He's Got Great Feel,
But What Do You Mean?

by

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This thesis is dedicated to David and Gloria Cook for their unfaltering support and encouragement.

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Abstract

The field of popular music studies currently lacks effective and extensive discourse on drumming and rhythmic parameters in general. Some important preliminary work exists primarily due to significant contributions by relatively few authors. This thesis serves to expand this literature by providing a detailed explanation of many of the primary elements involved in the intricate practice of rock drumming. Additionally, it expands the literature on the music of Jimi Hendrix by thoroughly exploring the musical contributions Mitch Mitchell made as the drummer for the Jimi Hendrix Experience. Mitchell's stylistic approach to rock drumming is illuminated through analysis of the drum parts in four of the group's songs. An explanation of rock drumming in general and one effective individual approach are present within the work.

Acknowledgements

I would like to thank my supervisor Dr. Steven Baur for his guidance and encouragement on this project. His illuminating and valuable suggestions have inspired a finished product that would not be possible without them.

I am grateful to Dr. Jennifer Bain who has provided a key source of motivation for my studies. I have come to admire her work ethic, dedication, and professionalism, which has in turn allowed my own work to yield more satisfying results than I initially thought possible.

Finally I would like to offer a huge thank you to my family and close friends who helped me keep life in perspective when disaster – at consistent intervals – seemed imminent.

Note:

All transcriptions in the 'Drumming Analyses' section of this thesis are taken from or are based on Jimi Hendrix, *The Jimi Hendrix Experience: are you experienced, (*Milwaukee, WI: Hal Leonard Corporation, 1996) or Jimi Hendrix, *Jimi Hendrix Experience Smash Hits,* (Milwaukee, WI: Hal Leonard Corporation, 2007) transcription books. The discussion and transcriptions of the given songs are specific to the recordings.

Chapter 1: Introduction

The amount of literature regarding the Jimi Hendrix Experience, and Hendrix himself, is impressive and indicates his prominent place within popular music studies. The Jimi Hendrix Experience, and Hendrix's work as guitar virtuoso in particular, appears regularly in general histories of rock music, as well as broader histories of twentieth-century popular music such as *The Rock History Reader*, *North American Popular Music*, and *The Pop, Rock & Soul Reader*. Dedicated monographs such as *The Jimi Hendrix Experience* by Jerry Hopkins, and *Jimi Hendrix: The Man, the Magic, the Truth* by Sharon Lawrence focus exclusively on Hendrix, often delving into his personal life and considering the circumstances surrounding his music. Hendrix's music has furthermore established a position within academic discussions of popular music. Music scholars such as Sheila Whiteley and Albin J. Zak have provided technical theoretical discussions that help to elucidate the musical functions of Hendrix's guitar playing and singing, offering valuable insight into Hendrix's musical practices and techniques, yet the discussion of the contributions of the drums and bass guitar are largely neglected.[1]

In his book *Instruments of Desire*, Steve Waksman discusses Hendrix and his music in detail, focusing primarily on issues of race, gender, and sexuality. He also addresses Hendrix in the contexts of performance, technology, as well as musicianship/virtuosity. Waksman's exploration of "Voodoo Chile" and "Voodoo

[1]Sheila Whiteley, "Progressive Rock and Psychedelic Coding in the Work of Jimi Hendrix," *Popular Music*, vol. 9, no. 1 (Jan. 1990): 37-60.
Albin J. Zak, "Bob Dylan and Jimi Hendrix: Juxtaposition and Transformation 'All along the Watchtower,'" *Journal of the American Musicological Association*, vol. 57, no. 3 (Fall 2004), 599-644.

Chile (Slight Return)" focuses on Hendrix's guitar playing and lyrics. This is fitting for two reasons: one, because the guitar in "Voodoo Chile (Slight Return)" "...slashes and burns its way through the other instruments".[2] The second is due to the fact that the discussion is conducted in relation to African-American identity as well as how Hendrix might have articulated it in his music. Waksman rarely discusses the other members of the Experience save for a section regarding bassist Noel Redding in terms of distorting racial boundaries, white male desire for black masculinity, and the relationship between Redding's appearance and mannerisms and minstrelsy.

Matthew Brown, taking a scientific approach in his exploration of Hendrix, applies an information processing model (which theorizes human problem solving) in order to explore Hendrix's composition as a series of tonal "solutions" to a musical "problem".[3] Brown's article is thought provoking and provides a strong example of an interdisciplinary approach to Hendrix scholarship, yet ultimately focuses on harmonic and melodic aspects of the music (and the musical problem). Given the context of his article, Brown's neglect of the contributions of the other members of the Experience is excusable, but still demonstrates the tendency of Hendrix scholarship to present an obscured perception of the music of the Jimi Hendrix Experience.

In this thesis I will argue that Mitch Mitchell, the drummer for the Jimi Hendrix Experience, played an integral role in the full realization of the band's music. The absence of his drumming in scholarly writing about the Jimi Hendrix Experience

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[2]Steve Waksman, *Instruments of Desire: The Electric Guitar and the Shaping of Musical Experience* (Cambridge, MA: Harvard University Press, 2001), 185.
[3]Matthew Brown, "'Little Wing': A Study in Musical Cognition," *Understanding Rock: Essays in Musical Analysis*, ed. John Covach and Graeme M. Boone (New York: Oxford University Press, 1997), 156.

does not reflect his irrelevance, but rather the current state of popular music studies wherein melodic and harmonic relationships are explored to a far greater extent than the rhythmic content of the music. I will address these gaps in the literature in two ways: first by identifying and defining the elements of rock drumming, and second by applying these elements in a case study of four songs of the Jimi Hendrix Experience and Mitch Mitchell's rhythmic contributions to those songs.

The avoidance of rhythm is evident even in Mitch Mitchell's own publication, *Jimi Hendrix: Inside the Experience*, which contains limited discussion of his own drumming, focusing instead on Hendrix's playing and personality. In historical surveys of rock music, Mitch Mitchell's drumming is generally noted as an important contribution to Hendrix's music due to his technical proficiency and ability to support Hendrix musically. More specifically, as I will argue in this thesis Mitch Mitchell provided this support by employing a dynamic and shifting rhythmic foundation which he created by combining a mastery of rock drumming and techniques and a personal approach that suited his context perfectly. Admittedly, the electric guitar was certainly the centrepiece of late 1960s rock, or psychedelic rock in Hendrix's case, and Hendrix was doubtlessly one of the most skilled and influential, but I believe the lack of scholarly attention to Mitch Mitchell's role as the drummer for the Jimi Hendrix Experience represents a deficiency in the literature on Jimi Hendrix's music as a whole.

The most valuable writing on Mitchell's drumming with the Jimi Hendrix Experience is found in drumming trade magazines. These publications often praise Mitchell for his exceptional contributions to the Jimi Hendrix Experience, his

interactive and improvisatory style, his ability to create distinctive, effective grooves, and finally his influence over subsequent trends in rock drumming, particularly his incorporation of jazz elements in the context of rock drumming. In his book, *Great Rock Drummers of the Sixties*, Bob Cianci offers a description that summarizes the status Mitchell held in 1989 and continues to hold in today's discourse on rock drummers, "Mitch is best remembered, of course, for his work with the Jimi Hendrix Experience, a gig that lasted only a couple of years. In that short time, Mitch carved his own niche as an unrestrained diamond-in-the-rough technician, a fleet-footed, lightning-wristed player, whose modern jazz-rooted, improvisational style well suited the soaring, highly emotional, exploratory, and sometimes chaotic, wildly destructive guitar playing of Jimi Hendrix."[4] Cianci also touches on the impact and influence Mitchell had on future drummers, noting that, "Carmine Appice (drummer for Vanilla Fudge, Cactus, and session drummer for Rod Stewart, Ted Nugent, Ozzy Osbourne, Pink Floyd, and more as well as author of the best-selling drum book *Realistic Rock*) considers Mitch one of the best and most influential drummers from the decade, and he's not the only one who said that."[5] There are numerous examples of professional drummers tipping their hats to Mitchell, many of which are documented in interviews with *Modern Drummer* magazine from 2009, the year after Mitchell`s death. Elite drummers such as Billy Ward (touring/session drummer with Jim Beard, Bill Evans, B.B. King, and more), John Riley (jazz great having played with Stan Getz, Miles Davis, Dizzy Gillespie, John Scofield, and more), Gregg Bissonette (David Lee Roth, Ringo Starr & His All-Starr Band, and many others), and Antonio Sanchez (Pat

[4]Bob Cianci, *Great Rock Drummers of the Sixties* (Milwaukee: Hal Leonard Publishing, 1989), 149.
[5]Ibid.

Metheny), among others, praise Mitchell's drumming and musicianship, often citing the audible jazz influence he brought into rock drumming, and his impeccable ability to interact, and play as freely as Hendrix.[6]

Similarly, DRUMMERWORLD, a primary resource considered authoritative by drummers across the globe, attests to Mitch Mitchell's virtuosity and facility for improvised ensemble interaction[7]:

> As the drummer in the Jimi Hendrix Experience, Mitch Mitchell was one of the greatest rock drummers of the 60s. Mitchell's style was a blend of the abandon of someone like Keith Moon with the jazz complexity of a sticksman like Elvin Jones. While no one, including Mitchell, could match Moon for sheer rock power, it's also true that Mitchell had the technique to handle some rhythms and patterns that were beyond Moon's abilities…Mitchell was not a mere sideman to Hendrix, but an important collaborator. Always changing rhythms, never predictable, he was also flexible enough to bounce off and respond to Hendrix's own original solo lines…Some revisionist historians have contended that Mitchell and Redding were white faces hitched to Hendrix by pop-conscious management, and that Hendrix's heart lay with black musicians who were closer to the guitarist's blues and soul heritage. Looking at the available evidence, however, it seems impossible to conclude that Hendrix was merely putting up with Mitchell because of outside pressures that prevented him from collaborating with black musicians. Ultimately, Mitchell was the musician with whom Hendrix had the most important and sustained creative relationship out of the many people he led or supported, both onstage and on record.[8]

All of these factors make his absence from academic discussions all the more striking. But before turning to the finer points of rock drumming and Mitch Mitchell's style specifically, it is useful to consider the history and conventions of rock drumming and

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[6]Mark Griffith, "Mitch Mitchell: Drummers Who Adored Weigh In," *Modern Drummer Magazine*, February 19, 2009. URL: http://www.moderndrummer.com/site/2009/02/mitch-mitchell/#.T4MsT2Frtxw.

[7]According to Google Analytics, and Alexa.com, DRUMMERWORLD is the world's no. 1 website for drummers and percussionists in terms of numbers, visitors, content and ranking. Averaging 12 million visitors per year, the website is an encyclopedia-like website and features drummers from all genres in the history of jazz and rock – from past till present times.

[8]DRUMMERWORLD, "Mitch Mitchell," http://www.drummerworld.com/drummers/Mitch_Mitchell.html (accessed April 2012).

the relevant scholarly literature.

The advent of the drum set in the early twentieth century had a massive impact on the course of popular music throughout the century. The amalgamation of disparate percussion instruments, which were previously played by several musicians within the percussion section, into an instrument that could be played by an individual player created a new paradigm in percussive accompaniment. The drum set provided the critical percussive support required for the development of jazz, rhythm and blues, rock'n'roll, and rock music, and continues to play an important role in many styles of popular music today.[9] Characteristic drumming practices developed alongside these styles, varying considerably depending on context. The earliest kit drummers emerged in the 1910s and 1920s with the rise of jazz. In jazz, the swung ride pattern (see fig.1), accompanied by the closing of the hi-hat with the foot on beats two and four became the primary timekeeping method within the style.

