

**TONY WILLIAMS' DRUMSET IDEOLOGY TO 1969:  
SYNERGISTIC EMERGENCE FROM AN ADAPTIVE MODELING OF FEEL,  
TECHNIQUE AND CREATIVITY AS AN ARCHETYPE FOR CULTIVATING  
ORIGINALITY IN JAZZ DRUMSET PERFORMANCE STUDIES**

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I declare that the research presented here is my own original work and has not been submitted to any other institution for the award of a degree.

Signed: Dave Goodwin

Date: 12th September 2011

## **Abstract**

I identify Tony Williams' formative drumset ideology as being emergent from his adaptive modeling of the feel, technique and creativity identified in the drumming of Art Blakey, Max Roach and Philly Joe Jones respectively and present the results of extensive textual and musicological research on Williams' formative practices between 1945 and 1969 as an archetype for cultivating originality in jazz drumset performance studies. I examine patterns of creative thought in the New York jazz community as they developed from the relative heteronomy of modernist bebop improvisation to the postmodernist aesthetic of jazz-rock fusion resulting in the emergence of collective autonomy in musical interaction and improvisation. My research reveals Williams' possession of autotelic personality and utilisation of learning techniques associated with heutagogy. Also identified is the prevalence of entrainment in the social and musical interactions of the New York jazz community and I interpret these qualities through the lens of the theory of complex adaptive systems as a model for learning in jazz drumset performance studies. I analyse Williams' ensemble and solo drumming in comparison to that of Blakey, Roach and Jones in addition to Roy Haynes by using an analytic schema designed specifically for identification of contrasting qualities in the voicing of rhythm and expression as revealed in the grouping and ordering of limbs in drumset performance. I present a complete stylistic overview of Williams' recorded output until 1969 including swing, avant garde, ballad, straight eighth-note and sixteenth-note oriented styles as well as complex temporal events such as polymetric superimposition, rubato, polytempo, superimposed metric modulation, metric modulation and tempo fluctuation.

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# Drumset Legend

The legend consists of five rows of musical notation on a five-line staff, each with a double bar line on the left. The symbols are as follows:

- Row 1:**
  - SNARE: A quarter note with a small oval on the right side.
  - GHOST NOTE: A quarter note with a circled 'x' on the right side.
  - ACCENTED NOTE: A quarter note with an accent (>) above it.
  - MULTIPLE BOUNCE STROKE: A quarter note with three vertical lines above it.
  - STICK SHOT: A quarter note with a small oval on the right side and a horizontal line through it.
- Row 2:**
  - RIM: A quarter note with a circled 'x' on the right side.
  - MOUNTED TOM: A quarter note with a small oval on the right side.
  - STICK SHOT ON MOUNTED TOM: A quarter note with a small oval on the right side and a horizontal line through it.
  - PITCH BEND ON MOUNTED TOM: A quarter note with a small oval on the right side and an upward-pointing arrow above it.
  - DEAD STROKE ON MOUNTED TOM: A quarter note with a small oval on the right side and a downward-pointing arrow above it.
- Row 3:**
  - FLOOR TOM: A quarter note with a small oval on the right side.
  - BASS DRUM: A quarter note with a small oval on the right side.
  - RIDE CYMBAL: A quarter note with an 'x' above it.
  - RIDE CYMBAL BELL: A quarter note with an 'o' above it.
  - LEFT-SIDE CRASH/RIDE CYMBAL: A quarter note with an 'x' above it and a horizontal line through it.
- Row 4:**
  - BELL OF LEFT-SIDE CRASH/RIDE CYMBAL: A quarter note with an 'o' above it and a horizontal line through it.
  - CLOSED HI-HAT: A quarter note with an 'x' above it.
  - OPEN HI-HAT: A quarter note with an 'o' above it.
  - CLOSED HI-HAT AFTER OPEN NOTE: A quarter note with an 'x' above it and a plus sign (+) above it.
  - HI-HAT WITH FOOT: A quarter note with an 'x' above it.
- Row 5:**
  - SPLASH HI-HAT WITH FOOT: A quarter note with an 'o' above it and an 'x' above it.
  - CLOSE HI-HAT AFTER OPEN NOTE: A quarter note with a plus sign (+) above it and an 'x' above it.
  - COWBELL: A quarter note with an 'x' above it.

## Introduction

### Main Arguments

...The drumset is an American invention—it's an American *treasure*—but it isn't afforded the dignity that people afford, say, the harmonica. That's just a fact of history.

The whole concept of the drumset itself is unique—unique throughout the world. The drums of Africa, India, and Japan—they're not played with the feet and hands at the same time. What we have is a unique configuration in the musical history of the world. And it isn't really afforded the kind of dignity that it should have.

- Tony Williams (quoted in Milkowski 1997, 74)

At the heart of this thesis—using Tony Williams' work and methodology as the principal case study—lies an inquiry into ways in which musical ideas, figures and conventions for improvisation can be transmitted from one generation of jazz drummers to the next for the purposes of establishing and developing a discipline of jazz drumset performance studies that cultivates originality.

Drummers learn to play the jazz drumset by employing modes of practice based around the instrument's uniquely non-tonal and almost entirely improvisational nature that facilitates a unique form of self-expression in jazz music and requires the polyrhythmically and polymetrically coordinated use of all four limbs.

Firstly, of the problems surrounding jazz drumset performance studies it is surprising to note that no common and consistent set of standard methods has yet been produced

that can be reliably and agreeably evoked to gain deeper insight into the complex nature of the drumset, its improvisational role in musical ensembles, and the ways in which musical figures can be adapted and modeled between successive generations of drummers who place a high value on originality.

Secondly, many existing studies lack significant enough context to emphasise the powerful influence that intellectual communities of jazz musicians have on learning in jazz, and that by immersing and interacting within such communities, drummers and musicians alike learn most effectively from one another through mutually shared experience whilst developing their craft. Such a system of informal and unique apprenticeship within the greater community of jazz musicians is of fundamental importance as it is through the apprenticeship network that the immensity of musically specific professional, technical and theoretical information, philosophy, skill and ideology are shared not only between successive generations of incumbent masters in the field, but also laterally between peers of the same generation.

Thirdly, the focus of jazz drumset performance studies has been in line with music education in general in that there has been an emphasis placed almost exclusively on pedagogical methods for dissemination of information and this is problematic for the cultivation of originality.

There are many potential causes for the three fundamental problems of jazz drumset performance studies noted above. One potential cause is that the majority of fields in



musicology are predominantly focussed on the European classical tradition, meaning that studies outside of this tradition are marginalised and therefore not taken seriously enough to receive appropriate recognition or reception in broader realms. This is true for jazz performance studies in general. Vijay Iyer mirrors this observation stating that “European classical music from the Renaissance period to the pre-modern period” is “a style of music that exists in a rather rarefied form in the world today,” and that its predominance in his research field of music perception studies is a “problem of scope” that he admits to feeling pangs of frustration and urgency in attempting to overcome (Iyer 1998, 2-3). I suggest that the period Iyer identifies here extends not only through the modern era of the 20<sup>th</sup> Century, but includes contemporary classical studies of today as being predominant in musicology also<sup>1</sup>. A more specific potential cause of the first problem I stated for jazz drumset performance studies is that the study of tonality is at the central locus of jazz studies in general, further marginalising the legitimacy and uniqueness of the jazz drumset because of its non-tonal nature.

In searching for a solution to the problem of the cultivation of originality in jazz drumset performance studies I was motivated to model such a solution on the life and work of Tony Williams. Cited as “the most precocious genius in the history of jazz” (Blumenthal 1999), Williams (born 12<sup>th</sup> December 1945; died 23<sup>rd</sup> February 1997) is one of the most original and influential drummers of the second half of the 20<sup>th</sup> Century. An examination of Williams’ work presents a compelling case study for the purposes of this thesis as he is widely known not only as one of the most important jazz

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<sup>1</sup> David Ake takes up a similar argument in *Jazz Cultures* (2002, 44-46).

drummers, but also as a seminal pioneer in the “fusion” of jazz and rock styles in the late 1960s and early 1970s. One of Williams’ most peculiar characteristics is that he came to prominence after joining the Miles Davis Quintet in May 1963 at age seventeen, only five months after moving to New York City. He not only introduced a revised drumset vocabulary to the evolving language of jazz whilst still a teenager, but also a drumset ideology that initiated a kind of reassessment of the structures within which this language had come to be used. In so doing, Williams redefined the role of the drumset, introducing an array of new possibilities for self-expression on the instrument not only in jazz music, but influencing drummers across numerous musical traditions of practice. Only a scant amount of scholarly and analytical work examines Williams’ oeuvre and only a fraction of that work contemplates the efficacy of his musical *modus operandi* as an archetype for a jazz drumset performance studies discipline that cultivates originality.

The central goal of this thesis therefore is to build a model for a jazz drumset performance studies discipline that cultivates originality. This goal is achieved through biographical study and detailed musical analysis of recordings of Williams’ drumming from the 1960s which reveal novelty in that a postmodernist jazz aesthetic emerged from his adaptive modeling of the modernist notions of feel, technique and creativity. These are the three qualities of drumming Williams attributed to the 1950s drumming of Art Blakey, Max Roach and Philly Joe Jones respectively<sup>2</sup> and that he synthesised in

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<sup>2</sup> Other drummers Williams cites as being influential throughout his life are his private teacher Alan Dawson, Louis Hayes, Jimmy Cobb, Art Taylor, Billy Higgins, Pete LaRoca, Lex Humphries, Elvin Jones

the formation of his overall drumset ideology. By using the term “drumset ideology” I mean to encapsulate Williams’ manner of conceptualising and contextualising jazz drumset performance as revealed verbally through interviews and drum clinics, and musically through audio recordings. “Drumset ideology” therefore includes a synthesis of the notions of feel, technique and creativity as described herein.

As creativity is one of three central tenets in Williams’ drumset ideology, I consulted a number of texts written on the nature of creativity in interdisciplinary fields.

Throughout this thesis I rely on the work of psychology professor Mihaly Csikszentmihalyi from whom I borrowed the term *autotelic*. Autotelic personality is a common theme appearing throughout Csikszentmihalyi’s work (1990, 1996, 1997), especially in his writings on the concept of flow. It is derived from the composition of two Greek words, *auto* meaning self, and *telos* meaning goal (1997, 117) and literally means “a self that has self-contained goals” (1990, 209). Csikszentmihalyi describes an autotelic activity as “one that is done not with the expectation of some future benefit, but simply because the doing itself is the reward” (67). He further elaborates that a person with an autotelic personality is someone who has learned to control their own attention and who can, for example, engage in learning for the sake of learning rather than learning for the sake of being knowledgeable (1997, 129). Williams’ unique blend of autotelic differentiation and integration (as described in Chapter One) reveals a quality I call “practical intelligence”, indicating the silent process of understanding that

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and Roy Haynes as well as multi-instrumentalist, Sam Rivers. In addition to the musicians mentioned above, Williams also described an analytical awareness of the contributions made by drummers Kenny Clarke, Sidney “Big Sid” Catlett, Jo Jones, Buddy Rich and Davey Tough (Wald 1978, 17).

occurs when one creatively blends theory and praxis in ways that are valid and intelligible to others.

The development of such a “practical intelligence” is mirrored in the theory of *heutagogy* as it relates to self-directed learning in a learner-centred system of education that dispenses with the teacher-centredness found in pedagogical and andragogical educational systems.

As stated above, Williams repeatedly acknowledged the influence of Blakey, Roach and Jones as making an unusually deep impression on his musical awareness, affecting his musical development from an early age. During his teenage years, Williams watched, listened to, played along with and incisively analysed the live and recorded work of his forbearers, insisting that he learned to play exactly like them by repeatedly playing along with records, gradually modeling and assimilating their work during a decade of professional development prior to joining Davis in 1963. The intense and repetitive nature of Williams’ practice and the resultant familiarity, internalisation and embodiment of the music he studied indicates that *musical entrainment* occurred in his practice. That is, he was able to synchronise his perceptual processes and embodied skill with that of the music he studied, carrying this on into his professional playing.

As well as studying drums in this way and learning how to read music formally in a pedagogical relationship with Alan Dawson for a year and a half, Williams developed informal pedagogical relationships with Blakey, Roach, Jones, Hayes, Cobb and others

at different times in various jazz clubs on the east coast of the United States during the late 1950s and early 1960s. These interactions took their contextual place in the annals of jazz history by furthering an almost guild-like oral tradition in which real knowledge and experience is passed on from one generation to another by way of *social entrainment* through a student's informal program of apprenticeship with masters of the art.

