3:20] of the Iyer’s trio performance in Amsterdam in 2016. This strategy, however, risks a mathematical exactness that perhaps dilutes the “breathability” of Dilla’s original compositions. Stadnicki and Gant agree that the tuplet-approach to Dilla misses a crucial shifting-feel that’s missed when notes are relegated to odd numbered scales. Additionally, according to Gant, it’s pretty unlikely that “Dilla was thinking that way, or that any of the dudes who do this are thinking that way.” By contrast, a more “feel-based” approach accesses the music from the closest-likely strategy to the way Dilla composed, and aside from this process-mirroring being an established and respected form of learning and transcription, it allows the players and composers to engage with Dilla’s rhythms more authentically. While this approach takes some attention to detail so not to reduce the music, experts like Karriem Riggins, Carson Gant, Robert Glasper, and Chris Dave have demonstrated its potential. Glasper holds a controversial opinion that “A lot of cats play at hip hop, but they don’t play hip hop,” which, considering the breadth of the genre, there’s not an exact solution to what “playing hip hop” is. It is true, however, that many musicians explain it as an aural essence, suggesting it may be diluted by writing it down or mathematically representing it.

Perhaps if a more transcription-focused writer should like to appropriately and respectfully transcribe some of the dynamic rhythm of J Dilla, they might investigate Malcolm Braff’s theory of rhythm, and Jacob Steyn’s

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202 Gant, Personal Interview, 2019
203 Simha Arom, *African Polyphony and Polyrhythm*, 96
accompanying dissertation more deeply. I strongly believe in his General Theory of Rhythm to carve inroads into deeper understandings of rhythmic expression and think J Dilla’s music is the perfect subject to investigate the way these rhythmic ideals appear in American music.

J Dilla’s music is bigger than a hip-hop beat, it captures the texture of life: disjointed and off-balance, but exactly natural and beautiful whole. He’s replicated the frailly held-together fabric of humanity, of feeling uncertain, of seeing the cracks. His music is the most real, most organic because it rides the perfect line of separation and togetherness, of rock-solid head-bobbing disjointedness. It works together on every macro and micro level, and it is paradigm-shifting-ly imperfect on everyone. It’s the realest, realist-music I’ve ever heard and for that, we owe lifelong gratitude to the one and only, James Dewitt Yancey.
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