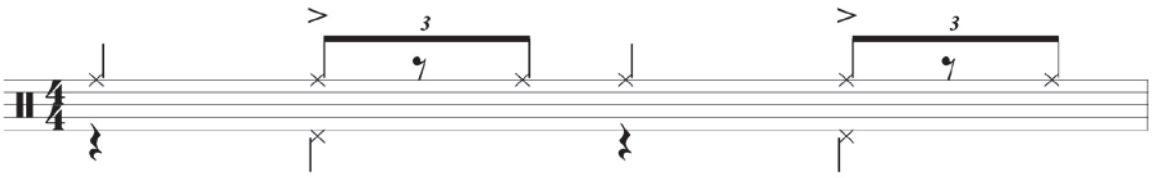

Figure 1

Depending on context, the swung ride pattern is used in a variety of ways. It can be played in its most simple form, or can be elaborated upon as Gary Giddins and Scott Deveaux suggest, "The right foot, controlling the bass drum, plays thunderous accents (known during World War II as dropping bombs), while the left hand swoops over the rest of the kit, adding sharp responses on the snare drum, tom-tom, or crash

[9]For more on the history of the drum kit, see sociologist Matt Brennan's, "Towards a Social history of the drum kit". http://www.youtube.com/watch?v=fweSptZdL-k

cymbal."[10] In the 1950s, a powerful accent was added on the second and fourth beats of each measure (backbeat) in order to stimulate a physical response in the listener.[11] The swung ride pattern is the central element in jazz drumming, yet it can be varied, embellished, and developed in a limitless variety of ways in relation to stylistic and contextual considerations. Although backbeats were occasionally heard in Dixieland jazz in the 20s, and swing music in the 30s and 40s, it was rarely used throughout entire pieces.[12] Rhythm and blues drumming of the 40s and 50s is characterized by a shuffle rhythm (articulated on the hi-hat or ride cymbal) and a propulsive backbeat played on the snare drum (see fig.2). Although variations on the shuffle (such as differing bass drum patterns, snare ornamentation/backbeat displacement, and dropping some of the characteristic swung-eighths of the shuffle rhythm) do occur, it is generally less variable than the jazz pattern as described by Giddins and Deveaux.

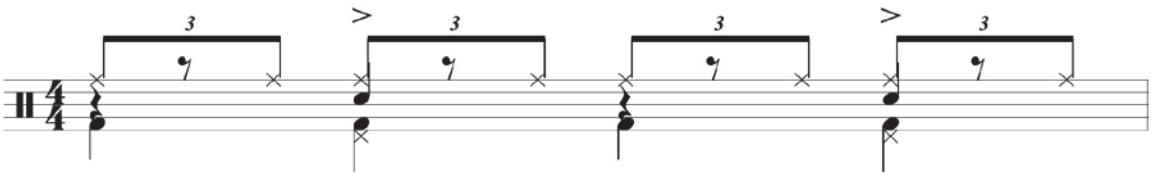

Figure 2

As rock'n'roll developed during the late 40s and early 50s, the emerging musical style (which was in fact an amalgamation of preexisting styles such as rockabilly, gospel, and rhythm and blues) adopted some of the characteristics of the earlier styles, including the backbeat played over a shuffle ride/hi-hat pattern. By the end of the 50s rock'n'roll drum grooves had transformed in one drastic way: the

[10]Scott Deveaux and Gary Giddins, *Jazz* (New York: W. W. Norton & Company, Inc., 2009), 43.
[11]Ibid., 325.
[12]Steven Baur, "Backbeat," *New Grove Dictionary of American Music, 2nd ed.* (Oxford University Press, forthcoming).

swung eighths played on the hi-hat or ride cymbal were being played "straight", or without a swung feel. This gradual shift (credited by Tony Scherman to Earl Palmer in the publication *Backbeat*) altered the fundamental rhythmic underscoring of rock'n'roll, and had lasting effects evidenced by the fact that straight-eighth grooves have dominated rock (and much of popular music) ever since.[13] Rock grooves differ from those in rock'n' roll in terms of the tempos and subdivision of the pulse. In much of rock'n'roll tempos are fast and utilize an eighth-note underlying grid whereas rock tempos are noticeably slower, yet often retain the impression of speed through the use of a sixteenth-note grid. This transition is documented (and credited largely to the Beatles) in Len McCarthy's article "SLOW DOWN! How the Beatles Changed the Rhythmic Paradigm of Pop & Rock".[14]

The examination of the basic drum beats in various popular genres has led to relatively clear explanations of their attributes. Informative as they are, these descriptions unfortunately scratch only the surface of the intricate world of the drum set player. Although popular music studies is now firmly established within musicological scholarship, drumming practices are often overlooked, dismissed, or oversimplified in the literature exempting important contributions from Walter Everett, Steven Baur, Anne Danielsen, Garry Tamlyn, Charles Keil, and Steven Feld. As I will argue, drumming goes far beyond replicating a pre-established groove based on generic fundamentals, and is in fact a complex, multi-faceted, and importantly, *musical* practice that demands far greater scholarly attention than it has received. This

[13]Tony Scherman, *Backbeat: Earl Palmer's Story, (*Washington: Smithsonian Institution Press, 1999), 90-91.
[14]Len McCarthy, "SLOW DOWN! How the Beatles Changed the Rhythmic Paradigm of Pop & Rock," *Beatlestudies 3: Proceedings of the* BEATLES 2000 *Conference*, ed. Yrjo Heinonen, et al. (Jyvaskyla, Finland: University of Jyvaskyla, 2001), 215-230.

thesis has two primary and complementary aims. It will build on the scholarly literature on the Jimi Hendrix Experience, by most accounts one of the most important bands of the 1960s counterculture. By focusing on a central, yet largely overlooked, element in the music of the Jimi Hendrix Experience, this thesis will also provide an extended discussion of rock drumming, leading to a greater understanding of the sensitive musicianship required for effective drumming.

To this end chapter two will be devoted to the extended discussion of key components of rock drumming techniques, while in chapter three I will continue with in-depth analyses of four songs wherein Mitch Mitchell demonstrates these elements as well as one of many possible approaches to effective rock drumming. In closing a brief conclusion will summarize key points of the thesis including Mitch Mitchell's style relative to conventional drumming practice and the relevancy of the thesis within popular music studies.

Chapter 2: Elements in Rock Drumming

In order to understand Mitch Mitchell's particular contributions as a drummer, it is important first to lay out the principles of rock and some jazz drumming within which Mitchell worked. Drummers in these genres are operating within understood concepts of metre, syncopation, groove, and fills, among others, which together form the basis of rock and many other styles of drumming. Chapter two will thoroughly explore these concepts as understanding them is critical to the comprehension of chapter three where their practical implementation is unveiled through Mitch Mitchell's drumming with the Jimi Hendrix Experience. The terms introduced in this section reflect the perspective of the performer rather than a theoretical perspective.

Metre

Metre has to do with how music is organized in time. Walter Everett maintains that metre is a type of "background grid" of pulses, or a constant flow of inaudible beats, some of which are manifested in the actual rhythms of a song, and some of which pass by silently.[15] Everett explains that metre is organized into different levels by regular alternations of strong and weak beats, strong and weak parts of beats, and strong and weak parts of the parts. The description of metre in *North American Popular Music* (2010) offers a simpler definition by suggesting that "Metre describes how beats are grouped and emphasized..."[16]

Although much Western music adheres closely to the strong/weak

[15]Walter Everett, *The Foundations of Rock: From "Blue Suede Shoes" to "Suite: Judy Blue Eyes"* (New York: Oxford University Press, 2009), 8.
[16]Glen Appell, David Hemphill, and Matt Vander Woude, *North American Popular Music* (Toronto, Ontario: Nelson Education Ltd., 2010), 21.

relationships of underlying pulses described, these conventions are often modified in various styles of popular music. Ragtime in the early twentieth century, and swing of the 30s and onward, for example, challenge these historic relationships of underlying pulse in Western music by emphasizing or accenting different beats, or parts of beats (offbeats), creating more active interactions between the underlying pulse and the rhythms being played, which is commonly referred to as syncopation. In drumming practice the modification of the historic strong/weak relationships is most pronounced in the development of the backbeat (snare drum hits on beats two and four), which emerged over time alongside Dixieland jazz, swing, rhythm & blues, and finally solidified its ubiquitous presence in popular music with its almost constant use in early rock and roll and subsequent popular music.[17] When they were first introduced, backbeats were considered syncopated snare hits that resulted in weak beat accents that countered the traditional strong accents on beats one and three, creating a stress pattern of accents which all held their own forcefulness. The most basic drum beat in rock music includes (in addition to an eighth-note hi-hat pattern) bass drum hits on beats one and three, and snare drum hits on beats two and four (fig. 3a). Figures 3b, c, d show some simple, commonly used variations.

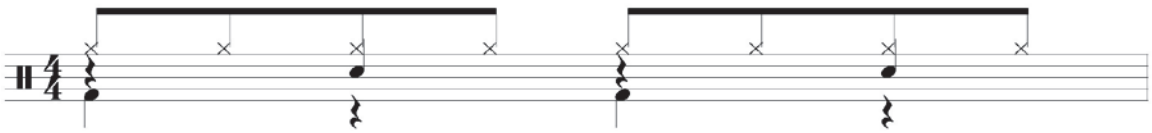

Figure 3a

[17]Steven Baur, "Backbeat," *New Grove Dictionary of American Music, 2nd ed.* (Oxford University Press, forthcoming).

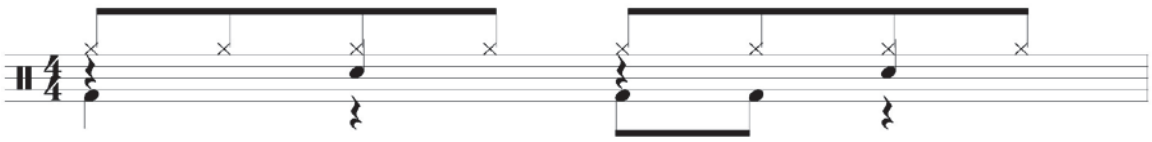

Figure 3b

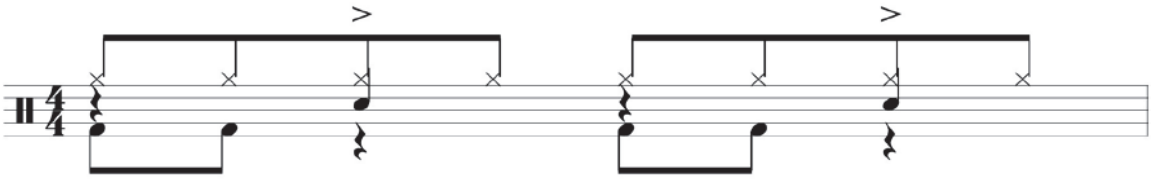

Figure 3c

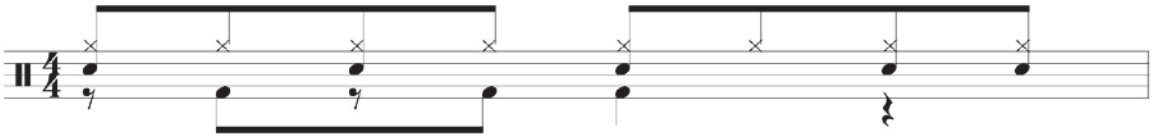

Figure 3d

The understanding of metre in rock drumming is therefore dependent on the knowledge that a 4/4 time signature is comprised of a series of pulses to which one may impart various stress patterns. For instance, a drummer may elect to emphasize either the kick on beats one and three, the snare on two and four, or give all beats equal emphasis. Anne Danielsen explains that in the context of African music,

> ...the time signature 4/4 does not imply a beat sequence of strong-weak-strong-weak, as is often the rule within classical music. How the beats are weighted varies from genre to genre. The sequence might well be quite the opposite: weak-strong-weak-strong, as in a typical backbeat. Every beat might also be equal in weight, as Arom claims for African rhythm, in general, or, as with much funk, the first beat might be the only quarter that stands out as a really heavy beat. It might even be difficult to identify one primary sequence of relative weights, because it will vary according to the figure used as its point of departure.[18]

Danielsen highlights here the malleability of beat emphasis, as well as the nature of the backbeat. Although expectations of metre and its demarcation in rock drumming

[18]Anne Danielsen, *Presence And Pleasure: The Funk Grooves of James Brown and Parliament* (Middletown, CT: Wesleyan University Press, 2006), 45.

are well established, the possible variations on this basic structure are unlimited, as are the options when purposely avoiding these expectations for musical effect.