Although Williams insists that as the basis for his musical development he learned to play exactly like his predecessors, he did not seem content to simply reiterate their musical vocabulary in any inane imitative way. Instead, he recognised that the substance of music is like that of an evolving language. It has its own vocabulary, syntax and grammar, each of which require constant re-evaluation and re-interpretation in order for musical originality to remain intact and relevant from one generation to the next. Audibly, therefore, it can be sometimes difficult to establish Williams' drumming ties to his forerunners. Having seemingly abandoned many of the conventional norms of jazz drumming, Williams notes below that his drumming style is often alleged to have "come out of nowhere", that it is conceptually vacuous and lacking in influence from the tradition established before him:

... a lot of young drummers think that the way I play just came out of nowhere. It didn't. It came from studying other people, figuring out where everything lies mathematically, the scheme of things, how things fit together, like puzzles—how to make things sound good. You learn to play by first immersing yourself in tradition. John Coltrane sounded the way he did because he had played *like* Dexter Gordon, Gene Ammons and the others. Freedom takes discipline. When you're so young, you don't *know* who you are. The only way to start is with hard work and the study of those who have preceded you. (Underwood 1979, 54)

After investigating Williams' recorded musical output in concord with his admonishment here to "learn to play by first immersing yourself in tradition", it becomes immediately clear that in his apparent abandonment of the tradition that he immersed himself in initially, Williams encoded and embedded that same tradition within his music in such a way that simultaneously ties to his past and yet enables future adaptation of musical figures in the form of models, hence my term "adaptive modeling". Consequently I suggest that in his modeling, Williams established a *tacit infrastructure*<sup>3</sup> of musical ideas forming the basis upon which jazz drumming can evolve, generating a paradigm shift in view of precisely what a drumset *is* as an instrument for musical expression in both ensemble and solo contexts as well as presenting a methodology that serves as an archetype for cultivating originality.

Williams' new paradigm dispensed with prior notions that describe the drummer as primarily needing to fulfil a particular kind of *role* as a time-keeping accompanist in the jazz ensemble; a role that hierarchically subordinates the drummer's musical identity beneath the ostensibly more superior, harmony-centric roles of the other instrumentalists in the ensemble. This is to say that Williams laid down broader musical parameters in which a drummer interacts with other ensemble members during improvised musical performance, collectively and synergistically facilitating a richer, more complex relationship in the collaborative expression of original musical ideas. I

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<sup>3</sup> "Tacit infrastructure" is a term co-authored by physicist David Bohm in collaboration with F. David Peat (1987, 20-38) and is discussed in their effort to uncover what lies behind the nature of scientific revolutions.

refer to this broadening of musical interaction as moving from a relative heteronomy to a collective autonomy throughout the thesis.

I describe relative heteronomy as being a mode of ensemble interaction that the aesthetic ideals of bebop music are centred around. These include modernist, harmony-centric practices and theories that subordinate the drummer to the strict role of a time-keeping accompanist in favour of the melodic and harmonic dominance of the front line soloists—a musical enslavement of sorts for the drummer. In a relative heteronomy, as I show in Chapter Four, little interaction takes place between the soloist and the drummer, and each player in the ensemble is subject to what appears to be a perceived necessity to express a literal and constant reiteration of the harmonic rhythm of the piece. Chapters Three and Five reveal the ways in which Williams enhanced the expressive nature of the drumset in post bop, jazz-rock and fusion settings by subverting the drummer-as-accompanist mode of interaction as heard in relative heteronomies, and moving toward what I call a *collective autonomy*<sup>4</sup>.

The mode of musical interaction in a collective autonomy stands in stark contrast to the interaction heard in a relative heteronomy mode in that collective autonomy features more frequent and subtle instances of musical interaction within jazz ensembles without the perceived need to state a literal interpretation of the piece's harmonic

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<sup>4</sup> I acknowledge that the term “collective autonomy” is already in use and is said to be coined in 1987 by Australian drummer, percussionist and composer Phil Treloar. Treloar uses the term in an attempt to “[address] himself to the problems of relationship found at the intersection of notated music-composition and improvisation” (*Phil Treloar* 2010), a different use than I describe here.

rhythm. The collective autonomy mode of interaction results in what I call a postmodernist jazz aesthetic throughout this thesis.

I relate my use of modernist and postmodernist jazz aesthetics to Roger T. Dean's 1992 theorisation. Dean offers the brief characterisation that modernism is "the search for the highest ideals of an art, embodied in the expressive directness of the creative individual, and for technical novelty" (Dean 1992, xxi) and applies this to bebop music and its progenitors Dizzy Gillespie, Thelonious Monk and Charlie Parker. I will take up this characterisation in more detail in Chapters Two and Four.

By contrast to modernism in jazz, Dean offers that postmodernism "rejects such overtly high aspirations [as those found in modernism] and emphasises the more commonplace, by means of technically familiar means. [It] also stresses the role of the audience in the cognition on a work....Technical familiarity is often developed by means of quotation, pastiche and recreation of previous styles in some considerable degree" (Dean 1992, xxii).

Dean identifies three waves of what he calls postmodernism in jazz music of which one is relevant to this thesis: "the jazz-funk and jazz-rock movement of the late 1960s and 1970s, some complex, others simpler..." in their "...tendency to withdraw from the rhythmic complexities which had been introduced in hard bop, and expanded by Coltrane-Coleman-Taylor" (Dean 1992, xxiv). Although evident in one piece, I contest Dean's example that in a postmodernist jazz aesthetic the "withdrawal [of rhythmic



complexity] is intrinsic in [the] tendency to emphasise the first beat of every bar (in contrast with the greater flexibility of other jazz)" (Dean 1992, xxiv). This is discussed in detail Chapter Three where my analyses of Williams' work from 1968 to 1969 demonstrates the presence of a similarly sophisticated syncopation and "flexibility" of rhythm as shown in his earlier work, suggesting that the accenting of the first beat of every bar is not necessarily a characteristic tendency in postmodernist jazz-rock music. More characteristic is the tendency to use pastiche by blending jazz-influenced improvisation and rhythmic sophistication with riff-based forms and grooves that are played on the electric instruments of rock and funk music.

Important for the contextualisation of the foregoing is the understanding that developments in jazz music are resultant from a collective striving for originality within the jazz community, not just as a result of any one individual's striving. In referring to a "jazz community" I refer to the body of professional jazz musicians, particularly those living and working on the American east coast between the 1940s and 1960s, known for being highly engaged in the practice, performance and production of jazz music through their live performances and recordings. When using the term I do not refer to audiences, critics or scholars, nor to anyone involved in the administration of jazz record labels, festivals, venues or any other kind of enterprise as does David Ake (2002, 2-3), unless such people are musicians as described above as.

To further contextualise the ways in which learning goes on within jazz communities, I rely on the theory of complex adaptive systems as a model for synergistic learning and

creative adaptation of musical ideas between generations and amongst peers within such communities. A significant proportion of the jazz literature often refers to linguistic metaphors, seemingly by default. I refer minimally to such metaphors in this thesis as, when read in concord with my analytic schema, a number of key terms in the literature led me to research fields other than linguistics. One such field is that of *complex adaptive systems* as described by John H Holland (1995, 1998).

The study of complexity and complex adaptive systems is a relatively new discipline in general and provides great insight into the ways in which musicians interact with and learn from one another, both socially and musically in jazz communities. I consider these social and musical networks as being complex adaptive systems in themselves. Some aspects of complex adaptive systems also provide great insight into the mental processes of musical creativity, particularly in order to discover the ways in which Williams exercised creativity in his techniques for learning as I discuss them.

Throughout the thesis I derive a significant parallel between the ways in which learning takes place in complex adaptive systems and the ways in which Williams is said to have engaged in learning processes. These ideas are fundamental to understanding the ways in which Williams synthesised the notions of feel, technique and creativity in his drumming as presented in this thesis.

## **Thesis Structure**

In this introductory chapter I present main arguments as being centred on the need for a more rigorous scholarly approach to jazz drumset performance studies that cultivates originality, suggesting that Williams' drumset ideology of feel, technique and creativity be explored and used as an archetype for such an endeavour. The main arguments revolve around my observation that the literature contains very little detailed scholarly analysis of jazz drumset performance in general and even less work on Williams, one of jazz music's most original contributors. These arguments are also centred on my observation of a pedagogical focus in existing jazz drumset performance studies that limits the potential for cultivating originality. Such focus is in need of broadening in such ways as to incorporate heutagogical systems of education.

In detailing my methodology later in the present chapter I describe the analytical techniques and methods I employed throughout the process of writing the thesis. I identify that by enthusiastically playing along with recordings and attending live performances, Williams adaptively modeled the work of his predecessors, analysing them and identifying the key notions of feel, technique and creativity in the drumming of Blakey, Roach and Jones respectively.

By describing the process of transcription and the properties of musical analysis I devised specifically for analysing recordings of improvised drumset performance in both interactive ensemble and non-interactive solo contexts, I show how I was able to overcome notational difficulties such as the visual representation of rubato passages

and therefore to notate two significant solos performed by Williams. I also describe how I use the properties of rhythm, grouping and ordering of limbs on the drumset, voicing and expression in the analyses presented in later chapters.

In reviewing the related literature, I describe my critical position as a scholar-performer and give a description of sociological and political perspectives on jazz music. I then describe the previous literature in more specifically musical contexts such as the study of rhythmic and metric superimpositions as well as considering studies of drumset coordination and drumset historiography. Only a handful of work in the jazz studies literature includes significant analysis of jazz drumming and of Williams' drumming.

In Chapter One I outline in greater detail my findings on Williams' drumset ideology as being comprised of the adaptive modeling of feel, technique and creativity derived from Blakey, Roach and Jones. I then discuss the nature of learning in jazz, describing the four key aspects I interpret to be central to Williams' methods: 1) autotelic personality, 2) heuristics, 3) entrainment, and 4) complex adaptive systems. None of these aspects of learning have been discussed in jazz studies literature to date<sup>5</sup>, nor is there any consideration of these aspects as coalescing to form a method by which musical ideas are transmitted and adapted between generations to cultivate originality.

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<sup>5</sup> Although not specifically a jazz article, Vijay Iyer does mention entrainment in passing when discussing the physiological microtiming processes the body employs in the performance of groove-based music (Iyer 2002, 395-396). In his discussion Iyer talks about a kind of visual entrainment as well as entraining to a pulse based on a precognitive echoic memory of the previous pulse in performing grooves. The discussion of entrainment in the present thesis differs from Iyer's notion.

Chapter Two features a narration of Williams' childhood musical and personal biography in the context of the origins of bebop as formed by modernist thought in the late 1930s and early 1940s. I trace the lineage of the intellectual climate in which Williams was immersed from the time of his birth in Chicago in 1945 to the time he left Boston in late 1962, which includes the influence of Art Blakey, Max Roach, Philly Joe Jones, Elvin Jones, Roy Haynes, Kenny Clarke, Louis Hayes and Jimmy Cobb and the ways in which they related to one another personally and professionally. I then trace Williams' recording career beginning in early 1963 in New York City to February 1969 when he left Miles Davis' band, revealing Williams' unusual nature and the lonely character he sometimes was in the late 1950s and early '60s.

Chapter Three is a stylistic overview of Williams' recorded output between February 1963 and February 1969. This overview highlights a number of significant musical contributions Williams made to the expressive nature of the drumset, tracing the subtle shift in the tacit infrastructure from modernist bebop principles of relative heteronomy to the emergence of postmodernist post bop and jazz-rock principles of collective autonomy. These principles are highlighted within the bounds of the broad stylistic categories Williams' drumming was recorded in during this period: 1) swing in four different tempo regions, 2) ballad, 3) pieces in triple meter, 4) avant garde, multi-section and other pieces, 5) straight eighth and Latin, 6) pieces based on the sixteenth note, 7) pieces containing a drum solo, and 8) complex temporal events such as a) long-range polymetric superimposition, b) polytempo and superimposed metric modulation, c) metric modulation, and d) tempo fluctuation. These stylistic parameters

reveal Williams to have used a large number of innovative timbral, rhythmic and temporal musical devices throughout this period.

In Chapter Four I present a detailed musical analysis of the drumming of Blakey, Roach, Jones and Haynes as documented on record between 1954 and 1962. I analyse the drumming of each over the course of a complete performance of an up-tempo swing piece to form the basis upon which Williams adaptively modeled his musical ideas as heard in his recordings from 1963. These analyses serve to highlight particular characteristics in Blakey, Roach and Jones' drumming that display an aural sense of feel, technique and creativity. This is done by way of noting the tendencies of each drummer in their interaction with the form of the piece, with the soloists they accompany, and in their improvised drum solos. Whilst Williams does not specifically mention Roy Haynes in his discussions of feel, technique and creativity, he cites Haynes' drumming as having a significant influence on his own. Haynes' redistribution of rhythm through his novel voicings on the drumset therefore provides a crucial musically contextual link between Williams' drumset ideology and that of his forerunners Blakey, Roach and Jones. The analyses in Chapter Four are based on over fifty pages of original transcription I produced specifically for the purposes of this study.

Following the analysis of the drumming of Williams' predecessors, and in order to demonstrate the ways in which he kept and discarded the musical conventions encoded in recordings of their drumming, in Chapter Five I analyse two complete

pieces featuring Williams' drumming in an up-tempo swing context, both including drum solos that feature rubato.

A manual of systems for the grouping and ordering of limbs is contained in Appendix One. These systems form the backbone of the properties for analysing drumset performance in this thesis and their use is explained in the following section on methodology. The systems are accompanied by the catalogue of eighth-note rhythms in  $\frac{3}{4}$  and  $\frac{4}{4}$  meter that are presented in Appendices Two and Three and described in the analytical property of rhythm later in this chapter.