Syncopation

Syncopation, a musical term defined in relation to metre, is described by Walter Everett as a "word for a rhythm's accent pattern working against the regular underlying strong-weak pattern of the natural metric accent."[19] According to Scott DeVeaux and Gary Giddins, syncopation occurs "Every time a strong accent contradicts the basic metre..."[20] The 2010 edition of *North American Popular Music* suggests that, "Syncopation describes rhythms that place the accent off the expected beat...A simpler definition of syncopation would be the placement of rhythmic emphasis on the weaker part of a beat."[21] These examples suggest that a musician's use of syncopation relies on their understanding of the fundamental rhythmic makeup of the metre in which they are playing.

Syncopation is an extremely useful tool for rock drummers when grooving or filling. It creates rhythmic tension and excitement, as well as metrical ambiguity. Listener expectations regarding syncopation depend on their familiarity with specific musical traditions.[22] In some cases syncopation can distort and "confuse" the pulse, and therefore the listener's perception of the beat. This creates excitement due to the seeming loss of the established groove and motion, and delivers a sense of relief and satisfaction with the emphatic return to a less syncopated pattern. In other instances

[19]Everett, 10.
[20]Deveaux and Giddins, 20.
[21]Appell, Hemphill, and Vander Woude, 7.
[22]Ibid.

syncopation can act to highlight or enforce, rather than distort, perception of pulse.[23] Whether or not the use of syncopation obscures or clarifies the pulse relies heavily on the listener's familiarity with the stylistic conventions of the genre but in either case syncopation creates excitement, interest, and intensity to drumming and music.

The Groove

While terms such as metre and rhythm have relatively unambiguous definitions, groove is difficult to explain precisely. *Grove Music Online* defines groove, in the realm of jazz, as a persistently repeated pattern.[24] Furthermore, "…groove or groove-based refers…to performances or recordings in which the achievement of a groove seems to be the single foremost musical quality."[25] Barry Kernfeld – the author of the entry – concludes by suggesting that (not excluding other possibilities) this type of terminology is commonly used with reference to styles from the latter third of the twentieth century which utilize characteristic accompanimental ostinatos (repeating figures) drawn from African-derived dance music, whether African-American (e.g., soul, funk, disco, rap, hip-hop), Afro-Cuban dance music (e.g., salsa), or Afro-Brazilian (samba), or some other such fusion.[26]

Walter Everett's description of groove is slightly different, but conveys a similar understanding. He presents the groove as a rhythmic backdrop, "…a regularly repeating pattern in drums, bass, rhythm guitar, keyboards, and backing vocals – the group's rhythm section – against which freer rhythms will be performed by lead

[23]As Anne Danielson explains, this is often the case with funk music. Her discussion of syncopation's ability to enhance perception of pulse is present throughout her book *Presence and Pleasure*.
[24]Barry Kernfeld, "Groove (i)", *Grove Music Online*, URL: http://www.oxfordmusiconline.com/subscriber/article/grove/music/J582400?q=groove&search=quick&pos=2&_start=1#firsthit.
[25]Ibid.
[26]Ibid.

guitar, winds, lead vocals, and any other soloing forces."[27] Everett continues, "The groove's pattern may be entirely regular (Donovan's "Mellow Yellow") or may be syncopated in some way (the Zombies' "She's Not There"), but its constant repetition and background status lend it a known regularity that keeps the less predictable soloists in the spotlight."[28] Everett's description of groove can be applied to the exploration of drum beats that use precisely repeated rhythms, but suggests further investigation of ones that display looser, more flexible patterns (to be discussed in chapter 3).

Conventional definitions of groove suggest that the drummer's contribution consists of a strictly repeating beat but as displayed by Mitch Mitchell's drumming, beats can be varied and still maintain the repetitive impression expected of a groove. Steven Baur's discussion of the variability of basic beats begins to unveil how subtle variation and a repetitive nature can in fact coincide. After stressing the importance of repetition in drum beats, Baur highlights their variability in stating, "Each pattern within a given beat is subject to variation or elaboration, allowing for an infinite number of beats deriving from the basic patterns."[29] As Baur notes, the patterns within a given beat (the bass or snare drum pattern, for instance) can be varied and elaborated upon in order to expand one basic beat into a multitude of beats. He also suggests that there can be several beats in a given song, and this is often the case with Mitch Mitchell's drumming in the Jimi Hendrix Experience. Mitchell's playing often establishes a "foundational" beat within a section of a song, and proceeds to vary and

[27]Everett, 304.
[28]Ibid.
[29]Steven Baur, "Ringo round Revolver: rhythm, timbre and tempo in rock drumming," '*Every Sound There Is': the Beatles' Revolver and the Transformation of Rock and Roll*, ed. Russell Reising (Burlington, VT: Ashgate Publishing, 2002), 173.

elaborate on this pattern throughout the section and the song as a whole. Mitchell thus develops many different beats in one section and/or one song alone, illustrating the drummer's ability to provide a repetitive background figure for the soloist (Hendrix) while also injecting the beat with an improvisatory, interactive, and individual style. Mitchell's beats typically feature subtle rhythmic and timbral variations. Although he does provide what Everett describes as, "…background status…and a known regularity that keeps the less predictable soloists in the spotlight", Mitchell's drumming often avoids the strict repetition Everett emphasizes, and I suggest that Mitchell's conception of groove involves a looser, more flexible approach to drum set playing.

Coming from a neuro-scientific viewpoint, Daniel Levitin conveys a different understanding of groove. Levitin states that, "Groove can be a subtle aspect of performance that comes and goes from one day to another, even within the same group of musicians", and that there are many great grooves that are very different from one another.[30] Levitin says there is no formula for how to make a great groove, and that there are relatively few songs that have it.[31] In a discussion of groove in Stevie Wonder's "Superstition", Levitin suggests that Wonder's drumming is one element that contributes to the song's great groove:

> In the opening few seconds of 'Superstition', when Stevie's high-hat [sic] cymbal is playing alone, you can hear part of the secret of the song's groove…The beat Stevie plays on the high-hat is never exactly the same way twice; he throws in little extra taps, hits, and rests. Moreover, every note that he plays on the cymbal has a slightly different volume – nuances in his performance that add to the sense of tension.[32]

[30]Levitin, 170-171.
[31]Ibid., 171.
[32]Ibid.

Similarly, Mitchell's mastery of nuance, tension, and subtle alteration on the drum set contribute to the overall groove of a song and are central aspects, not only of his drumming style, but also of the music of the Jimi Hendrix Experience. Levitin tells us that Stevie Wonder, "…keeps us on our mental toes by changing aspects of the pattern every time he plays it, holding just enough of it the same to keep us grounded and oriented."[33] This description holds true for much of Mitchell's playing with the Experience. For example, "Lover Man", "Fire", "Third Stone from the Sun", "Hey Joe", and "Foxy Lady" all display Mitchell's tendency to vary grooves constantly throughout verses, choruses, and Hendrix's solos, while always retaining enough of the initial beat to keep the listener, as Levitin says, "grounded and oriented".

Levitin stresses the importance of subtle alterations in music to induce emotional responses in the listener. He tells us that music communicates to us emotionally through systematic violations of expectations. Without these violations - whether in the domain of pitch, timbre, contour, rhythm, tempo, or other – music would be flat and robotic due to the overwhelming level of organization. In contrast to conventional repetitive beat drumming, Mitch Mitchell commonly employs subtle violations of expectations within the domains of rhythm, timbre, and texture in his drumming (with the Jimi Hendrix Experience), creating an engaging, and dynamic rhythmic foundation in each song, several of which will be discussed later.

Another insightful understanding of groove is provided by Charles Keil and Steven Feld, who describe it in terms of repetition with variation.[34] To Keil and Feld

[33]Ibid.
[34]Charles Keil and Steven Feld, *Music Grooves* (Chicago: The University of Chicago Press, 1994), 22-

the slight variations are fundamental to groove and listener participation in the process.[35] They provide a useful description of groove that I believe applies to Mitch Mitchell's drumming style precisely. Although not all rock drumming adheres to the principles Keil and Feld lay out, they emphasize that, "…as music grooves, there is always something new and something familiar."[36] In this conversation Keil and Feld address groove broadly and not solely the contributions of a drummer, yet I suggest their description offers much insight into the many options available to a rock drummer, and furthermore reflects the musical awareness (through his combination of repetition mixed with subtle rhythmic and timbral variations) in the drumming of Mitch Mitchell.

Fills

A drum fill is essentially an interruption to the flow of a beat and is normally performed on a combination of snare drum, toms, and sometimes cymbals. In popular music, fills often resolve on a downbeat with a crash/bass drum combination that provides a smooth connection between the end of a fill and return to a beat. They are commonly used to facilitate transitions between sections of a song, which Walter Everett labels "transitional fills". He furthermore refers to fills that occur when returning from a contrasting passage back to the main section (usually a verse) as a "retransitional fill". In asserting that Ringo Starr's filling techniques helped put the Beatles on the world map, Everett stresses the importance of drum fills due to their ability to facilitate and invigorate smooth transitions between contrasting sections, as

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23.
[35]Ibid.
[36]Ibid., 23.

well as give songs distinctive and exciting moments. In jazz music drum fills can be transitional (leading to or back from a contrasting section), as well as interactive and spontaneous gestures within sections. Fills in jazz are often improvised, incorporating the entire drum kit. While Everett is correct that fills in rock are most typically transitional fills, Mitch Mitchell was unique in the degree to which he engaged interactive, spontaneous filling more commonly associated with jazz drumming. Fills can occur at the end of phrases that repeat within a section of a song as in the verses of "Hey Joe" by The Jimi Hendrix Experience and "White Room" by Cream. They can also occur at the end of every measure as in "Manic Depression" where Mitchell plays a hybrid groove – a combination of groove and fill, or in the middle of sections ("Purple Haze" by The Jimi Hendrix Experience – Mitch Mitchell fills every two bars during verses). These fills are used to vary or intensify the groove of a song. Playing a fill often causes an alteration of the flow of time/groove that the drummer maintains the vast majority of the time.

Some fills in rock are so distinctive that they have become essential elements of the song and need to be replicated for each performance (such as the triplet fills in the introduction of "Detroit Rock City" by Kiss, Phil Collins' legendary fill that declares the entrance of the drum beat in "In the Air Tonight", as well as many of Nick Mason's fills on Pink Floyd recordings). Others can be improvised more freely, creating a similar effect while also offering different versions of a song through nuanced alterations of the fills that define recorded versions. For instance, most live and alternative studio takes of "Fire" by The Jimi Hendrix Experience contain subtly varied fills throughout while retaining the overall effect on each recording. Some

drummers also vary fills throughout a song while always placing them in the same or similar locations relative to the form.[37] The drum fill is a multi-function tool for a rock drummer as it facilitates transitions, outlines song structure, and also creates rhythmic tension by abandoning the clear articulation of metre for a moment of increased rhythmic density (usually) and timbral alteration (by filling on various drums and cymbals unheard in the main drum beat). The drum fill has the ability to intensify musical moments and allow for a compelling sense of satisfaction upon the return to the main drum beat. The way in which each individual drummer chooses to play drum fills varies substantially but it remains their primary responsibility to perform them at the right time and in a musically appropriate manner.

Imitation, Interaction, Contrast

The ability for a drummer to imitate, interact, and offer contrasting dialogue with other musicians in a group is often addressed as a function of jazz music. A quote from Deveaux and Giddins offers one example of this:

> What distinguishes jazz drumming is the sheer virtuosity – the flexibility and subtlety – that keeps other musicians and the listener involved, a task very different from merely keeping the beat. The drummer is free to respond to whatever the soloist plays and is expected to be attentive and quick-witted enough to fill in the spaces (with a drum fill, or solo) – or to know when not to. Drummers also contribute to the overall texture by altering timbre. Cymbals are often renovated to suit personal taste, sometimes with strips of tape on the underside to control the sizzle. The use of various sticks radically changes the sound of drumming.[38]

Although the "sheer virtuosity" of jazz drumming is undeniable, the notion that a

[37]See Baur's discussion of Ringo Starr's fills throughout the Beatles' recording of "Taxman" in "Ringo round Revolver: rhythm, timbre and tempo in rock drumming," '*Every Sound There Is': the Beatles' Revolver and the Transformation of Rock and Roll,* ed. Russell Reising (Burlington, VT: Ashgate Publishing, 2002), 176-177.
[38]Deveaux and Giddins, 16.

drummer is “free to respond to whatever the soloist plays and is expected to be attentive and quick-witted enough to fill in the spaces...or to know when not to” is also applicable to rock drumming. The drummer's contribution to overall texture, ability to alter the drum kit to suit his or her needs/taste, and stick selection are also central to drumming in rock music. Deveaux and Giddins suggest that jazz drumming involves much more than “merely keeping the beat” (presumably in contrast to rock music and other types of less virtuosic music) due to the important responses and interactions that jazz drummers are expected to perform. Although it is common (but not always the case) for jazz drummers to possess advanced technical ability relative to their rock peers, rock drumming often does involve a substantial amount of interaction and imitation through similar or contrasting ideas in relation to the soloist. In *The Foundations of Rock*, Walter Everett discusses the virtuosic nature of drum solos in rock, citing examples such as the drum solos by Ginger Baker (of Cream) on the song “Toad” and John Bohnam (of Led Zeppelin) on “Moby Dick”.[39] Rock drumming is an intricate process involving the use of far more nuanced, technical, and inventive musical language than is often recognized.

Interaction with other musicians in the group provides drummers another avenue by which they are able to infuse the music with personal style and approach. A drummer can borrow rhythmic, or in some cases melodic, gestures from other instrumentalists or vocalists in the group. Although a beat comprises the fundamental characteristics of a drum part, borrowed motives can be incorporated into the beat, rendering a more cohesive and unified sound (for instance the audible connection between the guitar part and snare drum pattern and fills in the verses of “Purple

[39]Everett, 5.

Haze" as well as the unison figure in "Purple Haze" as discussed in chapter 3). Borrowed elements can be infused into the beat throughout the song, or used more sparingly at specific moments for periodic effect.

Drum Timbre and Tuning

The importance of drum timbre and tuning is commonly overlooked by observers and even amateur players of the drum set. The size of a drum and way it is tuned has substantial influence over the sound a player will get out of a drum set. These parameters dictate the attack, sustain/decay, pitch, and essentially the overall sound of a drum set (excluding cymbals). Drum heads have only three relative tensions: heads tuned the same, top head tighter, or top head looser than the bottom head. Each of these tuning types present individual characteristics. Larry Nolly explains:

> If both heads are the same tension, the drum has a wide open sound (except when tuned high, in which case the sound is tight with an after-ring). The drum will resonate with a constant tone. It's very difficult to get both heads exactly the same tension. If the top head is tighter, you will get a good stick response with crisp attack, unless the drum is tuned low mid-range or lower. A full, deep sound can be achieved if the bottom head is fairly loose. If the top head is looser, the drum will have greater projection and a fatter sound.[40]

Nolly additionally notes the possibility of achieving a pitch-bend effect (the pitch of the drum changing to a lower tone as the drum's sound sustains).[41] As Nolly suggests, drum tuning has a significant impact on the sounds that drums produce. Steven Baur, for example, addresses the effects looser drumhead tunings had on Ringo Starr's

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[40]Larry Nolly, *Drum Tuning: a comprehensive guide to tuning drums*, 2nd ed. (Wilmington, DE: Drumstix Publishing, 1994), 18.

[41]The physical effects of bass drum patterns and pitch bend are explored in Hans T. Zeiner-Henriksen's article, "Moved by the Groove: Bass Drum Sounds and Body Movements in Electronice Dance Music" in Anne Danielsen's publication *Musical Rhythm in the Age of Digital Reproduction,* (Farnham: Ashgate, 2010), 121-140.

playing with the Beatles. Baur explains that beginning with the album *Rubber Soul*, and continuing into *Revolver*, as well as later Beatles records, Starr developed a fatter drum sound, favouring loosely tuned, low pitched drums.[42] He further states that the longer attack of slack-tuned drums elicits less hurried performances and that drum sticks do not respond well to loosely tuned drumheads, resulting in less rebound which renders rolls more difficult to perform. In contrast to Starr, Mitch Mitchell plays many rapid, intricate passages, explaining his use of significantly tighter drum tunings than those of Starr.

Beyond their timbral implications, drum tunings facilitate various drumming styles and approaches. Loosely tuned drums afford a lower pitch and longer resonance, which are well-suited to sparse rhythmic patterns wherein each drum hit is allowed to resonate, creating a dense, heavier sound. However, some drummers such as John Bonham of Led Zeppelin (most notably in the drum feature "Moby Dick") have played rapid rhythmic figures on loosely tuned drums and successfully combined rapid note succession with the density of low-tuned drums. Although rapid rhythms can be employed on both high- and low-tuned drums, the latter produce a washy wave of sound (resulting from less pronounced attack and a more unstable tone), and a thicker, more sustained texture compared to tightly tuned drums.

Tightly tuned drums offer quick response, powerful attack, and – unless both heads are tuned to the same tension (which Larry Nolly explains is very difficult) - fast decay.[43] Tighter tunings are versatile but are ideal for a drummer desiring clearly

[42]Steven Baur, "Ringo round Revolver: rhythm, timbre and tempo in rock drumming," "*Every Sound There Is": the Beatles' Revolver and the Transformation of Rock and Roll,* ed. Russell Reising (Burlington, VT: Ashgate Publishing, 2002), 178.
[43]Nolly, 16.

articulated rhythms and immediate response during rapid passages. Although Mitch Mitchell's style is not solely based on clear articulation and rapid rhythms, his combination of tightly tuned drumheads (likely a tight top head with the bottom head slightly looser), fills containing rapid stick strokes, elaborately ornamented backbeats ("Fire"), and rhythmically complex beats ("Lover Man") display how tightly tuned top heads facilitate rapid drum passages with clarity and precision, allowing for each note to sound distinctly, creating a rigid, propulsive beat or fill.

Cymbal Timbre and Manipulation

Cymbal selection and timbre are central to the overall sound of a drum set, and therefore a drummer. In *The Art of Playing the Cymbals*, Sam Denov (former percussionist in the Chicago Symphony Orchestra) outlines the key components of a cymbal's sound, stressing the importance of careful cymbal selection. Although Denov's work is dedicated to the use of hand cymbals in a symphonic context, his discussion of cymbal characteristics applies equally to a drum set player's cymbals. Denov explains the five qualities that give a cymbal its character: (1) response (how quickly and easily a cymbal reaches full vibration), (2) lack of fundamental pitch (but classifiable as low, medium, or high), (3) plurality of overtones, (4) resonance (referring to the type of tone with respect to fullness – resonant cymbals have a thick quality), and (5) duration of vibration.[44]

The size of a cymbal combined with its timbral characteristics has a distinct impact on the overall sound of any individual drummer. Cymbal selection can therefore be characterized as another example of musical decision making for which a

[44]Same Denov, *The Art of Playing the Cymbals: A Complete Guide and Text for the Artistic Percussionist*, (New York: Belwin Mills Publishing Corp., 1963), 7.

drummer is responsible. For instance, a thin ride cymbal has quicker response and longer duration of vibration from softer strokes compared to a thick cymbal, and perhaps lends itself to lighter, more delicate genres where subtlety and precision are paramount. Thicker cymbals require harder strokes to initiate response and maximize duration of vibration. It is likely too that these cymbals have greater resonance regarding fullness, and are more appealing to a drummer requiring loud, penetrating sound from their cymbals. Lack of fundamental pitch and a plurality of overtones are commonly sought-after characteristics of a cymbal for drum set players of numerous styles.

In discussing Ringo Starr's drumming with the Beatles, Steven Baur notes numerous pertinent aspects of cymbal playing and manipulation.[45] The hi-hats can be manipulated in terms of their openness (controlled by the foot) as well as the part of the stick with which they are struck. Tightly closed hi-hats will produce a short, crisp sound whereas loosely held hi-hats will produce a more sustained and distorted sound, rendering each note less distinct and rhythmic patterns less defined. If the hi-hats are struck with the tip of the stick they produce a "tinny" timbre and clearly defined notes, while the shoulder of the stick produces a thick, sloshy and overtone-heavy sound. Different combinations of hi-hat tightness and stick position allow for many variations of timbre and effect while playing a beat or fill. The previous description of hi-hat stick position and its effect on the sound produced applies equally to ride and crash cymbals. Baur explains, "...playing heavily toward the edge of the cymbal will cause overtone swelling, often rendering the rhythmic pattern less

[45]Steven Baur, "Ringo round Revolver: rhythm, timbre and tempo in rock drumming," '*Every Sound There Is': the Beatles' Revolver and the Transformation of Rock and Roll,* ed. Russell Reising (Burlington, VT: Ashgate Publishing, 2002), 174-175.

distinct, whereas playing lighter and closer to the center produces less overtones and thinner, but more distinctly articulated notes."[46] He additionally states that a combination of clear articulation and overtone swelling can be achieved by playing the edge of the cymbal with the tip of the stick rather than the (more commonly employed) shoulder of the stick when playing very close to the edge of the cymbal. The raised centre area of the cymbal is known as the bell, and provides a piercing, high-pitched, and distinct timbre to a drummer's arsenal of cymbal sounds. Mitch Mitchell's ability to manipulate cymbal timbre in various ways plays an important role within his overall sound with the Jimi Hendrix Experience and will be addressed periodically in the following chapter, with particular emphasis on this aspect of his playing in the discussion of "Lover Man".[47]

Having described many of the key elements involved in playing the drum set and simultaneously filling this void in popular music literature, the complexities of the practice are much more apparent. Drumming is central to popular music and employs many musical – particularly rhythmic – devices in order to be successful. In chapter three Mitch Mitchell's internalization of the fundamental elements and sensitive musicianship will become clear through the analysis of several examples of his playing with the Jimi Hendrix Experience.

[46]Ibid., 175.
[47]According to Michael Heatley, Mitchell's standard cymbal set up consisted of a "...15-inch hi-hat, 20-inch ride, 20-inch and 22-inch crash, and later, a 22-inch or 24-inch riveted ride..." Michael Heatley, *Jimi Hendrix Gear: The Guitars, Amps & Effects That Revolutionized Rock'n'Roll* (Minneapolis, MN: Voyageur Press, 2009), 166.

Chapter 3: Drumming Analyses

Having examined the elements in rock drumming, I will now turn to recordings of the Jimi Hendrix Experience in order to demonstrate and analyze their practical application. Although there are guiding principles within the genre, the implementation of the elements depends highly on personal stylistic approaches. In order to unveil those of Mitch Mitchell, this chapter will discuss, using numerous transcriptions, "Purple Haze" and "Fire" from the album *Are You Experienced* and "Crosstown Traffic" from *Electric Ladyland.* These analyses will provide the reader with a strong understanding of the pragmatic implementation of the drumming elements as well as Mitch Mitchell's drumming style and approach, leading to a more comprehensive understanding of the Jimi Hendrix Experience's music as an entirety. The final song discussed, "Lover Man" will provide a more general description of the effective drumming techniques in use in order to allow the reader to conceive of the song in a broader, overall sense that describes musical impressions instead of minute details.