Appendix Four includes twelve tables that provide a broad stylistic overview of the range of styles present in the recordings made by Williams up to February 1969. I discuss the content of these tables in the text of Chapter Three.

Appendices Five through Ten contain complete transcriptions of the recorded drum parts analysed in Chapters Five and Six, including markings of the soloists' phrasing and placement of figures.

Finally, a discography of over 150 recordings is presented in Appendix Eleven, containing the album name, artist name, recording year, record label name and catalogue number of commercially available recordings that feature Williams' drumming. Whilst it is far from possible to be exhaustive or comprehensive in

presenting such information, I believe that the discography in Appendix Eleven is the most comprehensive in existence to date and thus, along with the biography in Chapter Two, serves as a central source of detailed information on Williams for future work involving the study of his musical oeuvre and drumset ideology.

## **Methodology**

### **Research**

Throughout the process of writing this thesis, I engaged in regular database searches to identify and obtain as much primary textual information on Williams as possible. This included copies of articles that appeared in books, periodicals, music publications and album liner notes. This information was then collated in a way that served two main purposes. One purpose being to piece together a biography of Williams' early years in as replete a way as possible, ending at the time he withdrew from Miles Davis' band. The second purpose was to form a deeper understanding of the learning and analytic techniques that Williams himself said he used during the years leading up to his professional career.

Whilst I have done my best to ensure logical and factual consistency, I acknowledge that the majority of interviews used as primary sources for this work were conducted sometimes decades after the facts themselves transpired in Williams' life, and therefore some of the chronology of his recollection differs from interview to interview, as well as from the recollection of other people. I have tried to present the most chronological



unfolding of events based on a consolidation of commentary from the various sources in which there are factual discrepancies, inaccuracies and ambiguities that make it difficult to arrive at a final statement about the exact chronology and details of the events in question. I'm sure that with future research of materials unavailable to me throughout the course of this study, some of these inconsistencies may eventually be resolved.

I also searched for articles containing interviews with most of the other musicians mentioned throughout the course of the thesis, most importantly, Blakey, Roach, Jones, Haynes, Rivers, Dawson, Davis, Hancock, trumpeter Wallace Roney and bassist Ron Carter amongst others in order to deduce a multi-faceted perspective on Williams and the key concepts I outlined earlier. In compiling the information presented throughout Chapter Two, I have borne in mind the hermeneutic implications of interpretation set out by Tom Perchard (2007) and I have quoted liberally from each artist where necessary in order to remain true to Perchard's suggestions for the writing of jazz biography<sup>6</sup>.

I began with the intent of interpreting the information contained in the interviews in such a way as I would arrive at a consensus on the broad meaning of feel, technique and creativity as Williams may have intended. As I gathered information, I came to the point of view that Williams seems to have developed these terms retrospectively in

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<sup>6</sup> In his critique of jazz biography, Perchard contrasts three existing biographies of saxophonist John Coltrane and observes that many jazz biographies "emplot" the lives studied as though eminence was an inevitability for the subject. Perchard points out that a researcher's *emplotment* of their subjects' lives is an academically inept methodology and so I have avoided "emplotting" Williams' life.

order that they form a significant part of the rhetoric used in his drum clinic presentations. These terms began to represent to me what Jacques le Goff refers to as “merely ‘the tip of the iceberg’” (quoted in Perchard 2007, 142) in coming to a fuller understanding of the underlying principles represented by the canon of Williams’ work and his musical processes from the 1960s.

### **Selection of Recordings for Transcription and Analysis**

I carried out further database searches to arrive at a bearing on the extent of Williams’ discography during the period studied as well as subsequent recordings made throughout the remainder of his career. I then began an extensive descriptive and textual analysis of Williams’ recorded in order to determine which music was to be examined for the purposes of this thesis. The pieces chosen for analysis are not only those referenced by Williams as being among the music he listened to and emulated as a child, but I also believe them to be among the most representative recordings of the drummers in question that were made during the period studied. This period ranges from 1954 until 1969 and includes music that was recorded by Art Blakey, Max Roach, Philly Joe Jones, Roy Haynes until 1963 and then Williams from 1963. The choice of repertoire for analysis was based on the materials Williams used and the methods he employed during his most intense periods of self-education.

The two fundamental modes of a jazz drummer’s performance are the ability to play as a part of an ensemble and to play solo. Whereas Coolman (1997) and Hall (2004)

focus their analyses almost exclusively on Williams' ensemble work and Woodson (1973) concentrates entirely on Williams' solo work as I discuss later in my review of related literature, I analyse both ensemble and solo passages in this thesis as Williams said that he copied entire records from beginning to end, including both ensemble and solo playing.

Ensemble playing refers to the interactive role a drummer takes on in an ensemble when stating a piece's composed or conceptualised theme as well as when accompanying soloists and is generally referred to in jazz parlance as "comping". By contrast, solo playing is when the drummer opens up his or her performance for greater improvisational liberty and embellishment in a way that is akin to the intensity often reached by soloists on melodic and harmonic instruments. A drummer's solo can be either accompanied and unaccompanied by others depending on the context in which the solo appears, meaning that the "solo" may be either interactive with other musicians or isolated in non-interaction. Whereas different drummers can tend to favour one of these modes over another, and Williams distinguished himself in both domains, most drum solos are unaccompanied.

The piece I chose as the central point of departure from which Williams' drumming embarked is the title track from Jackie McLean's album *Vertigo* (2000a) and this is for several reasons. This album represents Williams' recording debut and the piece includes both ensemble and solo modes of performance and so it offers the best representation of Williams' acquired capacities on the drumset until that time. As

*Vertigo* is an up-tempo swing piece, I decided that the central pieces for the comparative analysis of the other drummers also needed to be up-tempo in nature as well as including a drum solo. Williams' solo in *Vertigo* is somewhat avant garde in nature, especially when compared to the solos performed by Blakey, Roach, Jones and Haynes. In conjunction with information contained in Chapter Three therefore, the analysis of Williams' solos in the present work serves to highlight aspects of his involvement in the avant garde of the day as the space available precludes an in-depth presentation on Williams' involvement in the avant garde style as such.

After listening to an extensive range of recordings from between 1954 and 1963, I decided to place *Vertigo* in direct comparison to Blakey's 1954 performance on *Mayreh* (Blakey 2001); Roach's drumming two years later on *Powell's Prances* (Brown and Roach 2002); *Locomotion* (Coltrane 1985), featuring Jones in 1957; and Haynes' performance on *Reaching Fourth* (Tyner 1998) from 1962. In addition to transcribing the pieces analysed in this thesis, I played along with the recordings as well as with many others by the same artists in an attempt to take part in a similar process as undergone by Williams in his formative years. To study *Vertigo* alone however would not suffice to give a complete account of Williams' adaptive modeling of musical figures and conventions as his career progressed. I therefore decided also to study Williams' complete performance on *Walkin'* (Davis 1992a), recorded in 1964 to indicate a further example of Williams' modeling.

## Transcription

The use of the term “transcription” here and any reference made to the act of transcribing serves to signify a reductive, visual representation of aural musical phenomena by using Western musical notation as a model of aural events that were collectively improvised and recorded in real time by an ensemble of living musical performers. Discussion of the act of transcription includes the means whereby such a document is produced, and the purpose it serves in supporting musical analysis. This process fulfils a purpose similar to that fulfilled by the construction and understanding of a road map in the way it symbolically models real geographic territory without itself being or covering the territory being modelled<sup>7</sup>. The subjective nature of the transcriber in any case is a difficult phenomenon to discuss for the purposes of educing meaning from a piece of recorded, improvised music and conveying this meaning concisely in an academic thesis. It is also a problem in the subjective nature of deciding the extent and depth of which details to include in the transcription. Such matters are taken up in depth by Peter Winkler (1997) in an article that describes his attempts to transcribe some of Aretha Franklin’s music. Winkler concludes by stating that transcriptions are only of value to the reader if accompanied by listening to the actual recording that was transcribed and so I recommend that the reader acquire and listen to the recordings whilst reading the transcriptions presented herein.

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<sup>7</sup> Failure to understand the nature of the role of transcription in jazz studies can lead to a kind of musical “[hyperreality]” in which music no longer precedes the notation; one in which the abstraction of the notation being used to model and simulate music becomes a model with no origin such as Jean Baudrillard’s notion of the “*precession of simulacra*” (Baudrillard 1994, 1-43, italics in original).

Much of the transcriptional and analytical work in the literature that is associated with jazz music of the 1950s and 1960s focuses primarily upon reductionistically elucidating melodic and / or harmonic features within the music. The notion of context is taken into a broader account in this thesis in that, in addition to the immediate spatial and temporal environment in which the recording was produced, the reactionary context of Williams' recorded performance is placed in the pantheon of recorded jazz drumming history – a kind of improvisational *centonization*. By centonization I refer to “the technique of constructing improvisations from a ‘patchwork’ of phrases” (Brown 1997, 165) from a number of different pieces. Therefore, in constructing an analytic framework specific to the drumset as is outlined later in this chapter, I was able to identify key areas in which Williams was able to keep intact and respond to various figures and expressive musical devices that constituted the fabric of jazz drumming prior to his work.

Many drummers are reported to have been voracious transcribers throughout their developmental periods, and I will add to Winkler's position by stating that the purpose of the act of transcribing is dubious at best if it not accompanied by a thorough process of analysis. Often, the transcriber will learn to play and subsequently memorise their transcriptions as performance practice in the same way that a musician practiced in classical studies will learn compositions by others for future performance. Performers in search of originality run into problems when they fail to conduct appropriate analysis of the transcriptions they have produced, even though a certain kind of analytical processing is indeed carried out during the very act of transcription. Merely learning a

piece for performance can lead to the propounding of somewhat of a fundamentalist musical dogmatism in which the transcriber or performer resembles a musically reiterative parrot, devoid of creative nous and originality.

In a further elaboration on the practice of transcribing, drummer Gary Novak argues against transcribing recordings note-for-note on paper:

I don't believe in transcribing things exactly. If you can hear and sing the phrase a drummer is playing, you can definitely figure out your own way and create your own thing. I transcribed things when I was in high school, but I mostly just tried to get it by ear, going for the sound and not the sticking. You can develop your own vocabulary by getting your own stickings. (Micallef 1997)

“Stickings” as referred to here by Novak can be taken to mean the order in which the drummer uses their two drumsticks to perform the notes contained in particular musical figures. The concept of stickings is fundamental to the drumset and is discussed further in relation to complex adaptive systems in Chapter Two. In discussing my analytical schema later in the present chapter I use the more general term “ordering” in place of “stickings” to account for the inclusion of the use of two feet in addition to the hands, making clear that ordering is part of the building of internal models for improvisation on the drumset.

I found drummer Vinnie Colaiuta's sentiments about transcription to shed some light on my growing awareness of the difficulties associated with my approach to transcription in this thesis. Colaiuta, a student of Dawson's in the 1970s (Mizuno and Colaiuta 2006), notable for the polyrhythmic innovations he developed on the drumset during

his tenure in Frank Zappa's 1978 and 1979 band—and one who professes Williams to be his hero—admits in relation to transcription that

it's strange because you hear something driving and feeling good, so you transcribe it and see that there aren't a lot of notes on the page. Sometimes you are surprised by that because it sounded like a lot more than it was, but that's because you can't transcribe drive and attitude. (Mattingly 1995, 9)

After surveying a considerable number of the recordings from the period studied that feature Williams, Blakey, Roach, Jones and Haynes, I noted that each drummer displayed evidence of containing more or less equal proportions of feel, technique and creativity in the ways I came to understand them and that a discrete definition derived by the pure analysis of each of their playing would be an almost impossible task. This is where I turned to the literature and to broader, interdisciplinary fields to grasp supplementary notions of broader meaning in these terms as they relate to jazz drumming and specifically to Williams' conception.

I made my transcriptions with the aid of digital technology. I used RoniMusic's Amazing Slow Downer application on an Apple iPhone 3G to create loops and to slow the tempo of the recordings down independently of pitch where necessary. Using this application I was also able to equalise the sound to optimise the clarity of my playback experience. I first wrote the transcriptions out by hand and, once they were complete, I proceeded to enter them into the Sibelius 5 music notation application on an Apple Macintosh computer running OSX. The accuracy of the rhythm was gauged upon comparing playback of the original track with the computer's playback of the



transcription. In the case of the rubato sections of Williams' solos, this technology proved particularly useful in achieving "accurate approximations".

Not at any point in any of the published interviews studied for this thesis is Williams clear about whether or not he actually notated the findings resultant from his many hours of listening to and playing along with recordings. As such, it is unknown whether or not Williams produced written transcriptions of the music he heard. The only evidence that Williams may have maintained some documentation of his learning is given in the statement, "I'm gonna put out a video. I'm making a book and a video about the shit" (Milkowski 1992, 78). To date, no such material has surfaced publically.

## **Analysis**

In order to understand the degree of complexity behind Williams' efforts at modeling the work of his peers and predecessors, it is crucial to understand what Williams meant by the three key terms that would define his working life: feel, technique and creativity. I devised a schema of musical properties specific to the drumset to enable the comparative analysis of Williams' drumming with that of his peers and mentors in both ensemble and solo performance modes. This schema enables scholars to highlight and compare key improvisational tendencies of drummers in their recorded work and is intended to serve as a model in the further development of jazz drumset performance studies.