"Purple Haze"

"Purple Haze" is an excellent starting point for this discussion not only due to its enormous popularity since release, but also because it highlights some of the key components of rock drumming techniques, and more specifically some of Mitch Mitchell's primary approaches as a rock drummer. In "Purple Haze" Mitchell expertly employs subtly varied beats that are well-suited to their musical context, propulsive fills, timbral variation, and other effective drumming techniques. Upon detailed

inspection Mitchell's mastery of these techniques is evident and contributes significantly to the overall impression and success of the song.

"Purple Haze" begins with two measures (8 beats) in which the guitar and bass outline the pulse of the song with an emphatic quarter note rhythm. Mitchell enters on beat one of the third measure, bolstering the quarter-note pulse with accented hits on the snare and hi-hat that lock in with the bass line. The lightly syncopated bass drum pattern helps to create a driving accent on the first beat of each measure (see fig. 4).

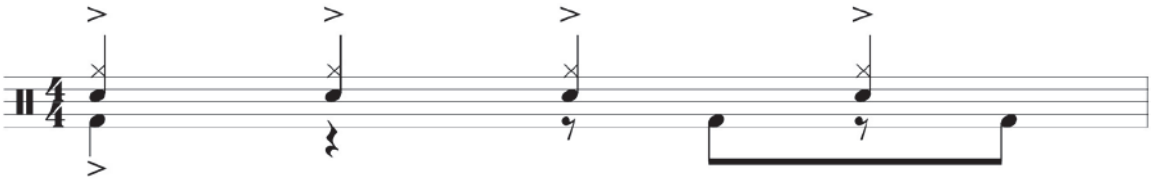

Figure 4. Introduction pattern for "Purple Haze"

As Mitchell plays this pattern, Hendrix plays the guitar introduction that leads into the main groove. Mitchell leads the group into this section through a fill that is subtle, yet extremely effective in transitioning the group into the new section due to the shift in tonal colour (open hi-hat), increased rhythmic activity (snare drum), and a slight overall increase in volume as a result of the open hi-hat combined with additional snare hits (see fig. 5). The transition concludes forcefully on the downbeat of the following measure (where the verse groove kicks in) with an accent on the crash cymbal accompanied by a single bass drum hit.

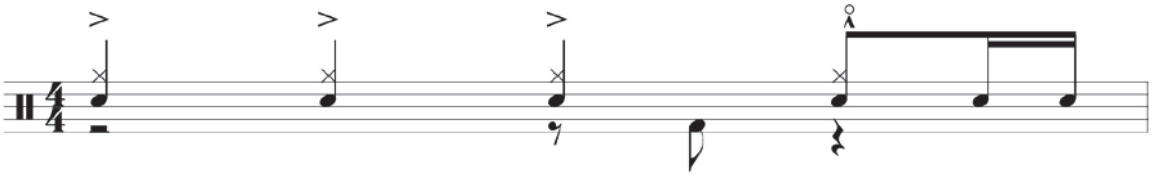

Figure 5. End of introduction pattern with small fill leading into first verse

During the verse Mitchell's drumming demonstrates many attributes that function together to create an extremely effective accompanimental drum part. Mitchell plays a two-measure hybrid beat (beat that consistently includes fills) during the verses. The first measure features a strong backbeat with a small fill at the end and the second contains a fill that begins halfway through the measure. Immediately evident is Mitchell's aversion to regular hi-hat or ride patterns common in conventional rock beats. The result of this is a looser sounding groove, and perhaps a form of delayed gratification for the listener (as the ride cymbal does enter after the first verse during a four-measure lead-in to Hendrix's solo). Furthermore, the lack of ride cymbal during the verses followed by its driving presence in other parts of the song provides enticing rhythmic and timbral variation throughout the track. Although Mitchell's accompaniment to the groove lacks a ride pattern, it succeeds in providing a suitable drum part that serves the song musically. Mitchell outlines his two-bar beat with a crash/bass drum hit on the downbeat of every second measure, providing emphatic arrivals throughout the verse. The snare backbeat is fattened with flams (a two-handed stroke where an ornamental stroke hits the drumhead slightly before the primary stroke) and ornamented with unaccented notes. The bass drum pattern is characteristic of basic rock drumming techniques (see fig. 6). The second measure of the beat begins very similarly to the first measure but ends with emphatic sixteenth-note fills that announce the repeat of his two-bar pattern.

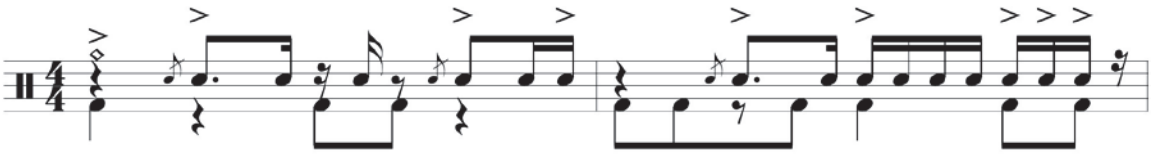

Figure 6. Mitchell's hybrid beat for the verse (subtle alterations present during repetitions)

The fill also announces the repeat of the entirety of the groove created by the rhythm section itself as the guitar and bass also play two-measure patterns. It is critical to note that these two-measure "repetitions" are not exact repetitions, and display subtleties in rhythmic construction, accent pattern, drums struck (timbre), and timing that enhance the groove but cannot be captured with conventional notation. Even in light of these slight changes, the groove of the drums, and the song itself, is never sacrificed for displays of technical proficiency, demonstrating a balance between strong groove, improvisation, and a superb understanding of the various functions of a rock drummer.

Six measures into the verse Mitchell demonstrates an effective "set up", which is an important filling technique that is used by drummers to prepare ensemble figures. In this instance, he prepares the dramatic ensemble stop with a full-measure fill. The fill increases rhythmic tension with triplet subdivisions halfway through the measure, and ends with the ensemble on the ensuing downbeat with a crash/bass drum combination (see. fig. 7).

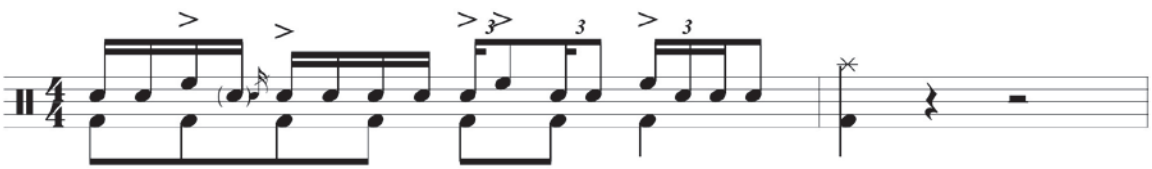

Figure 7. Fill leading into first ensemble stop

Mitchell then “sets up” the re-entry of the band with four accented sixteenth notes, again preparing the unison ensemble figure with a forceful driving motion. Mitchell's effective set-up figure ensures that the band enters with precision, which is critical to creating this powerful and intense musical moment. The fact that the rhythmic unison occurs after a stop, and leads back into a new verse renders this brief moment incredibly emphatic and satisfying (see fig. 8).

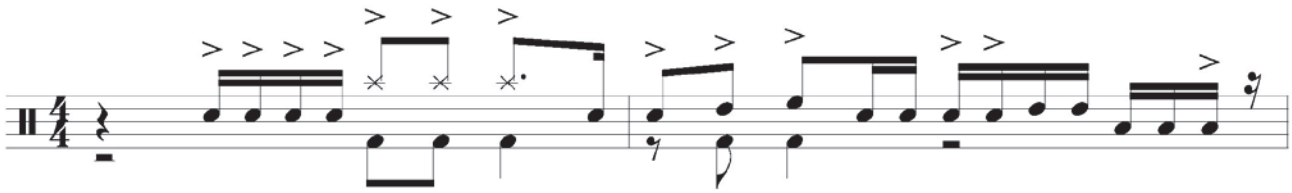

Figure 8. Re-entry set-up, unison figure and transitional fill returning to verse

Mitchell's use of slight alterations is again evident in the second verse where he includes subtle variations of timbre (drum selection), rhythm, and accent pattern in the drum part prior to the stop. When the stop occurs for the second time, Mitchell leads into it with a fill that contrasts the initial one both in rhythm and accent pattern (see fig. 9).

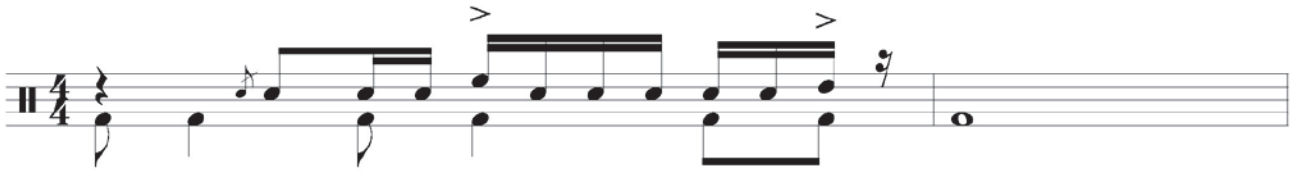

Figure 9. Contrasting fill leading into second stop

Contrarily, his set up for the rhythmic unison that follows is identical to the first, and the fill in the following measure is also mimicked save for two bass drum hits and one sixteenth note on the snare drum that are dropped (fig. 10).

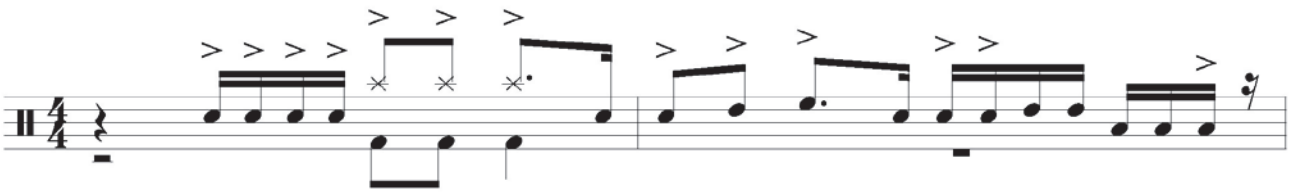

Figure 10. Re-entry set-up, unison figure and transitional fill leading into section prior to guitar solo

This fill (fig. 10) leads into a brief section (that builds into Hendrix's guitar solo) in which Mitchell again provides timbral variety and manipulates a delicate balance between repetition and variation. It is upon the arrival of this pre-solo section that Mitchell introduces a ride pattern for the first time since the quarter-note pulses on the hi-hat in the opening measures of the song. The timely introduction of the ride pattern helps to propel the song with even more forward motion than heard in the verses, building intensity until Hendrix comes in with a wailing guitar solo. During the build-up and Hendrix's solo Mitchell varies his ride pattern consistently, setting up and breaking away from expectations, and establishing an improvisational and fluid approach to timekeeping and groove. Mitchell also displays this approach in the second half of Hendrix's solo, where he plays fills consisting of sixteenth-note triplets that instill frenetic energy into the section (Hendrix is also a major contributor to this) by showcasing a repeated rhythm and accent pattern while varying the drums on which the pattern is being played. In general terms, manipulating the balance between repetition, improvisation/variation, and fluidity is central to Mitchell's playing style. Following Hendrix's solo there is an interlude that returns to the introductory material from the beginning of the song. Mitchell plays similar material here as he did in the introduction, this time including the occasional additional snare ornament or bass

drum hit. His fill leading into the final verse is a beat longer than the one in the introduction, and slightly more emphatic, but the general attributes of timbral shift, increased rhythmic activity, and a slight overall increase in dynamic remain the same (see fig. 11).