My choices for analysing Williams' ensemble performances were guided by Williams' own analytic methods as stated in the necessarily lengthy statement quoted below:

...when I was a kid...I just kept storing things and made a catalog of what drummers did and what tendencies they had, both as a whole and individually. I would listen to one drummer on many records and watch what he did at certain points in the music, during different songs and with different bands. I did that with every drummer that I admired. You find out what the guy plays and what he *doesn't* play, so that eventually you can picture like a graph of tendencies. At the end of a chorus, maybe three drummers do one thing, while another group will do [something similar] at the beginning of a chorus or during four-bar breaks. You get this overview of what everybody does. That's how I did it.

My goal when I was a kid was to play *like* Max Roach or Art Blakey or Philly Joe Jones. By playing exactly like they did on the records and by playing along with the records, I found out *why* they played what they played. That's as important as *what's* being played. You get a genuine feeling for what the meaning of something is, not just 'oh, you can play it.' It's not enough just to be able to play a figure. You've gotta have a feeling for it. You've gotta know why it came about. Then you can play it with more conviction. With all of those things, that's how I developed my playing.

Well, I couldn't do what I do unless I had really wanted to play like Max Roach or Art Blakey, Philly Joe Jones, Roy Haynes, Louis Hayes and Jimmy Cobb. If I didn't do that, I wouldn't be sittin' here. I don't think that it's that important for me to have my own voice. I think that it's important to play the drums. I think the drums are more important than I am. So it's important for me to play the drums and make them sound as good as those guys do. If I can't do that, then I'm not doin' anything. I'm not playing the drums.

My love for the instrument caused me to want to play it really beautifully. The only way I could do that was to go to the guys who played it and made me feel 'God, I wanna play just like that.' That was my goal. All I ever wanted to do was sound like those guys. It just so happened that in doing that for awhile I developed something else because I was able to hear that there were certain things that they *weren't* playing.

I realised that nobody was doing certain things in certain situations, so I would. But I couldn't have done that if I hadn't wanted to play genuinely, with all my heart, like those other players. So that's what's important to me. I tell people all the time, you gotta play like somebody before you can play like yourself. Guys get a drumset and they want their own style. It's stupid. Your own style ain't

that important if you can't make the music sound good. The drums are important. You're not.

All the guys I know that are great players can play like other people. They can play exactly like their idols, whether it's piano, saxophone or bass" (Ferriter 1990, 35)<sup>8</sup>

Also instructive are Williams' remarks about the nature in which he treated the figures he learned from his predecessors. When asked if he was consciously aware that he was doing something new in the 1960s, Williams responded by saying

[n]ot really. I guess I was aware that I was playing differently, but it was more of a thing that I was aware of a need, like if you see a hole, you think you can fill it. There were certain things that guys were not playing that I said, 'Why not? Why can't you do this?'. (de Barros 1983, 15)

This remark echoes the notions of emergence coming from adaptation I discuss in Chapter One when addressing complex adaptive systems. It also serves as a justification for the inclusion of Appendices One, Two and Three as I discuss later in this chapter.

Elsewhere, Williams recalls that,

When I was a kid, for about two years I played like Max Roach. Max is my favourite drummer. I don't know if I've ever said this clearly and plainly, but Max Roach was my biggest drum idol. Art Blakey was my *first* drum idol, but Max was the biggest. So I would buy every record I could find with Max on it and then I would play exactly like him – exactly what was on the record, solos and everything. I also did that with drummers like Art Blakey, Philly Joe Jones, Jimmy Cobb, Roy Haynes, and all of the drummers I admired. I would even

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<sup>8</sup> This method of learning to imitate by ear is a subject Lucy Green discusses in depth her book, *How Popular Musicians Learn* (Green 2001). Green draws from information gleaned from interviews with 14 popular musicians from the UK in an effort to identify the techniques they employed for learning to play music from the time they were children. Almost every musician interviewed reveals that the way they learned to play music was to imitate the sounds from recordings of the musicians they admired.

tune my drums just like they were on the record. People try to get into drums today, and after a year, they're working on their own style. You must first spend a long time doing everything that the great drummers do. Then you understand what it means. I've found that not only do you learn how to play something, but you also learn *why* it was played. That's the value of playing like someone. You just can't learn a lick. You've got to learn where it came from, what caused the drummer to play that way, and a number of things. Drumming is like an evolutionary pattern. (Mattingly 1984, 13)

The above statement from Williams reveals the prevalence and importance of entrainment as it relates to informed musical *interaction* in improvising jazz ensembles, which I take up further in Chapter One. Next he describes his use of mental processes to learn and remember key musical ideas and sounds coming from his predecessors:

[Max Roach, Jo Jones, Louis Hayes, Philly Joe Jones, Jimmy Cobb and Alan Dawson] influenced me toward getting the sound I have now...they each had a personal sound, especially on cymbals, and I watched and learned from the way they approached their kits. I still think about their styles today, remembering them as I pull cards from the file in my mind. They're all marvellous musicians. (Stewart 1980, 23)

Williams' reference to pulling cards from the file of his mind begins to reveal his mental processes. I describe these processes as using "internal models" and "building blocks" in the discussion on complex adaptive systems in Chapter One.

On individuality, Williams says that

When you learn to express ideas that have been around, then you can express yourself....For years and years I played the drums because I wanted to play like someone else. I used to be upset because I couldn't play something like Art Blakey or like Philly Joe Jones or Max Roach. I would hear them play something and I'd work on it and work on it. If it was a Max Roach record I would play no more or no less than what he played on the record. I wouldn't add anything, but I would play everything that he played so that I'd get a sense of *why* he played it. What happened two bars before that made him play that, or what is

coming up that he's setting up? Or something just happened and he's reacting to it. (Tolleson 1986b, 38)

Taking the above statements into account, the analytical properties I have constructed fall into two main areas: macro properties and micro properties. The macro properties are those that are used to determine when a figure is played on the drums in relation to the form of the piece and to the phrasing of the soloist in order to provide insight about *why* a drummer played a figure, rather than that the drummer simply played a figure as per Williams' statement above. These are more general properties that outline the form of the piece and the placement of soloists' phrases. The micro properties are drumset specific and form a way of deconstructing the figures themselves in order to detect similarities and differences between drummers at similar structural (macro) points in a piece and include rhythm, grouping and ordering of limbs, drumset voicing and motion, and expression. Both constitute the construction of internal models, the use of building blocks and centonization. The schema below is presented to highlight the various properties for the analysis of improvised drumset performance:

**Table 1:** Analytic Schema

Structure (Macro)	Form	
	Style	
	Placement of Figures in Relation to Form and Soloist's Phrasing	
Figures (Micro)	Rhythm	
	Grouping and Ordering of Limbs	
	Drumset Voicing and Motion	
	Expression	Dynamics
		Accents
		Touch and Timbre

By examining Williams' work through the lens of these qualities and comparing it with the work of his antecedents, several key innovations in his drumming are revealed. It is important to note that Williams himself made no reference to these qualities as being formative in his conception of the drumset and it is unknown whether he gave them any consideration at all during his development as they are presented here. These qualities are schematised here in an effort to codify Williams' improvisational tendencies as they sound on record and to discover through such codification what Williams may have meant by feel, technique and creativity in the drumming of Blakey, Roach and Jones.

### **Structure (Macro)**

*Structure* is used to identify the most general characteristics of the pieces studied and is here comprised of *form* and *style* in order to locate the position of the piece in relation to the vast catalogue of jazz recordings.

### **Form**

*Form* specifically refers to the structuring of *sections* specific to the particular piece of recorded music. In the typical jazz style studied herein, the overall form of the pieces takes on a particular shape being that of head-solos-head in which the "head" of the piece is typically a statement of the tune's pre-composed melodic theme over a series of harmonic chord changes, referred to as "changes". Once the head has been stated, the changes that underpinned the melody cycles around again and again whilst each

soloist improvises new melodies over the form of those changes. Each recurrence of such a structure is referred to as a “chorus” and soloists may improvise over one or more choruses.

## **Style**

*Style* is used to indicate a number of characteristics that define each tune. In particular, the effect of tempo on the placement of the off-beat eighth-note relative to the beat is referenced here. Tempo is especially important in determining the treatment of eighth-notes as I discuss under the Swing heading in Chapter Three.

As form and style are the larger, more general elements of the analytical schema contained in this study, it is not surprising to find that it is in these structural macro properties that most of the similarities occur between the various players studied and that it is in the micro properties of musical figures that the vast differences are revealed between players. Form and style were crucial properties in determining the construction of the tables in the stylistic overview of Williams’ drumming presented in Appendix Four and described in Chapter Three.

## **Phraseology: Choice and Placement of Figures in Relation to Form and Soloist’s**

### **Phrasing**

It is within the context of the form and style of the piece that a player’s sense of *phrasing* can be identified in both time-playing and solo settings. The pieces analysed

throughout this thesis predominantly delineate four-bar sections and the drummer's phrasing may, for example, either outline or float over the resolutions and harmonic rhythm of those sections. It is primarily by this notion that each drummer's individuality can be heard. Each phrase is usually made from the development of simple motifs. A drummer's sense of phrasing stands alone from that of other instrumentalists in that phrasing is not dictated by the necessity to take a breath, nor to strike any part of the instrument with as much responsibility for stating the harmonic progression of the piece as the other instrumentalists owing to its non-tonal nature. A drummer's phrasing could be said to contain motivic statements that are developed improvisationally to a point of rhythmic and timbral "conclusion" that naturally concords with a musical sense of achieving balance between the aesthetic notions of tension and release. It is reliant however on the interaction with other members of the ensemble in improvised performance. I have therefore annotated the transcriptions with marks indicating the beginning, end, length and number of phrases performed by each soloist as accompanied by the drummers studied. Each of the soloists' phrases are represented with overarching square brackets and are labelled with each specific soloist's initials and phrase number throughout the transcriptions. In concert with markings of formal points in the transcriptions, the drummers' placement of figures in relation to the form and in relation to the soloists' phrasing serve to greater contextualise the properties of the musical figures that are discussed below.



## **Figures (Micro)**

Figures form the micro structure of the music studied in this thesis. They are made up of several notes each and are described in accordance with the particularities of specific musical and technical qualities such as rhythm, the grouping and ordering amongst the drummer's four limbs, and voicing on the drumset.

The analysis of figures in traditional musicology generally pertains to musical ideas that occur within one piece only, however, keeping centonization in mind, I trace common and recurrent figures that appear at various points within each player's recorded output over a period of several years in order to identify the unique characteristics of a player's musical voice in correlation with defining feel, creativity and technique.

## **Rhythm**

By analysing the rhythm contained in the music studied in Chapters Three, Four and Five, I developed a greater understanding of note length, rests and syncopation as applied specifically to the drumset. This understanding is deepened in Chapter Three when taking into consideration Williams' expressively unique use of polymetric devices. I will now explain the concepts of rhythmic density, polymetric superimposition (including composite rhythm), rubato and complex temporal ratios.

## **Rhythmic Density (Continuous and Broken) - Catalogues of Eighth-Notes**

I present two catalogues of eighth-note based rhythms in Appendices Two and Three.

Appendix Two contains 64 eighth-note rhythms in  $\frac{3}{4}$  and Appendix Three contains 256

eighth-note rhythms in  $\frac{4}{4}$ . These catalogues were arrived at by considering that there

are eight possible slots for singular eighth-notes to fall in one measure of  $\frac{4}{4}$ , and six

possible slots in one measure of  $\frac{3}{4}$ . In considering the number of slots for each time

signature, each slot could be said to contain either the sounding of an eighth-note, or a

rest of the same note-length. This means that the total number of possibilities can be

arrived at by the number of possibilities for each slot (two) to the power of the integer

representing the number of slots in the time signature (eight slots in  $\frac{4}{4}$ , and six slots in

$\frac{3}{4}$ ). So,  $2^6$  in  $\frac{3}{4}$  yields 64 options and  $2^8$  in  $\frac{4}{4}$  leaves 256 options. Both catalogues

include an entirely silent measure each, one in which each eighth-note slot utilises a

rest.

Both appendices therefore include all the possible ways of combining eighth-notes into

a measure, ranging in rhythmic density from continuous (eight notes per bar) to broken

(one note per bar). For example, the figures in Appendix Three are in  $\frac{4}{4}$  time and begin

with eight eighth-notes in a bar and I call this continuous rhythmic density. The fewer the number of notes in a bar, the more broken the rhythms sound and I refer to this here as broken rhythmic density. A large number of the figures played by the drummers examined in this thesis contain rhythms that are in these two catalogues. For economy of space however, I have not included catalogues of subdivisions such as triplets as  $2^{12}$  (4096) is a prohibitively large number of figures to include in the present thesis<sup>9</sup>.

In consultation with these catalogues, the figures abstracted from the transcriptions contained in this thesis can be “metamorphosised” by any proficient drumset performer in future performance by changing the rhythm of the figure whilst keeping other properties of the figure intact. I clarify this process in greater detail in the next section on the grouping and ordering of limbs. Substituting rhythms in this manner can lead to the emergence of an adaptive modeling of that figure in such a way that not only is that figure transmitted for future use, but it can also be evolved in original ways similar to those I describe Williams to have used in adapting and developing figures from the past.

### **Polymetric Superimposition and Composite Rhythms**

Many of the rhythmic figures examined in the analytic chapters of my study feature the superimposition of rhythmic figures that recur in cycles contained in time signatures

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<sup>9</sup> To accommodate triplets and other tuplets, any two or more contiguous notes in Appendices Two and Three may be substituted by any corresponding “artificial groupings” by Gary Chaffee (1976a, 14-34).

other than the fundamental time signature of the given piece. As is demonstrated in the related literature and in my analytical chapters, one such event that underpins crucial rhythmic development in jazz drumming is the superimposition of figures cycling in the time signature of  $\frac{3}{4}$  over the regular, fundamental time signature of  $\frac{4}{4}$  that the pieces are in. Examples of Williams' innovations include the superimposition of meters such as  $\frac{5}{8}$  and  $\frac{7}{4}$  as I discuss in later chapters.

To understand and present an analysis of polymetric figures graphically on paper in a way that could easily inform the grouping and ordering of limbs for performance on the drumset, I relied on the use of what I call "composite" rhythms. By *composite* I mean the collective onset attack of the sounding of multiple tones no matter what the source or assignation of limbs in the performance of polymetric figures<sup>10</sup>. Composite rhythms are derived from the combination of superimposed metric layers of rhythm and are represented visually on one staff with the grouping and ordering of limbs notated beneath each note. Of central importance to this thesis is that, although the composite rhythms emerge as sounding *polyrhythmic* when voiced on the drumset in conjunction with the grouping and ordering of limbs, the composite rhythms found in the pieces studied seem to have been *derived* by means of the superimposition of polymeters, which I call polymetric superimposition.

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<sup>10</sup> The concept of composite rhythms is similar to the concept of resultant rhythms, the term preferred by John F. Link (2000) as discussed later in my review of related literature.

## Rubato and Complex Temporal Ratios

Certain characteristics of the rhythms Williams used in his solos are extremely difficult to transcribe and analyse and these are generally referred to as being either *arrhythmic*, *rubato*, or of a *free rhythmic* nature. So-called arrhythmicity, rubato or free rhythm was becoming characteristically more common throughout the music of the late 1950s and early '60s, particularly since the influence of Ornette Coleman and Albert Ayler began to permeate that period. Whilst arrhythmic, rubato or free rhythmic material is usually perceived as containing irregular, fluctuating and / or unrecognisable rhythm, the apparent rhythmic irregularities in Williams' solo rhythms began to make sense to me when considering that the constitution of his phrases is such that they are comprised of a certain number of notes performed at rates of speed relative to the original tempo of the piece, but that are not necessarily regular in proximity to one another over a period of time. In this way I was able to notate Williams' rubato passages with the aid of a rhythmic principle outlined in a most comprehensive article on all things musically temporal: *Tempo Mental* by Steve Vai (1983). Vai describes the methods he used in order to transcribe a number of guitar solos recorded by Frank Zappa. Zappa's solos appeared in the context of music containing a regular meter and pulse and Vai used the following simple method to accurately notate Zappa's seemingly rubato phrasing.

The method describes the notation of rhythmic subdivisions occurring over two or more beats by using ratios. In the example of 5:2 ♩, the number "5" displays the number of notes to be superimposed; the symbol ":" can be interpreted to mean "in the

regular time of"; the number "2" designates how many pulses the first number will be superimposed over; and the symbol of a "♩" describes the note-length or rhythmic value of the second number. The statement "5:2 ♩" can be interpreted as saying "five in the regular time of two quarter-notes" (Vai 1983). Whereas Vai uses the term "space", I prefer to use "time". The addition of the term "regular" is also mine. By employing Vai's clear explanation of how to notate subdivisions over two or more beats using ratios, I was able to overcome several problems that can arise when attempts are made to understand the audible material in drum music that is generally perceived to be arrhythmic or rubato, such as Williams' solo in *Walkin'*.

For example, in Appendix Ten I notated Williams' solo, which sounds largely arrhythmic or rubato. I arrived at a method for notation by identifying what I perceived to be discrete phrases and thence assigning these phrases to one staff each. Many of the phrases in Williams' solo contain eighth-notes in the original tempo with a varying number of eighth-notes per phrase. I felt that to notate a series of different time signatures with each line would detract from the freedom and flow of Williams' phrasing and so I chose not to do so. Several figures were however performed at a noticeably different tempo than the other phrases and rather than simply saying "a little slower here" or "a little faster here", I chose to notate these phrases with complex temporal ratios such as those described above to indicate the change in speed relative to the initial tempo of *Walkin'*. These phrases were marked with the unusually

complex temporal ratios 22:25 ♪ and 14:17 ♪, ratios that may be interpreted as being of little practical value. It is not my intent to over-complexify Williams' rubato playing on *Walkin'*. Rather, it is my observation that Williams plays a phrase containing twenty-two notes in the regular time of twenty-five eighth-notes and so I used the notation of 22:25 ♪ to approximate the speed of Williams' phrase relative to the tempo of the piece. In the case of 14:17 ♪ or, fourteen in the regular time of seventeen quarter-notes, the rhythm is additionally complicated by the combination of quarter-notes, eighth-notes and dotted-rhythms. These rhythms appear to be imposingly difficult and they may or may not have been in Williams' mind at the time he played them, however, in consultation with the recording they indicate the relative speed and density of notes in phrases that would regularly be thought to be arrhythmic or rubato and they are noted here for analytical purposes only. They are not presented as an exercise in sight-reading.

## **Grouping and Ordering of Limbs**

### **Omni-Adroitness**

In considering the myriad possibilities for polymetric and polyrhythmic performance on the drumset as is revealed in the literature and as is shown in the analysis contained later in this thesis, I constructed a set of notational representations that reveal, at least provisionally, a significantly greater number of rhythmic possibilities on the drumset

than has been offered in previous literature as I shall discuss later. These notational representations are catalogued in Appendix One as Systems for the Grouping and Ordering of Limbs on the Drumset.

By *grouping* I mean to refer to the ways in which combinations of a drummer's four limbs can be grouped to perform one, two, three or four discrete layers of polyrhythm, or "streams of periodic pulsations" (Link 2000, 8). By *ordering* I mean the order in which any combination of one, two, three or four limbs can be employed in order to play a rhythmic figure— for example, any rhythmic figure in Appendices Two or Three. The ordering of limbs can present significant problems of bodily coordination for a drummer and there is the need for a new idea concerning the equally coordinated skill of all four human limbs that are required to play a drumset. Roach talks briefly about his approach to practicing the ordering of rhythmic figures amongst four limbs:

I practice singles and double with hands *and* feet. Sometimes I practice combinations. Say you would have four eighth notes: The first eighth note may be your bass drum, the second would be the right hand, the third one would be the hi-hat, and the fourth one would be the left hand on a different part of the set. So it would sound like: Bass drum; right hand maybe on a ride cymbal; hi-hat "chick"; and snare drum. That's a combination. There are *unlimited* ways of doing it. If I think of an invention or something that involves combinations, I'll work it out that way....When I come to a situation my improvisation should be pure even though I've got a lot of combinations and inventions that I've taken the time to work out, by annotating them and slowly working them out until they become part of my anatomy. (Fish 1982, 61)

Roach is describing cycle 1.10.14 (see Appendix One). He continues here to cite that his "combinations" are a useful tool to help him perform at fast tempi:

That's done through combinations...! No one limb is overworking. There's a way that it works itself out so that all the weight isn't on the right hand, or the



left hand, or the foot, or both feet. It's put together so that every limb is working so that it *sounds* fast. It sounds fast because each limb is doing a little something....And you can just go for as long as you want to as long as you distribute the work equally. (Fish 1982, 62)

Roach's ideas here give a sense of his development of what is generally known as *ambidexterity* between all four limbs on the drumset. Williams too points out that the "trap drum set is a dance band set that has a tradition of its own. You sit down to play it, and you play with all four limbs" (Underwood 1979, 54). Billy Hart even prophesies that "[t]he next innovator will be fully ambidextrous and have complete knowledge of Indian music, which metric modulation comes out of" (Roberts 1994, 75). In light of Hart's prophecy, the ability to develop ambidexterity on the drumset is desirable and yet the term itself is paradoxically misleading in its etymology. "Dexter" is the right hand and refers to the right hand. When combined with the prefix "ambi", ambidextrous literally means to have a right hand on both sides. This statement assumes that the right hand is always dominant and continues to assert the notion of the dominance of the right hand, even if only in a very subtle way. Crucial to performance on a drumset is not only the skilled use of manually operated drumsticks, but also the skilled use of pedals with the feet, and so "ambi" is an insufficient prefix. I propose the use of the prefix "omni" in place of ambi to give a sense of *all* limbs, not just the hands. The feet, however, operate the pedals of a drumset in entirely different ways than the techniques used to manually wield drumsticks and so it is inappropriate to desire "a right hand for all four limbs" as would be implied by the use of a term such as *omnidexterity*. A more general term referring to skilled-ness is in need here. For the

purposes here, I refer to the coordination of all four limbs on the drumset as requiring techniques for the development of what I call *omni-adroitness*.

Roach describes the drumset poetically as “a four-limbed monster” that Williams “learned how to tame...at a very early age” (Flans 1997, 87). Williams explains the significance of the bodily coordination required to play the jazz drumset:

...playing jazz drums you have to know how to play the [ride] cymbal beat and you have to know how to coordinate that with the hi-hat and coordinate that with the bass drum and the left hand. When you have to know how to do these things, it's not concept. I don't have a *concept*. I just know that each limb I have has a certain function. The only way I learned how to do that was by playing this jazz beat [on the ride], ching-a-ding, ching-a-ding, ching-a-ding, ching-a-ding. I can play that beat constantly without ever stopping it. I can play a whole bunch of other stuff with my left hand and never change that. I can play that beat constantly through all this other stuff. Now to be able to just do that is an accomplishment. If you can do that, you've learned a lot [about playing drums]. It's like being hypnotized. You get into this trance and then things start speaking to you. Your body parts start speaking to you. Your feet and hands start telling you things that they can do.

If you're just playing beats, you don't get this trance thing that I'm talking about. And again, it's not a concept. It's not about how to play rhythms and stuff. It's about how to play the drums. It's how to play music. That's what I try to teach when I have taught. I show students how to do that. The guys that have actually done it come back months later after they've worked on it and understand what I was actually saying and thank me. If you can do that, you've accomplished a lot towards really playing the drums. I don't mean beats or rhythms. I'm talking about you being at one with the instrument. (Ferriter 1990, 37)

The “other stuff” Williams refers to here is sometimes polyrhythmic and polymetric in nature as is described in Chapters Three, Five and Six. In order to perform any kind of polymetric superimposition such as those analysed in Chapters Three, Four and Five, not only must a rhythm be assigned an *ordering* amongst one, two, three or four limbs, but those limbs must also be *grouped* in accordance with the number of metric layers

being performed as well as in accordance with the number of those limbs that are assigned to each layer.

The systems making up Appendix One provide a comprehensive overview of the possible ways that one, two, three or four limbs can be grouped to perform multiple layers of metric activity on the drumset in the way that Roach refers to as using combinations; that Hart refers to as ambidexterity, and that I refer to as omnidexterity. I provide a contextualised use of both the Systems for the Grouping and Ordering of Limbs on the Drumset (see Appendix One) and the Eighth-Note Rhythms (Appendices Two and Three) in the body of Chapters Four, Five and Six. I will now describe their function in stimulating originality on the drumset.

As I stated above, the catalogue of systems is a tool for analysing and for practicing the multitudinous ways in which any combination of one, two, three or four limbs can play between one, two, three or four discrete layers of rhythm or meter, i.e. polyrhythm or polymeter on a drumset. Each stave in the system is notated using four horizontal lines (rather than the conventional five lines) and there are one, two, three and four-part systems comprised of one, two, three and four staves respectively. The right hand is assigned to the top line of the staff, the left hand to the second top line, the right foot to the line second from the bottom and the left foot to the bottom line. I made these assignments arbitrarily, however, the same assignment of limbs to these lines must remain intact for the entire body of systems to be effective. Each “note” in the system is a *point*. I used quarter-note noteheads without stems for visual clarity, but these

noteheads are merely representative as *points* at which a note is to be played. Notes of any rhythmic value may be assigned to a point in this system as I will show.

One useful way of thinking about the nature of the points with respect to rhythmic material can be demonstrated when considering the single stroke roll rudiment. Even though the single stroke roll is traditionally intended as a callisthenic exercise between the right and left hands for military snare drummers, I propose that it can be adapted for performance by all four limbs of the drumset when it is understood to be a *two-point cycle* of alternating limbs with no fixed rhythmic value.