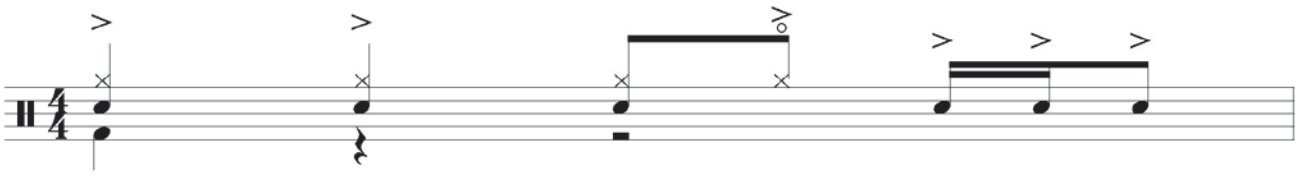

Figure 11. Last measure of return to introductory material with fill leading into final verse

Mitchell's fills in the final verse display subtle variations when compared with previous verses, and the whole drum part is infused with additional variations in ride, snare, and bass drum patterns in the outro that follows. The fills in the final verse are varied in drum selection, accent patterns, and rhythmic patterns while always maintaining a cohesive overall impression. The outro features another exhilarating and powerful Hendrix solo that is supported by Mitchell's dynamic beat: a driving ride pattern with varied rhythmic activity that eventually grounds itself into a repeating pattern as the song fades out, subtle variation of snare and bass drum parts that also become strictly repeated as the song begins to fade, and fills that display recurring rhythmic and accent patterns, yet often employ different drum combinations. By the end (final fade) of the track, Mitchell's hybrid beat becomes strictly repeated, and displays less variation (other than when he alters the combination of drums he strikes as he fills) than practically every other section of the song. By the end of "Purple Haze", Mitchell has effectively "found home", and dispelled his characteristic variations, but continues to provide an intense,

complementary hybrid accompaniment as the Experience fades out, and the track is completed.

"Fire"

The drumming on "Fire" is driving and relentless. Mitchell primarily employs a combination of quarter-note hi-hat and eighth-note hi-hat based beats as well as transitional and mid-section fills. As a result Mitchell delivers variation through improvisation (while maintaining a cohesive overall sound), contributes to compelling musical moments, and highlights emphatic arrivals.

The song begins with an introduction that features guitar and bass playing a somewhat sparse unison figure while the drums fill in the measures with rhythms that form a type of response to the guitars. The group as a whole then establishes the groove used for the verses. Mitchell plays a quarter-note hi-hat beat that is central to his overall sound in "Fire" before rendering the pulse slightly more ambiguous by playing additional snare hits just before the arrival of the first verse (see figures 12 and 13).

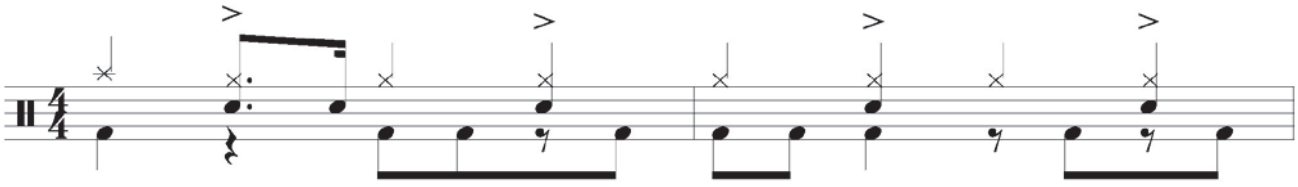

Figure 12. Central beat that displays variation throughout the song.

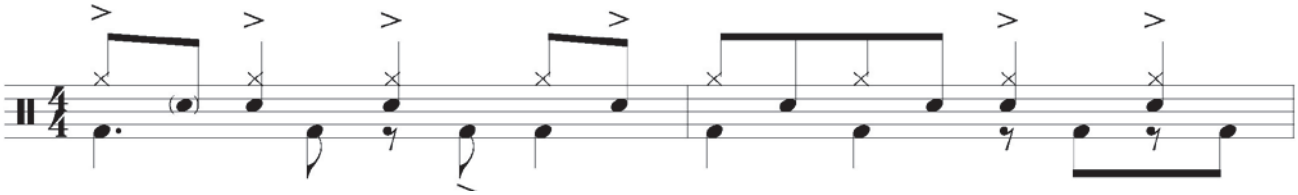

Figure 13. Slightly ambiguous beat that leads into first verse.

With these two drum beats Mitchell effectively establishes the verse beat then briefly distorts it in order to emphasize its arrival. The vocals also help to highlight the arrival through a pickup beginning just before the emphatic downbeat (see fig. 14).

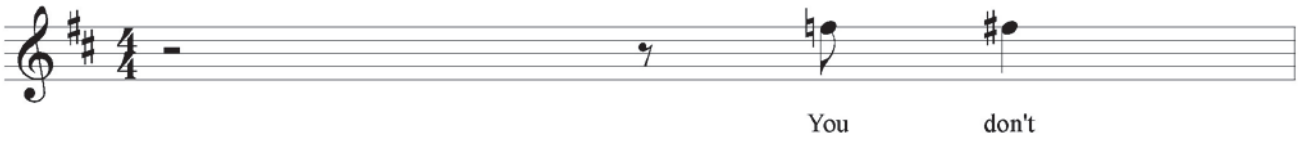

Figure 14.

While Mitchell begins the verse with a driving beat very similar to that in figure 12, two measures later he drastically increases the rhythmic density and temporarily moves to an eighth-note hi-hat pattern (see fig. 15).

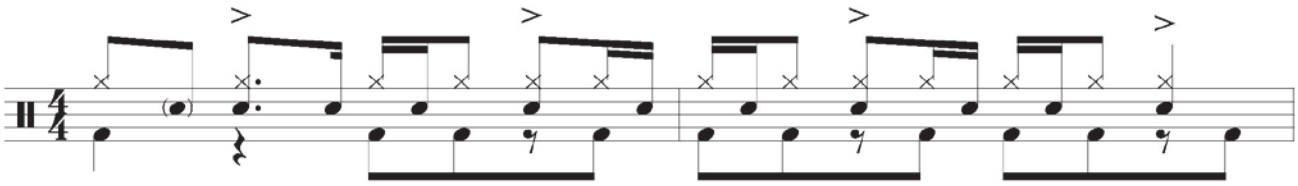

Figure 15. Beat displaying increased rhythmic density with eighth-note hi-hat pattern

The musical effect of this gesture is frenetic and impulsive, creating tension and excitement in the music. After returning to the quarter-note hi-hat beat, Mitchell makes a downbeat stop with an ornamented snare hit, a dramatic moment when the entire band stops playing (save for Mitchell's pedaled hi-hat on beats two and four), as Hendrix exclaims, "let me stand next to your fire!" After the one-bar break the guitar and bass re-enter with a melodic figure that Mitchell supports with a fill that increases rhythmic density on beats three and four with machine gun-like sixteenth-note accents (see fig. 16).

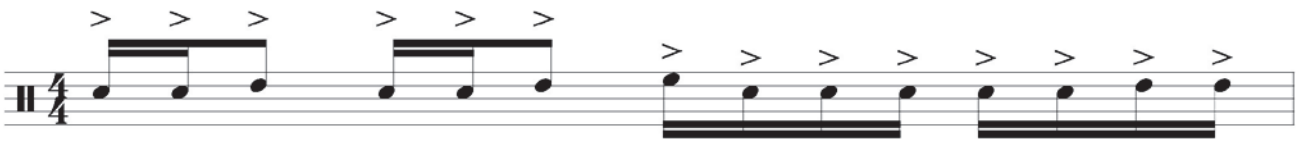

Figure 16. Mitchell's propulsive fill into first chorus

The combination of the stop followed by the propulsive fill helps to create the powerful arrival of the first chorus. The momentum accumulated prior to the chorus is intensified by the driving groove (from Mitchell, but also the band in general) being infused with a powerful accent on the last eighth note of every other measure (see fig. 17). During the chorus Mitchell maintains the essence of the primary beat but also provides a set-up (fill that prepares a unison rhythmic figure) and subsequent accent on the "and" of four, plus a second measure of straight beat.

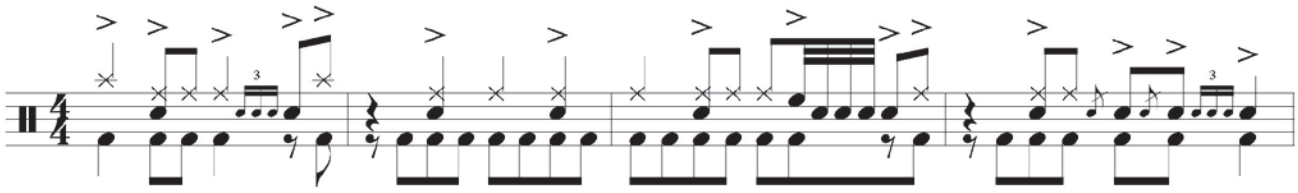

Figure 17. Mitchell's basic four-bar pattern for the chorus of "Fire" (subtle alterations occur on repetition)

After the first chorus Mitchell plays a quarter-note hi-hat beat very similar to the beat heard in the introduction (fig. 12), but the transition into the second verse is accomplished in a different manner. Instead of playing offbeat and additional snare hits (as he did in the original establishment of the verse groove), he performs the previously discussed frenetic eighth-note hi-hat beat (fig. 15). This dense beat with the aid of Hendrix's vocal pick up (again beginning on the "and" of three), signals the arrival of the second verse.

Mitchell's playing at this point demonstrates several attributes of his fluid and improvisatory style. He begins with the now-familiar quarter-note hi-hat beat. The beat is then altered with an unusual snare hit on beat one (this is the only time this occurs in the song during a beat). The hit stands out as a rhythmic accent and simultaneously punctuates "my concern" of Hendrix's proclamation, "You say your mum ain't home, it ain't my concern". This moment is strikingly powerful and is demonstrated in figure 18 below.

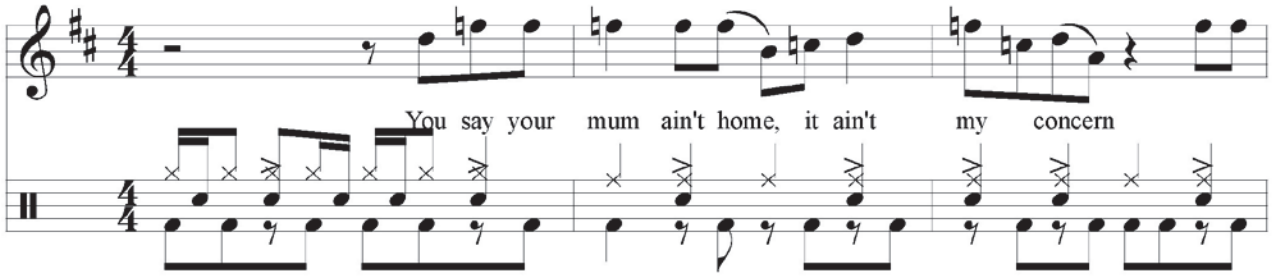

Figure 18 Verse begins on the word "mum".

The measures of the second verse containing a quarter-note hi-hat beat basically replicate those of the first verse, sometimes including a ghost note on the snare on the "and" of one – an ornament that is heard occasionally throughout the track. Four measures into the second verse Mitchell plays a fill ending with a crash instead of using the dense beat as he did in the first verse (fig. 20, measure two and fig. 19, measure two respectively). Upon reflection, one sees how the increased rhythmic activity is now achieved through different means. Furthermore, in the first verse the beat goes on to maintain a quarter-note hi-hat pattern in the measures preceding the stop. Contrastingly, in the second verse Mitchell employs the dense groove in these measures, infusing greater tension and anticipation into the groove just before the

stop. The following transcriptions show Mitchell's drumming in the four measures prior to the first stop (fig. 19) and the four preceding the second stop (fig. 20), demonstrating the two contrasting approaches to the same musical material. The first example is frenetic but then slows in rhythmic activity prior to the stop whereas the second contains a rapid fill and crash accent followed by a fast and again frenetic beat that leads into the stop.