Important to note is that the traditional use of the letters “R” as indicating a right-hand stroke and “L” to designate a left-hand stroke is an extremely limiting way of defining a single stroke roll on a drumset that requires the omni-adroit use of four limbs. If, in such a system the right foot were designated to play a note, perhaps, for example, “RF” would be used to indicate such, or “B” for bass drum. Such classification needs to be expanded in a simple way as to incorporate the use of labels for each combination of limbs striking simultaneously and so I have labelled each cycle in the One-Part Systems alphabetically from A to O as an alternative to using clumsy designations such as “RF”, etc (see Appendix 1.1 – 1.10)<sup>11</sup>. Considering that there are fifteen letters from A to O inclusively, it is also convenient to use single letters for the purpose of designating combinations of limbs as the letters used are monosyllabic unlike the multisyllabic


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<sup>11</sup> I present this classification as a simpler alternative to the classification posited by Abbott in his thesis as I discuss in my review of related literature.

“seven” and “eleven”. When the lettered name of each limb combination is memorised, they are easy to vocalise over rhythms without detracting from that rhythm itself like, for example, the vocalisation of numbers and referring to “right foot” can be. Understood in this sense then, the single stroke roll therefore can be described by any cycle in 1.5 (See Appendix One). If the concept of the single stroke roll were to be expanded and understood as a cycle of no fixed number of points, then it could also be performed in the orders presented in systems 1.1 (for one-limbed performance), 1.8 (for three-limbed performance) and 1.10 (for four-limbed performance).

To further extend the concept of a single stroke roll, any rhythmic value may also be assigned and applied to systems 1.1, 1.5, 1.8 or 1.10. The rhythmically continuous constancy represented by Eighth-Note Rhythm 1 (see Appendix Three) is the usual rhythmic designation of the single stroke roll. I propose that this rhythm can be substituted with any of the eighth-note rhythms comprising Appendices Two and Three and applied to a one, two, three or four-point cycle as found in Appendix One. It can also be substituted by rhythms containing any note-length (from short to long) and of any rhythmic density from continuous to broken as described above under the Rhythm heading. A single stroke roll treated in this sense is now *adapted* so that it may be used in an unending variety of rhythmic possibilities and played by four limbs as demonstrated below.

For example, in keeping with the single stroke roll, if Eighth-Note Rhythm 3 in

Appendix Three  $\frac{4}{4}$   is assigned to cycle 1.5.1 in Appendix One and repeated, the emergent figure will be played:

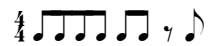


**Figure 1:** Single Stroke Roll as Eighth-Note Rhythm 3 assigned to Cycle 1.5.1.

Figure 1 shows a single stroke roll as a two bar rhythm because Eighth-Note Rhythm 3 in Appendix Three is a seven-note syncopated rhythm assigned to a two-point cycle (1.5.1), thus taking fourteen notes to complete. The same rhythm applied to a three-point cycle such as cycle 1.8.21 will complete after three repeated bars and will be played:



**Figure 2:** Single Stroke Roll as Eighth-Note Rhythm 3 assigned to Cycle 1.8.21.

For a final example, I will use Eighth-Note Rhythm 2 from Appendix Three once again to show how the ordering of limbs in an omni-adroit system can also include unison notes between limbs in an expanded view of the single stroke roll. When applied to a three-point cycle using all four limbs (cycle 1.9.2), the figure  $\frac{4}{4}$   will be played as shown in Figure 3 overleaf:



**Figure 3:** Single Stroke Roll as Eighth-Note Rhythm 3 assigned to Cycle 1.9.2.

Whilst these examples have the capacity to expand the concept of the single stroke roll rudiment for developing omni-adroitness with four limbs on a drumset, the examples above clearly show how the systems are limited in the way that all limbs presented in any one stave must complete the cycle before another note is played by the same limb. In this way, any conceivable rhythmic material can be applied to any cycle and the cycles I have presented can be up to four points long. These limitations in my systems can be overcome by, for example, applying any rudimental sticking pattern, or any of Gary Chaffee's "Compound Sticking Patterns" (1976b, 34-65) when one part in any system contains two limbs, no matter how many points in that cycle. This allows the added use of two or more notes by one limb in any of these cycles such as that which is ordinarily achieved in the playing of the double stroke roll rudiment.

In the foregoing I have explained how the ordering of limbs can be used to develop omni-adroitness with four limbs on a drumset. I will now show how the grouping of limbs using these systems can be useful in two ways. Firstly, the groupings are useful in analysing the superimposition of two or more meters in the music such as in the occurrence of polymetric superimposition as I explain below. Secondly, they are useful in showing ways in which Williams applied his notion of creativity to the prior work of

other drummers, thus modeling the figures they played and adapting them for his original use as I show in Chapters Four, Five and Six.

I will present two examples of the analytical potential of the systems here. Firstly, a three-part system is shown below in Figure 4:

The image shows a musical score for a drum solo, organized into three horizontal staves. Each staff is labeled on the left with 'RH' (Right Hand) and 'LF' (Left Foot). The top staff is in 3/4 time and contains a sequence of eighth notes. The middle staff is in 4/4 time and contains a sequence of eighth notes. The bottom staff is in 4/4 time and contains a sequence of eighth notes. The notation is designed to show how these three different rhythmic patterns are superimposed on each other.

**Figure 4:** Three-Part Grouping and Ordering Analysis of a Tony Williams Drum Solo (Williams 1999b, 30:09 - 30:20).

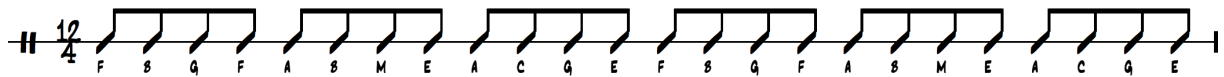
Figure 4 features the use of a Three-Part System for the grouping and ordering of limbs on the drumset to analyse a polymetric superimposition performed by Tony Williams. The upper part features Eighth-Note Rhythm 17, the middle part features Eighth-Note Rhythm 30 and the lower part features Eighth-Note Rhythm 240 (see Appendix Three). The figure is performed using Cycle 3.3.38 in Appendix One. Extracting these three rhythmic layers from one another allows for the possibility of making rhythmic variation of this figure in future performance by either substituting alternative rhythms for those present, or to change the grouping and ordering of limbs, or to change the ways in which one or both streams are voiced on the drumset. Figure 5 overleaf shows a composite representation of Figure 4:





**Figure 5:** Composite Representation of Figure 4.

In this figure, the time signature of  $\frac{12}{4}$  is a composite rendering of the two time signatures  $\frac{3}{4}$  and  $\frac{4}{4}$  shown in Figure 4 and the two parts of grouping and ordering have been combined onto one staff. The figure can be simplified even further as shown below:



**Figure 6:** Grouping and Ordering Schema for Composite Rhythm Shown in Figure 5.

Once the naming schema of letters used for cataloguing the fifteen different combinations of grouping and ordering limbs is memorised, the example shown in Figure 6 represents a simplified way to generate a mental “building block” for the performance of Williams’ figure from which Figure 4 is excerpted.

One final example that shows the necessity of using more than one part for the grouping and ordering of limbs in polymetric and polyrhythmic performance is shown below in a transcription excerpted from a drum solo by Bill Stewart:

♩ = 229

RIDE CYMBAL

SNARE DRUM

BASS DRUM

HI-HAT

1 2 3 4

5 6 7 8

9 10 11 12

13 14 15 16

17 18 19 20

Figure 7: Three-Part Transcription Excerpted from a Solo by Bill Stewart (Stewart 1997, 31:39 - 31:59).

Bars 13, 14 and 15 show three levels of polymeric superimposition as detailed below:



**Figure 8:** Three-Part Grouping and Ordering Analysis of Polymeric Superimposition by Bill Stewart.

For the superimposition in Figure 8 to complete one full cycle so that all “beat ones” coincided again on a “beat one” in  $\frac{1}{4}$ , this partial cycle would have to repeat four times, spanning sixty quarter-note beats over fifteen bars in  $\frac{1}{4}$ . The figure can be reduced to one stave as shown below:



**Figure 9:** Composite Representation of Figure 8.

Similarly, Figure 9 can also be reduced to a single-line ordering of limbs using the composite rhythm with letters to designate the assignment of limbs to each note:



**Figure 10:** Grouping and Ordering Analysis of Figure 9.

Here I have outlined a theory for developing omni-adroitness with all four limbs on the drumset by explaining the analytical use of the Systems for the Grouping and Ordering of Limbs featured in Appendix One. I will now explain one further point for consideration in such analysis.

### **Harmonic Density (Simple and Complex)**

It is the grouping and ordering of limbs on the drumset that provides drummers with a range of harmonic options on the instrument, ranging in density from simple to complex. Given that the use of the term “nonlinear” as is described in Chapter One under the heading of Complex Adaptive Systems gives a different meaning, it is inappropriate to speak of “linear” and “layered” drumming in this thesis. Instead, I describe the grouping and ordering of limbs on the drumset using the terms “simple harmonic density” in place of “linear”, and “complex harmonic density” in place of “layered”. These terms are similar to melodic and harmonic coordination as described by Marvin Dahlgren and Elliot Fine (1963). Systems 1.1, 1.5, 1.8 and 1.10 in Appendix One are of simple harmonic density whilst all other systems are of varying degrees of complex harmonic density. All densities are presented in Appendix One.

### **Drumset Voicing and Motion**

*Voicing* refers to the ways in which rhythmic and coordinational material such as that described above is distributed on the various voices that the components of a drumset offer for the expression of that material. *Motion* depicts the ways in which a drummer

changes the position of his or her limbs when moving from one voice of the drumset during the performance of a figure to another to affect a sense of melodicism. In the case of the music studied here, motion occurs in the hands only as the feet play one pedal each.

The standard drumset played by drummers throughout the period studied in this thesis generally includes four drums and three cymbals. The four drums include a snare drum (usually 14" x 5" in diameter and depth), a pedal-operated bass drum (usually 18" x 14"), a tom tom (usually 12" x 8") mounted on the bass drum, and a floor tom with three legs (usually 14" x 14"). All four of the drums are generally fitted with either natural calf-skin heads or synthetic heads made of Mylar<sup>12</sup>.

The three cymbals characteristically featured throughout the recordings studied are one ride cymbal, one crash / ride cymbal and a hi-hat cymbal (comprising a pair of cymbals played as one unit). The ride cymbal is usually mounted on a tripod stand on the right hand side of the drumset and is usually 18", 20" or 22" in diameter. A contrasting crash / ride cymbal of similar proportions is mounted on the left-hand side of the drumset and is usually higher in pitch than the ride cymbal. One or both of the ride or

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<sup>12</sup> Of noteworthy relevance to future study of Williams' later work is that from 1972 (Williams 1985), Williams expanded his drumset to include a 14" x 6.5" snare, 13" x 9" and 14" x 10" mounted toms, 14" x 14", 16" x 16" and 18" x 16" floor toms, a 24" x 14" bass drum as well as 16" and 18" crash cymbals added to his 18" crash, 22" ride and 15" hi-hat cymbals. In the mid-1990s Williams expanded his drumset further to include two 24" x 18" bass drums, the addition of a 12" mounted tom as well as a floor tom positioned to his left, and an array of new cymbals including splashes and Chinese-shaped cymbals. This third expanded edition of Williams' drumset can be heard on Williams (1995) and Arcana (1997) and provides a sonic palette contrasting in extremes to the drumset he used in the music studied in the present thesis.

crash / ride cymbals may or may not be fitted with a number of split bifurcated rivets, giving the cymbal a sustaining “sizzle” sound when struck.

The majority of a drummer’s “time playing” is performed on the ride cymbal by striking the bow of the cymbal with the tip of the stick. Occasionally the drummer will play accents either on the ride cymbal by striking it on its bow with the shoulder of the stick, or by striking one or both cymbal/s using a glancing motion with the shoulder of the stick on the edge of the cymbal. The latter is the louder of the two accents.

The hi-hat cymbal is a combination of two cymbals mounted on a stand operated by a spring-driven pedal in such a way that the cymbals meet each other inversely around their edges, offering a variety of sounds unique to the drumset. These sounds include, but are not strictly limited to a staccato “chick” sound when closing the two cymbals swiftly with the pedal and keeping them closed, a “sloshy” legato sound when the cymbals are held slightly open with the foot and struck with a stick, and a staccato “tick” sound when the cymbal is struck with the stick whilst the pedal is depressed tightly. The cymbals can also be brought together and swept apart very quickly with the pedal to give a sound similar to that made by sweeping two hand-held crash cymbals together in an orchestra or marching band called “splashing” the hi-hat. This range of sounds makes the hi-hat a multi-voice instrument operated by many combinations of the drummer’s left foot and both hands. It is a part of the drumset that enables the drummer ease of control over note-length and the sustain of their notes.

### **Pitch Range and Melodic Motion (Stasis and Motility)**

The drums tend to be tuned fairly high in pitch, producing a staccato-like attack upon being struck with a short decay that blends with the other instruments in order to accommodate the acoustic nature of the music. Gradations in pitch descend from the snare drum down to the mounted tom, then the floor tom, with the bass drum being lowest in pitch. The notion of voicing and motion encapsulates the study of *range* for the drumset as scales and arpeggios similarly exploit the eighty-eight key range of a conventional piano for example. Given that the four-piece drumset described above offers only three non-tonally pitched voices to play on, I describe motion only in melodic terms as being the difference between utilising *stasis* when there is no motion between voices, and utilising *motility* when there is movement between voices. I do not describe movement by step or by leap as is usually so important in the study of melody. Drummers do not play melody as much as they play *melodically* when balancing the contrast of melodic stasis and motility and so I describe their *melodicism* rather than melody as such.