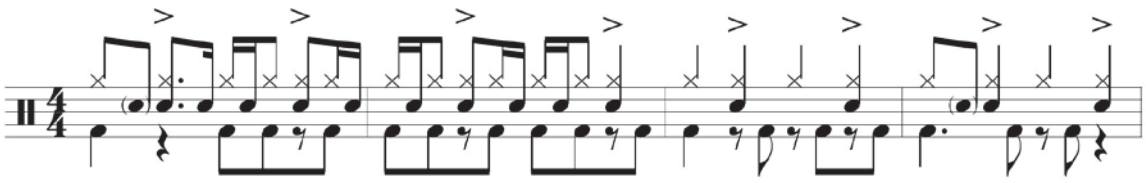

Figure 19. Four measures prior to first stop

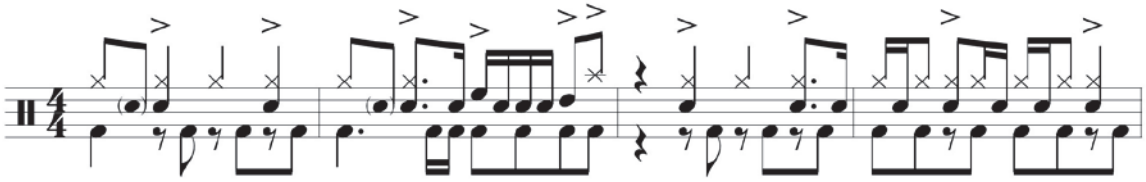

Figure 20. Four measures prior to second stop

The subtleties present in these measures illustrate Mitchell's approach to drum set playing and how a rock drummer is able to contribute to large-scale dynamic arcs by emphasizing transitions to various degrees and making alterations to their accompaniment from, for example, verse to verse or chorus to chorus.

Similarly, Mitchell's fill leading into the second chorus also presents a more elaborate construction when compared to the fill that leads into the first. After Hendrix exclaims, "let me stand next to your fire!" during the second stop, Mitchell bursts into a blisteringly fast rhythm (see fig. 21). The explosiveness of this rhythm combined with the guitar and bass riffs is undeniable, and effectively sets up the

second chorus.

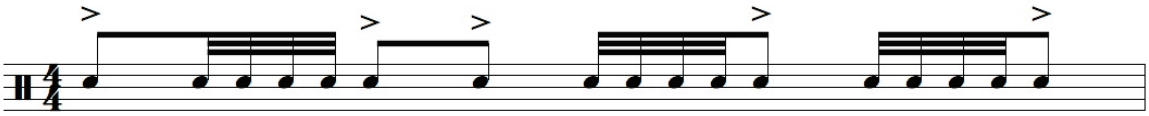

Figure 21

Mitchell's focus during the second chorus shifts away from the set-up for, and incidentally the accent on the "and" of four. He still plays a crash/bass drum combination on the "and" of four at the end of measure one of the two measure pattern, but his primary attention seems to have shifted to the second measure of the groove. Mitchell's focus on the second measure of the groove is evident due to the recurring fills that begin a sixteenth note before beat three and power through, by way of straight sixteenth notes or sixteenth/eighth combination, to the downbeat of the next measure (which has the recurring accent). This shift in focus involves a slight variation of the beat and creates intensity through fills rather than prominent set-ups (the accent on the "and" of four remains prominent nonetheless) while still supporting the primary guitar riff. Mitch Mitchell is well-known for implementing this type of semi-improvised "variation on a theme".

The bridge that follows is a revealing example of rhythmically dense and timbrally sophisticated rock drumming. Mitchell suddenly breaks into a beat based on a sixteenth-note grid at a rapid tempo. This beat is very similar to the dense beat discussed previously, but is sustained substantially longer and employs the ride cymbal in place of the hi-hat. Although the beat becomes infused with numerous snare hits, Mitchell places accents on beats two and four, allowing him to preserve the driving forcefulness of the backbeat. Additionally, if one listens carefully to this

bridge the sound of the ride cymbal provides a great example of the variability and importance of cymbal timbre and manipulation. Mitchell presumably plays the eighth-note ride pattern toward (or close to) the bell of the cymbal which creates a higher pitched sound with greater attack when compared with striking the main part of the cymbal. This shift in timbral quality is highlighted further at 1:14 in the track when Mitchell gets a completely different sound by striking the bell directly on two offbeats in succession (perhaps also with a harder stroke). This moment is a useful example of timbral manipulation within the context of a propulsive groove with a driving backbeat.

Toward the end of the bridge Mitchell helps to build volume and intensity before backing off in order to allow Hendrix's guitar solo to come to the forefront and be clearly audible. Prior to Hendrix's solo Mitchell moves (his stick) away from the bell area of the cymbal and begins to create a rolling wash of sound, likely by playing very close to the outer edge of the cymbal, that helps to build in volume and textural density before playing an aggressive fill that paves the way for Hendrix's brief but wailing eight-bar guitar solo. During the guitar solo Mitchell in a sense "stays out of the way" which is a musical decision a drummer sometimes must make to allow a different instrument to come into focus more clearly. He does this by providing a strong backbeat with limited ornamentation, reducing the emphasis on any accents present in the phrase (the bass emphasizes the "and" of four during the solo while the drums largely neglect it or only subtly highlight it, and never set it up), and playing fills only in the open spaces where Hendrix holds a note. The solo ends upon the re-introduction of the opening material of the entire song. Mitchell leads into this

interlude with an intense sixteenth-note triplet transitional fill that begins on beat three (see fig. 22).

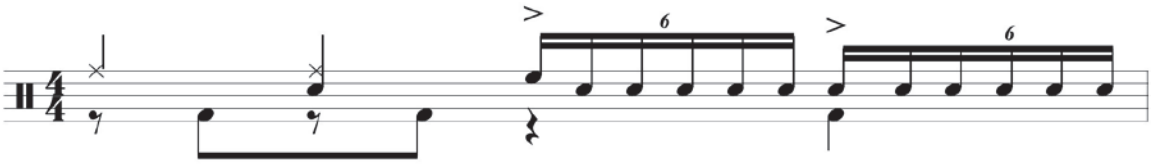

Figure 22

The interlude, final verse, chorus, and the outro (which has a similar feel to the guitar solo section) reflect the earlier corresponding sections quite accurately, yet highlight Mitchell's ability to alter rhythms, accent patterns, and drum selection during fills as well as vary primary beats with slight ornamentation and rhythmic variation. Despite numerous variations Mitchell constantly provides the necessary support of the backbeat and sense of repetitive predictability often required of a rock drummer.

In "Fire" there is a sense of urgency and driving intensity which might best be understood by employing Len McCarthy's theory of faster underlying rhythmic grids at slower tempos. McCarthy's theory suggests that the impression of a fast tempo can be achieved by using slower tempos with faster underlying rhythmic grids (such as sixteenth notes). A primary driver in the rhythmic tension in the song is the ambivalence between an eighth-note and sixteenth-note underlying grid combined with a quick (150bpm) tempo. Although there are many examples of rock songs with even faster tempos, in relation to McCarthy's examples of fast feels at slower tempos it seems to be an example of a fast tempo with intermittent suggestions of a fast feel. The ambivalence is created by the alterations between Mitchell's quarter-note hi-hat

grooves (which display an underlying grid of eighth notes), eighth-note hi-hat grooves (which display a sixteenth-note underlying grid), and finally his driving fills that almost always reflect an underlying sixteenth-note grid. The constant motion between these two grids dominates the drum part. The combination of this fluctuation and the fast tempo is a primary source of the driving intensity of the song as an entirety.

"Crosstown Traffic"

"Crosstown Traffic" is constructed in a way that creates a combination of heavily emphatic arrivals and hard slogging groove sections. Mitch Mitchell's contributions to the musical effectiveness of the song include a cross-rhythmic pattern that enables the gratifying return to a heavy drum beat and the musical awareness to use relatively basic rock beats to their full potential. The song is composed of three primary sections: an introduction also used as an interlude, a rhythmically charged riff section (chorus), and a type of stop-time section (verse). In addition to these sections there is a brief (yet effective) guitar solo.

The song begins with the introduction, where Mitchell plays a two bar cross-rhythmic figure on the snare drum that obscures but does not eliminate the primary pulse (see fig. 23).

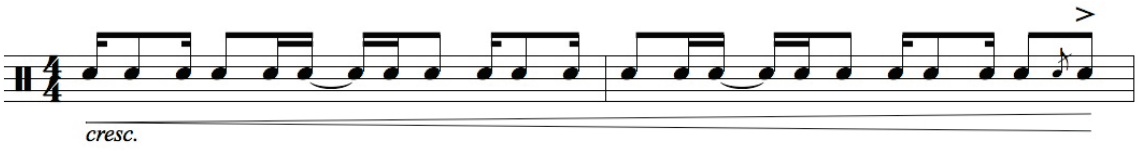

Figure 23

The drums are slowly panned from left to right and accompanied by a wash of

electronic effects. The cross-rhythmic pattern returns several times throughout the track and plays an important role in the overall impression of the song. Anne Danielsen has stressed the importance of the cross rhythmic four against three pattern in injecting groove into funk music.[48] Danielsen primarily discusses the four against three as something that happens over the main groove and is performed by the guitar, vocals, or other instrument while the drums maintain a heavily rooted beat in relation to the 4/4 metre. Her ideas regarding funk apply significantly in the understanding of the musical effectiveness of "Crosstown Traffic". The buildup does not display the main pulse the way some of Danielsen's examples do, but, as she has suggested, it is possible for listeners to insert this pulse mentally and perceive the counter-rhythm while supplying the main pulse themselves. She says, "A counter-rhythm has to counter something, because a strongly syncopated figure is not funk as such. However, it will most probably trigger an internal beat in the listener. In other words, the listener may herself balance out the counter-rhythm, adding the basic pulse by dancing, clapping, or simply thinking it."[49]

I suggest that the cross-rhythmic sections in the song are effective in that they distort the main pulse somewhat, yet also subtly imply it by using a purely rhythmic device to create an ambiguous sense of metre that only settles upon the arrival of either the chorus or verse. The cross-rhythm only lasts two measures when leading into a verse and is altered (Mitchell only plays one bar of the buildup and then does a stop while Hendrix continues with the cross rhythm) when leading into a chorus. It is not the length of the cross rhythm that is effective, rather the frequency with which it

[48]Danielsen, *Presence and Pleasure*, 63-66.
[49]Ibid., 69.

occurs throughout the song. Again in the context of funk Danielsen has pointed out the importance of limiting durations of counter-rhythmic dominance due to its ability to establish a new pulse if articulated at great length.[50] The cross-rhythmic effect is created by distorting the pulse through temporary counter-rhythmic unisons and transitioning directly into the chorus or verse material that features a far more grounded framework in relation to 4/4 time. After the introduction the riff-based chorus is presented without vocals. The rhythmically charged guitar riff is supported by the bass line, which consists primarily of melodic gestures mimicking those Hendrix plays on the guitar. Mitchell draws attention to the arrival of the chorus by crashing upon its entry on beat one and also playing a flam on the snare drum on the "and" of four in the preceding bar. The main beat for the section involves crashes, a pronounced backbeat with slight ornamentation, and a typical rock bass drum pattern that is generally consistent throughout the song (see fig. 24). The crashing effect of the cymbal creates a washy sound that distorts the usually clear timekeeping function of the hi-hat or ride cymbals.

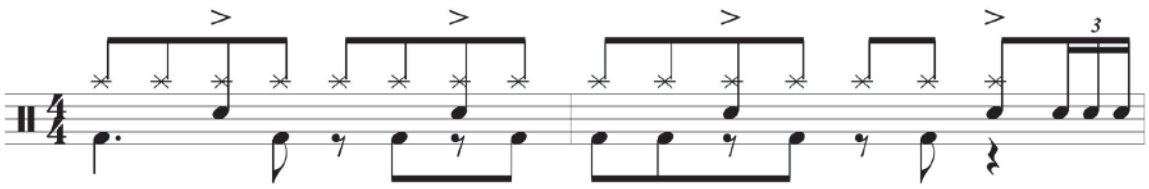

Figure 24

This material is followed by the second occurrence of the introductory material that now becomes an interlude throughout the song and emphatically leads into either the verse or chorus. This iteration is similar to the first, but this time the

[50]Ibid., 67.

washy texture is thicker due to increased instrumentation rendering the moment even more powerful than the first. The arrival of the first verse is satisfying once again due to the cross-rhythmic interlude. The guitar and bass play parts reminiscent of stop-time where they only play two eighth notes at the beginning of each measure. Here Mitchell plays a basic yet rhythmically driven quarter-note hi-hat beat while Hendrix sings over top (fig. 25).

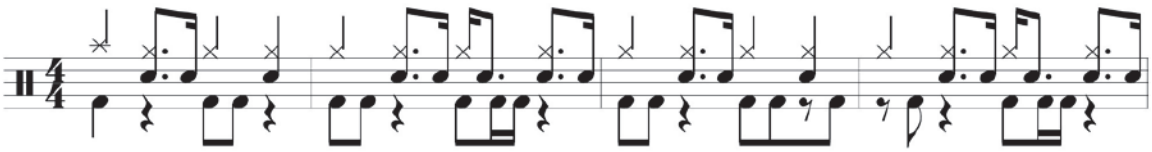

Figure 25

The beat suggests two-bar rhythmic cycles that are interrupted when the interlude is employed (Mitchell cuts out for two beats in the second bar, see fig. 26) to lead into the chorus.

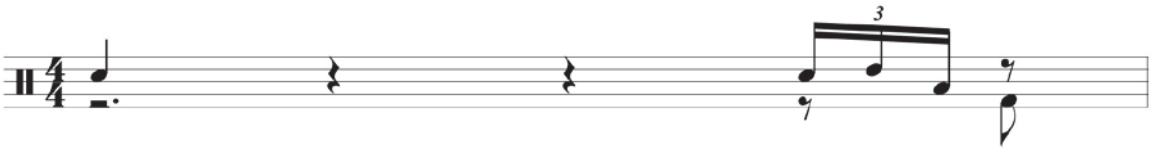

Figure 26

The chorus is satisfying in that it is able to alleviate all of the tension created during the verse and interlude. The texture is denser in the chorus and feels less restrained than the verse. Mitchell's less restrained beat nonetheless retains an impression of a laid-back approach. The rhythmic tension and subsequent release between the three primary sections is integral to the success of "Crosstown Traffic".

Mitchell's beat in the chorus (this is the second time the material is heard, but the first time lyrics are sung over it) also contains a non-transitional fill after four measures that was absent in the first run through of the material (intro).

"Crosstown Traffic" is an example of Mitch Mitchell demonstrating a more restrained approach than in some of his other work with the Jimi Hendrix Experience. The song highlights the importance of a drummer not overplaying, and the necessity of putting the demands of the song ahead of displays of technical prowess. The beats he plays are relatively common rock beats, but he plays them so well and successfully employs subtle manipulations of timing and volume that they still reflect first class rock drumming. The cross rhythmic pattern is not as straightforward and acts to obscure, yet subtly imply the underlying pulse. It is the tension of the ambiguous cross-rhythmic interlude (as well as the wash of sound that accompanies it) and the release of the strong, metrically grounded verse and chorus sections that contribute to the powerful effect of the song. Furthermore, the contrast of the sparse, open verses and the texturally dense chorus also plays an important role in the song's success. "Crosstown Traffic" is a fantastic example of the successful use of two hard-grooving contrasting sections and a powerful interlude in the context of rock music.

"Lover Man"

"Lover Man" exemplifies Mitch Mitchell's style and approach so effectively that the recording alone provides a fine summary of not only the essential elements involved in rock drumming, but of the critical musical sensitivity, technical ability, and personal approach that Mitchell injected into the music of the Jimi Hendrix

Experience.[51]

After a brief stop-time intro, Mitchell plays a basic rock beat that includes repetitive set ups for accents played by the whole group. When similar accents recur later in the track Mitchell's set ups increase in intricacy as well as diversity. "Lover Man" also contains additional stop-time sections where the guitar riff from the introduction is repeated. Mitchell invigorates these sections with powerful fills that accent the downbeat of each measure. He additionally provides driving and effective transitional and non-transitional fills throughout the track. As the song progresses Mitchell's fills become longer and more active, infusing the song with even greater energy.

Moreover, throughout "Lover Man" Mitchell provides several excellent examples of proficient cymbal use and manipulation, demonstrating keen awareness of the importance and impact of timbral variety in his drumming. The first beat Mitchell plays after the intro showcases a technique where the hi-hats are held apart loosely when struck any time save for the backbeat. On beats two and four Mitchell consistently closes the hi-hats to cut off the sloshy, thick sound to allow for a punctuated snare hit to be heard. This technique effectively combines the loose nature of the groove with a crisp and clean backbeat. Also noteworthy is the added emphasis Mitchell occasionally provides to the bass drum part by playing accented strokes on the loose hi-hat. In addition to these hi-hat techniques Mitchell sparingly plays sloshy hi-hat accents during beats and fills throughout the song. Though seeming perhaps negligible, these subtleties play an important role, infusing the groove with

[51]This recording of "Lover Man" is found on the Jimi Hendrix Experience box set disc 4 of 4; there are two versions of this song on the compilation album, the other titled "Here He Comes (Lover Man)".

spontaneity and excitement.

Mitchell also employs active ride cymbal patterns that present timbral fluctuations resulting from striking different parts of the cymbal with varied forcefulness and the use of the bell. Many of the ride patterns in these sections are heavily syncopated and reflect Mitchell's versatility and familiarity with advanced ride techniques. His use of the bell is also striking and expands the number of accents and sound qualities heard throughout the ride-heavy sections of the song. Finally, when playing accented figures with the whole group Mitchell often alternates between ride and crash cymbals which functions to provide additional variation and colour. Figure 27 presents an overview of the drum parts performed throughout the song.

After examining several of Mitch Mitchell’s drum parts it is clear that rock drumming involves many subtle manipulations of rhythm, timbre, timing, interaction, and contrast. It is an intricate practice that requires a great level of awareness in order to create a truly effective accompanimental part to a song. Mitchell played a crucial role in defining the Jimi Hendrix Experience’s sound and style and his drumming reflects his personal approach that suited the musical context perfectly. The musicality and musical sensitive required of an accomplished rock drummer is clearly evidenced in Mitchell’s drumming with the Jimi Hendrix Experience.

Characteristics of Mitchell's drumming in "Lover Man"	*Timings*
Stop-time intro	0:00 – 0:07
Basic rock beat (which demonstrates a technique where the hi-hats are held apart loosely when struck any time save for the backbeat) that includes repetitive set ups for accents played by whole group	0:08 – 0:56
Stop-time section from introduction reintroduced and invigorated with powerful fills	0:56 – 1:03
Active/syncopated ride cymbal patterns containing timbral and dynamic fluctuation	1:03 – 1:36
Stop-time section from introduction reintroduced and invigorated with powerful fills	1:37 – 1:44
Driving and effective non-transitional fills as well as continued manipulation of ride pattern	1:44 – 2:11
Rhythmic unisons of entire group for which Mitchell includes differing set ups each time	2:11 – 2:33
Loose ending that results in a musical joke among the band members	2:33 - end

Figure 27. Diagram of notable moments in drum part of "Lover Man".

Chapter 4: Conclusion

Having described many of the primary components of drum set playing it is evident that the practice is sophisticated and multi-faceted. The drum set can be altered to suit individual drummers' musical requirements and creative approaches. Characteristic drumming styles vary among genres, and individual styles comprise an expansive range of approaches. One of these approaches – Mitch Mitchell's with the Jimi Hendrix Experience – was examined in great detail and proved revealing in terms of primary examples of the practical application of the elements of drum set playing in a rock context.

Relative to conventional repetitive beat drumming Mitch Mitchell is considered a rhythmically active and variable rock drummer. His beats are subject to constant subtle alteration and ornamentation. An excellent contrast to his approach is evident in some of Charlie Watts' drumming with the Rolling Stones. Watts' drumming on recordings such as "Don't Stop" and "Satisfaction" provide useful examples of straightforward rock drumming. His tendency in these songs is to adhere to a repetitive beat with very little alteration. Furthermore his fills are highly functional in that they are mainly transitional and repetitive rather than variable throughout the tracks. The beats are typical as they contain a heavily emphasized backbeat, straight-eighth hi-hat patterns, and simple bass drum patterns. Watts' beats in these songs contrast Mitchell's approach effectively, but Watts is also a very musical player whose drumming is consistently effective given his context. In addition to his musicianship, he also demonstrates complex drumming techniques on recordings such as "Can't You Hear Me Knocking" and "Monkey Man".

In closing, the preceding analyses of Mitch Mitchell's drumming suggest several logical conclusions regarding his style and approach within the Jimi Hendrix Experience. Firstly, his drumming is generally very rhythmically active and variable when compared to more traditional approaches as demonstrated by other drummers such as Charlie Watts. He is able to provide heavy, driving beats while also injecting them with non-transitional fills and subtle variation of the established beat. In a given song, his transitional fills vary in duration, rhythm, and timbral manipulation, yet always carry a propulsive forward momentum that helps substantially in creating an effective downbeat arrival. Furthermore, Mitchell's beats and fills often complement the rest of the music (Hendrix's guitar parts and occasionally lyrics, as well as Noel Redding's bass parts) to a compelling degree. He accentuates appropriate moments and also interacts with Hendrix's riffs and solos. His overall approach allows him to assist in building musically in terms of dynamics, rhythmic density, timbral alterations, and more broadly, overall impressions of songs. Finally, I believe it is fundamentally accurate to categorize Mitch Mitchell's style as a semi-improvised, yet consistently grounded approach to rock drumming.

It is my intention that this thesis will serve to expand and elucidate the literature on two significant topics within popular music studies. Scholars have successfully explored and analyzed Jimi Hendrix and his music to a substantial degree, yet his musical output and supporting band members warrant further study. The existing Hendrix scholarship neglects the impact and importance of the other members of the Jimi Hendrix Experience. In a broader sense, current popular music studies lack extensive discussion of rhythmic parameters of music as well as

drumming in general. Professional drummers as well as journalists for drumming magazines and articles are aware of the numerous subtleties involved in the practice, while popular music scholars seem to be largely oblivious of this knowledge. Some exceptions to this tendency are the work of Walter Everett, Steven Baur, and Anne Danielsen who were critical in providing the foundational theory and research for this study. In addition to scholarly contributions such as the above, I believe viewpoints from professional musicians need to be integrated to a greater degree in popular music studies, if not generally than certainly in the study of drumming.

Mitch Mitchell provided an incredible opportunity to expand the literature on Jimi Hendrix's music and simultaneously the scholarly dialogue on rhythm and rock drumming. His style and approach not only translated into a strong understanding of the primary functions and responsibilities of a rock drummer, but also an exploration of numerous extensions of these basic parameters. It is my hope that future scholars commit to extensive examination of rhythm, drumming, and groove in popular music, and furthermore succeed in describing and defining the vast quantity of subtle manipulation present in the realm of rhythm and drumming.

Future avenues of research:

Mitch Mitchell's drumming reflects only one of many effective approaches to rock drumming. The general format and approach taken in this thesis has the potential to be applied to many other drummers in order to examine and describe the specifics of an array of personal approaches. In addition to the elements of drum set playing being manipulated by drummers in different ways (creating a personal approach), they are also applied differently depending on musical genre which suggests the

potential of further study of drum set playing in various musical contexts. Finally, in discussing the inadequacies of conventional drum set notation the possibility of developing a more precise form of notation is enticing. An expanded model of current notation would serve an important role in accurately describing the subtleties involved in drum set playing.

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