### **Expression**

I notated the transcriptions using conventional dynamic markings in order to arrive at a more nuanced sense of each drummer's musically *expressive* tendencies. The overall dynamic of most of the music studied is performed at a consistent *mf* to *f* range with occasional deviation to louder or softer performance. The most useful notational devices were those of *accent* and of *ghosting*. I take these concepts up later in the

body of Chapter Four, however, accents indicated above the staff with the “>” symbol have two different meanings in this thesis. Generally, for all the pre-Williams drummers, the “>” symbol means that the snare is played louder than non-accented notes (notes without the “>” symbol), and that this increase in volume is achieved simply by greater velocity of stroke than the strokes used for non-accented notes. In the case of Williams however, the “>” symbol generally refers to the achievement of a louder note and a more crisp timbral “crack” through the use of a *rim-shot* wherein Williams strikes the head of the drum and the rim simultaneously with the same stick. The ghosting of notes is described in detail in the analysis of Haynes drumming in Chapter Four.

Notating dynamics for drumset is an extremely limited practice using conventional one-staff notation. The systems for the grouping and ordering of limbs on the drumset in Appendix One have the advantage over conventional single-stave notation in enabling changes in dynamics to be notated discretely for each limb in its own discrete layer of rhythm.



## **Review of Related Literature**

### **Critical Position as Scholar-Performer and the Need for Jazz Drumset Performance Studies**

The act of making music necessitates direct perception of the complex interrelationship between its constituent elements and how these elements are given voice on a musical instrument by precisely measured and deftly coordinated movements of the human body over time. In ensemble settings these skills are combined with the development of an acute awareness of how the resultant sound generated by the playing of an instrument can be made to blend with the sounds generated by other humans on their instruments in the given ensemble so that inherently *musical* ideas are given due valency in musically coherent ways. In developing my own ability to perform music in the pursuit of a career as a professional drummer, I feel my efforts are more efficacious when extra-musical concerns of my own and of others such as discrimination, prejudice, opposition or bias on account of race, gender, class, sociocultural and political ideals or religious beliefs take on an essential mode of transparency throughout the periods in which I am immediately and directly engaged in the process of studying, practicing and performing music on my instrument in and out of ensembles. Although the fabric of my experience of life is inextricably woven upon the existence of such concerns both consciously and unconsciously, these concerns are external to the musical process. I am acutely aware that the resultant tapestry of human experience is unique for each of us and that it is this uniqueness that distinguishes one personality from another in immeasurably intricate ways. Such uniqueness and

originality of identity is reflected in the ways in which individuals use freedom of self-expression to differentiate and integrate in society, a subject I take up in Chapter One under Autotelic Personality.

Williams won a performative and improvisational freedom for the jazz drumset, acknowledging that the instrument originated in the United States of America with its own unique, informal and largely aural system of learning and performance, freeing it from the shackles of the underlying written methodology of European, harmony-centric music. This is a freedom that may be microcosmically and analogically representative of the win made by African-American people in their struggle for identity at the time of the Civil Rights Movement that was occurring during the period studied herein. Many pedagogical and performance-based environments today however exhibit no real understanding of, nor any real appreciation for the history or the nature of the drumset in its own unique musical and historical context and therefore the significance of the instrument as a means for original musical expression has been enshrouded in mystery and I will now explore some of the possible reasons for this oversight.

The art of jazz drumset performance is a mongrel discipline and resides in possibly the single-most confused and marginalised scholarly, musicological, pedagogical and practical territory. It is perhaps the least understood of all contemporary music practices, particularly in scholarly circles, where study of the instrument tends to be overlooked as being unimportant or irrelevant because of its non-tonal nature.

As I stated earlier, musicology generally works under the rubric of Western Art Music, which is generally defined as music composed and performed according to the conventions of the European classical tradition. More specifically, jazz studies tends to fall within the domain of ethnomusicology, which is broadly focussed on sociocultural and political factors. These classifications in musicology present a multifaceted problem in broadening the field of jazz drumset performance studies, a tradition founded upon non-tonal improvisation in the United States some one hundred years ago. Schenkerian analysis, for example, is unhelpful and cannot apply to jazz drumset performance studies. Also, as the subject of this thesis calls into investigation Tony Williams' drumset ideology of feel, technique and creativity as it applies to jazz drumset improvisation of the 1950s and 1960s in order to serve as a model for the cultivation of originality in jazz drumset performance studies, the issues discussed are highly technical, specific and most relevant to people who improvise on the drumset and to other instrumentalist with whom these drummers perform. Therefore, to acquire an understanding of the analytical systems used to comparatively study jazz drumming of the 1950s and 1960s and to grasp the nature of the variety of musical ideas that were being performed by the key exponents of the time, any such discussion is necessarily technical and musicologically theoretical. Except in the case of a rare few texts, the arguments set out in the leading literature containing research into the expression of rhythm in jazz drumset improvisation are put forth largely by non-drummers. I feel it is important that some of this work is evaluated by a performing drummer in order to clarify a few issues that are confused in the extant literature and I therefore represent

myself as a scholar-performer in the spirit of David Ake (2002, 5-6) to address this issue.

Many otherwise important sources often misunderstand the nature of jazz drumset improvisation. For example, without providing any examples from recordings of actual performances Ingrid Monson refers to points in performance when drummers may “break the time” into “two-handed interjections called *fills*” (1996, 59, emphasis in original). Although informative to a mild degree, Monson’s subsequent explanation of drum fills is somewhat limited in scope. Whilst it is true that fills can be “melodically interactive, provide a seamless comping rhythm, or lead the ensemble from one structural section of a tune to the next” and that they can be sometimes up to several measures in length, allowing a drummer to “[intensify] the musical energy at important structural points such as the beginning of sections or choruses” (59), rarely in the case of the pieces studied in this thesis did any of the drummers actually play a “fill” that led to and ended at such structural points. As will be seen in Chapters Four, Five and Six, in most cases each drummer played extended phrases “over the barline” and over those structural points, ending in places far removed from “the downbeat of the measure it leads into or on an offbeat that anticipates the new section” as Monson states is the norm (59-60). Monson also cites that the drummer “may emphasize this articulation by playing it on a crash cymbal or by punctuating the resumption of the ride rhythm with a strong ‘1’ on the bass drum” (60). Again, rarely is this the case as my transcriptions in the appendices show. The figures played by the drummers studied in this thesis are far

more dynamic, complex and diverse than the simple example given by Monson in her “Musical example 10” (1996, 60).

In representing the stance of a scholar-performer, I will now address several of the arguments that are apparent in the broader musicological fields as they relate to jazz studies. Although several musicologists have done significant enough work now to argue for the inclusion of African American music in the overall approach to scholarly musicology, these scholars deal with the imperative concerns set out in this thesis primarily within broader sociocultural and political frameworks as a priority over specifically musical frameworks. This thesis is therefore only directly related to a small number of such texts in the broader field by way of methodology and interest only whilst maintaining direct ties to a number of other works falling within a narrower scope of literature in the field. Indeed the works that are of core importance in relation to the present thesis are the works of Woodson (1973), Dean (1992), Berliner (1994), Coolman (1997), Hall (2004), Gander (2005) and Yudkin (2008). Works of relevance in greater sociocultural and political musicology fields include Anderson (2007), Gebhardt (2001), Gioia (1997), Monson (1991, 1996, 2007), Ramsey (2003) and Southern (1997)<sup>13</sup>. I will begin with a consideration of the broader field.

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<sup>13</sup> My position as a scholar-performer points my overall interest strongly in the direction of evaluating musicologically theoretical and qualitative data rather than material of an empirical nature. As such, and except in the case of Friberg and Sundström (2002), I do not discuss cognitive and psychological aspects of the material presented here.

## **The Sociocultural and Political Context of African American Jazz Between 1954 and 1969**

There is a growing literature in jazz studies that seeks to derive musical meaning by drawing critical relationships between the act of making jazz music and the broader sociocultural and political issues that are deeply interwoven into the very fabric of the existence of African American jazz that was played between 1954 and 1969. The combined work of authors such as Gebhardt (2001), Ramsey (2003), Anderson (2007) and Monson (2007) provides an example of such relationships. A sample of some of the most salient prior work also includes Monson (1996), Gioia (1997), Southern (1997) and Porter (1997). Of note, Monson acknowledges Williams as having agreed to participate in a significant conference she co-organised and named “Miles Davis, the Civil Rights Movement, and Jazz” in 1997 in an effort to develop an understanding of the civil rights movement as a basis for writing her book, *Freedom Sounds* (2007). Unfortunately Williams died two months before the event took place (Monson 2007, vii).

### **Historical Perspective on Discrimination**

Firstly, it is important to grasp a sense of the nature of the racial discrimination that was rife in America during the period studied here. With World War II ending only months before Williams’ birth in 1945, America was in the midst of a period of great flux, particularly in relation to the ways in which African American people were being absorbed into the culture, moving closer to racial integration. After fighting for freedom

in Europe, many African American troops returned from the Second World War to their home country whence they were still being discriminated against on racial grounds, not boding well for America during the ensuing Cold War. This climate sparked the beginning of the fight for freedom at home from the maniacally repressive Jim Crow segregation laws that were enacted in 1876, nine years after the emancipation of African Americans from chattel slavery in 1865, and fuelled much of the thought and movement within the African American community during the late 1950s and into the 1960s until the Voting Rights Act was passed 1965. Despite these positive changes in the law, many whites as well as a number of blacks resisted the integration of African American people in America, resulting in an insidious procession of violence and upheaval that continued into the 1970s. Whilst I observe that the act of striving toward the musically creative realisation of modernist ideals—such as that which brought about the onset of bebop music— was ostensibly fuelled to a degree by racial inequality, I also suggest that the very act of striving for the realisation of creative ideals may also be a unifying keystone that, over time, will overcome discrimination of any nature in present and future human endeavour. I turn to the literature here to define a context for modernist thought as a unifying force in African American jazz from 1954 to 1969.

Offering a broad overview of the experience of African American people prior to 1955, Eileen Southern reports that racial integration in mainstream America was making “little progress” (1997, 466), even though a hundred years or so had passed since their emancipation from slavery. Southern also states that there was racial discrimination

against some of the one million or so African Americans who served in the armed services during World War II, which began on 7 December 1941. With the emphasis on fighting for “the four freedoms”<sup>14</sup> during World War II, the increased militancy amongst African American people helped to create a growing climate for change (Southern 1997, 467, 403, 471). For example, although kept in segregated units, African American men were not authorised to serve in the navy, except as mess attendants and stewards prior to the promotion of an antidiscriminatory policy in 1942, seeing to it that the navy complied by actively recruiting and training African American men amongst its ranks (468).

Of the segregated institutions maintained by African Americans to serve their cultural and social needs around this time, the church was most powerful, with over five million African American people belonging to all-black denominations by mid-century. Some had rejected Christianity altogether and turned toward the politically and socially charged Black Muslim religious group under the leadership of Elijah Muhammad (formerly Elijah Poole). Malcolm X was also an early leader of the Black Muslim movement, although he was assassinated whilst presiding over a new organisation of his own in 1965 after leaving the movement (466).

Southern also reports on a series of other events in American history that slowly contributed to racial integration. 1) The Korean War began in 1950, providing further

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<sup>14</sup> The four freedoms as stated in President Franklin D. Roosevelt’s 1941 State of the Union Address are freedom of speech and expression; freedom of religion; freedom from want; and freedom from fear.



chances at integration for African American servicemen and women. 2) The Supreme Court ruled against segregation in public schools in 1954. 3) African American seamstress, Rosa Parks was arrested in Montgomery, Alabama on 1 December 1955 for refusing to “move to the rear of a bus in order to make available a seat for a white man when ordered to do so by the white bus driver”. The arrest was made on the basis of a law in Alabama that “stated that blacks should sit in the back part of a bus”. A one-day boycott was initiated by local leaders in response to Parks’ arrest, however it extended to 369 days. From these boycotts emerged Reverend Dr. Martin Luther King, Jr., the world-renowned leader “who helped to shape a new philosophy for black Americans, that of non-violent resistance, which eventually spread its influence over the entire nation”. 4) In 1957, for the first time since 1875, a Civil Rights Act was passed by Congress. Racial discrimination however persisted in white communities as a form of resistance to the new civil liberties extended to African American people. Acts of intimidation and persecution as well as murder were carried out. 5) Four African American students in Greensboro, North Carolina sparked the beginning of the sit-in movement with their action of 1 February 1960. The students “sat down at the lunch counter of a variety store after completing their shopping. Because they were black, the waitress refused to serve them, but the students sat at the counter until the store closed and returned the next day to repeat the action”. The sit-in movement marked the beginning of demonstrations that spread across America against segregation and discrimination “that effected a basic change in the availability of public accommodation to blacks for the first time in history”. These sit-ins were also the beginning of a period of great turmoil and violence in America including the

assassination of the president, John F. Kennedy, in November 1963 (Southern 1997, 471-2).

In considering the dialectics of discrimination associated with the history of jazz music, Lewis Porter paraphrases anthropologist Ashley Montagu by stating that “the classification of race is a meaningless human invention”, that racism is “a part of the general condition of human tribalism” and that tribalism is “obviously innate” (1997, 197). In the following statement, Ingrid Monson discusses that discrimination was based more on differences of skin colour than on racial origins:

If race is a genetically meaningless concept...color has been of unquestionable significance as a morphological characteristic facilitating the hierarchical classification of bodies and their unequal treatment. It is unlikely, then, that the terms *black* and *white* will fade in their relevance to describing various African and African diasporan cultural histories. (Monson 1996, 204)

Both Porter and Monson appear to concede that discussion of discrimination and tribalism in relation to race and skin colour may perhaps always be relevant despite Monson acknowledging that the Civil Rights Act had as its principal ideology the goal of establishing an integrated, colourblind society. In such a society, differences in skin colour would be overlooked:

Since difference in colour was a morphological marker that was socially interpreted to justify discriminatory treatment against Americans of African descent, the ideology of integration de-emphasized difference in pursuing social equality under the banner of universal brotherhood. (Monson 1996, 200)

Monson’s further statements that “whiteness tends to be a sign of inauthenticity within the world of jazz” and that “the appeals of white musicians to universalistic rhetoric

can be perceived as power plays rather than genuine expressions of universal brotherhood" (1996, 203) however, can only be validated in contextually appropriate discourse in jazz studies. From my perspective as a scholar-performer, Monson's conjecture that "universalist rhetoric can be perceived as power plays" is of extremely limited relevance and validity in relation to the ways in which the jazz community as I describe it goes about the business of actually playing music together in ensembles. As such, it is perhaps relevant to the jazz community only from a broader, non-performing sociocultural and political perspective—one that Dean argues is "unlikely to be valuable or very convincing" (1992, xiii) in his discussion of autonomy in of the development of musical structures—and not from the more specific point of view of musicological and performance-based jazz studies such as that which the present thesis seeks to represent. Such a statement is not focussed on the development of *musical* ideas and can potentially undermine "genuine expressions of universal brotherhood" as well as having the potential to subvert any drumset performance ideology that realises a synthesis of the notions of feel, technique and creativity apropos of that discussed throughout this thesis.

### **Jazz of African American Origin and its Relation to African Music-Making Traditions**

Another of the more prevalent arguments in the broader sociocultural and political jazz studies literature is introduced here, and that is of the cultural relation of music made by African Americans to African music-making traditions. There is a broad difference of opinion on the subject with many scholars advancing positions that connect jazz of

African American origin to African music. The issue is subtle and here I take a brief look at the views presented by scholar Ted Gioia, and performers Blakey and Roach as being in contrast with the view of many.

Gioia (1997) posits an interesting juxtaposition of fundamental cultural *difference* between the origin of jazz music in America and the oral tradition of West African musical heritage that “[t]hose who draw connections between jazz and African music miss”. The cultural mandate adhered to by musicians of West African tradition is one whereby “they are the historians of their society and must maintain the integrity of their precious musical heritage....[A]ny modification in the music is viewed as a risky act, never encouraged and at best tolerated with anxiety and distrust” and is reflective of music as being of a “quasi-sacred efficacy” in traditionalist, pre-industrial cultures and *not* a form of casual entertainment as it is in Western cultures (1997, 200). “From its earliest days”, Gioia continues, “jazz had been a forward-looking art, continually incorporating new techniques, more expansive harmonies, more complex rhythms, more intricate melodies” and, dating back to Louis Armstrong, “the leading musicians of early jazz were modernists in the truest sense of the term” (1997, 199). From this it can be derived that Gioia posits a fundamental break in the notion that there are traditional ties to African cultural practices amongst 1940s African American bebop artists.

This stance is mirrored in statements by African American jazz performers Blakey and Roach. In the following statement, Blakey flatly refuses to make any connection with African traditions by stating that jazz music is purely American in origin:

A lot of people try to connect jazz with Africa and all that kind of thing. You can't connect that. You have to have the wisdom to know the difference. They have their thing; we have our thing. The Latins have their thing; we have our thing. It's just like that. No Africa; no jazz. So that's the way it is. (Rosenthal 1986, 276)

The following is a lengthy response from Roach after being asked by Jomo Cheatham to describe what makes him "a passionate man" during a video interview (1993, 1:29).

Here Roach discusses his feeling of separation from African culture as an African American man and his ensuing search for identity:

...I came from the deep south and I witnessed the kind of oppression that our people had to go through...The black American is the only group who has come to this country, I mean....We all are foreigners. God gave this country to the Native Americans. That's whose land this is. So *all* of us are immigrants....We're the only group that's here, of colour, who doesn't have a second language....Everybody who comes here has a second language. They have a culture. They can *identify* with some place: 'Oh I'm Irish American'; 'Oh I'm French American'; 'Oh I'm Nigerian'....

...I got in a cab, just this week comin' from the airport and the gentleman who was driving the cab was from West Africa—I think he was from Guinea. Anyway, he had some tapes in his cab and I'm listening to the tapes and I finally [asked] him 'what language is that?' It wasn't French, it wasn't Spanish, it wasn't English....It was *beautiful*. The music was beautiful, the language was beautiful and it brought home to me again the fact...*wow*, here's a black man driving a cab who's got a totally different thing goin' on so he *has* a language of his own other than the colonial language that—when colonialism came into Africa—he speaks English, he speaks his *own* language and now he's up here with *us*....

...So when you ask what makes me so passionate, it's because we as a people have had to *struggle* and we *still* are struggling....My passion comes because I'm a black man who is in the United States of America and I'm still searching for *me* and *myself* for my family, for my children....I can't say 'hey', like this cab

driver who said he's from Ghana, and...I can't say that! I can say I'm African American, but...I don't speak the *language*. And I don't know the *culture*.

...I spent some time in Africa, when I was goin' to school I travelled anywhere. I went to Haiti and places like that—Cuba—as a young man. But the time I spent in Africa I will never forget because I was sitting in a street café...talkin' to one of the great writers, Wole Soyinka...he's from Nigeria, but he was in Ghana at that time...editing a magazine that was formed by Richard Wright's family....He was sayin' some wonderful things. He said, 'y'know, Max, even a guy like Thelonious Monk or Miles Davis...these guys are so black, the *blue* comes out of 'em...if they put on an agbada and walked down the street, we would know that they weren't African...'. See, Africans have always worn sandals—so they *slide*. We wear *shoes* and we pick our feet up. A lot of brothers go over there and put the stuff on and don't say anything, but the way they walk reveals that we come from another place....Shoes are a European thing and you've gotta lift your feet up like *this* to walk, you can't do like *that*...

...But my passion does come from the fact that I realise that we haven't been given the opportunity, y'know, to really participate in this society of ours as citizens and it's somethin' that we, we're gonna struggle with. I'm not *angry* about it, I just wanna get even and enjoy clarity. (Cheatham 1993, 1:35 - 6:48)

The key to Roach's passion, as he describes here, is in his yearning for the identity and for equality of expression. In recognising the differences existing between African and African American ways of life and the ways in which music is viewed in the two societies, Gioia, Blakey and Roach present a compelling viewpoint that supports the claim that jazz music and the development of musical ideas in jazz are essentially an expression of progressive and modernistic thought in America in the early Twentieth Century.

### **Modernism and Jazz**

Gioia further delineates such a break with tradition in characterising jazz modernity by arguing that, "a major discontinuity in the music's history" became apparent in that,

despite Ellington being compared to Stravinsky and Ravel in the 1930s; despite Benny Goodman commissioning compositions from Bartók, Hindemith and Copland; and despite the “modernist leanings” of musicians such as Art Tatum, Coleman Hawkins, Don Redman and Bill Challis, the evolution of modern jazz of the 1940s “sprang from none of these [Swing Era] roots”. Although drawing “bits and pieces of inspiration from all of these sources”, the “jazz modernists of the 1940s...sound like none of them...develop[ing] their own unique style, brash and unapologetic, in backrooms and after-hours clubs, at jam sessions and on the road with travelling bands”. Furthermore, Gioia states that the music was “not for commercial consumption” and that neither were its “comings and goings...announced in the newspaper record” or “preserved on acetate by record companies”. Modern jazz had become “an underground movement...initiating the bunker mentality that survives to this day in the world of progressive jazz” and the “cult figures” who were its “earliest stars” were “moving farther and farther outside the mainstream of popular culture” (Gioia 1997, 201).

Gioia further points out that, socially, “modern jazz players had the dubious distinction of belonging to an underclass within an underclass” in that modernism in 1940s jazz “was a revolution made, first and foremost, by sidemen, not stars” (1997, 204) (especially true in the context of Kenny Clarke’s creativity), and that the “individualism of the beboppers was fired further by their marginal status as black Americans at a critical juncture in U.S. history, [being of the] last generation before the end of segregation and the passage of the Civil Rights Act” (205).

Taking Gioia's perspective into account regarding the disparity between the traditionalism of African religious music and the progressivism of African American modern music, it cannot however be ruled out that modern musicians of the 1950s and 1960s did not avail themselves of audio recordings of African music. Although chiefly concerned with achieving the realisation of a conceptual unification of traditional swing timekeeping and the irregular pulse of free jazz in the drumming of Elvin Jones, Andrew Gander posits a reconciliation of basic differences between traditionalist and rebellionist tendencies evident in Jones' rhythm section gestalt by suggesting the use of the term *rapprochement* in such a setting (Gander 2005, 17). Gander cites Jones as confirming that he "began to pursue African traditional music" after "hearing a tape of a Haitian street drummer whom, he thought, sounded like 'five people' playing at once" (2005, 16). "The quest led me to [music of African] pygmies and [of the sub-Saharan] Dogon. There's a lot of music in the Belgian Congo, and those were tremendous sources of inspiration" (Khan 2003, 115 quoted in Gander 2005, 16). I argue for an extension of Gander's *rapprochement* to incorporate not only a unification of the contrasting notions of traditionalism and rebellionism, but also to a resolution of sociocultural difference in a move toward a steadfastly more universalist and colourblind culture. Such a culture—whilst acknowledging and sympathising with the origins of jazz improvisation and the horrific struggle that was endured by a subjugated minority to achieve global proliferation and longevity of their practice—would be *united* primarily by a shared sense of looking optimistically to the future of music as presenting an opportunity and perhaps the heretofore unseen *responsibility* for focussing upon further complexification of internal musical models in order to facilitate



deeper unity and expression of and within the human condition. These internal models would be realised in an increased ability to consciously and freely move the human body in musically harmonious and synchronised concord with the movement of other human bodies in ways that *promote further* conscious freedom of movement and expression in others, abstaining from oppression of any kind.

### **Analyses of Jazz Drumset Performance**

Although Paul Berliner's book is comprehensively voluminous in its coverage of jazz improvisation in general and provides great clarity and accuracy in his brief study of actual performances by Roach, Philly Joe Jones, Elvin Jones and Williams, Berliner's notion of jazz drumming is only helpful in the most general ways in that it is summarised succinctly as containing the following very general key features:

- a model and variants of ride cymbal and hi-hat time-keeping patterns
- drum punctuations around time-keeping patterns
- the personalisation of drum vocabulary patterns
- drum fills as structural markers
- chorus designs for drum accompaniment. (Berliner 1994, 617-629)

John Brownell (1994) elucidates a number of key points in his development of a conceptual model of drumset improvisation. Most relevant to the present thesis is Brownell's postulation that the analytical procedure of parsing out the various drumset sounds on multiple staves and labelling each staff as being polyrhythmic is likely to

“obscure the conceptual organisation of the performer” (90). Whilst I agree with Brownell that this analytical procedure is not necessary in every case in that it can obfuscate more than it clarifies if used indiscriminately, I do actually present such analyses at several points throughout my analysis. In addition to highlighting those musical ideas that have traversed generations, my analytical method also serves to leave the reader with a sense of the endless ways in which musical ideas can be further reorganised. I demonstrate toward the end of this thesis how both Williams and Haynes reorganised the RLL (“ABB” using my schema) “Three-grouping” that Brownell refers to as a “seed pattern” (1994, 127-140). Whereas Brownell refers to “seed patterns”, I use the terms “figures” and “building blocks” in my work. Berliner also uses the term “building blocks” throughout his work.

Of interest, Brownell discusses the impossibility of listing all “seed patterns” that jazz drummers use in improvisation and I take the reasons for this problem up in Chapter One under Complex Adaptive Systems. Brownell’s solution however comes in recognising that “[c]ertain combinations of seed patterns may, if repeated often enough, crystallize into set pieces” (1994, 141). He labels these set pieces as “fat seeds” and establishes that the jazz ride cymbal rhythm (Eighth-Note Rhythm 30 in Appendix Three) is what he calls a fat seed pattern. In a footnote (141-142), Brownell also refers to the problem of analysing the rate of swing in a drummer’s “skip beat” (the ride cymbal notes played on the “and” of beats one and two in Eighth-Note Rhythm 30 in Appendix Three). I take this matter up with reference to an enlightening article by Friberg and Sundström (2002) on the subject in Chapter Three under the Swing

heading. In the sense that it is a study of the lineage of musical ideas, the present thesis heeds Brownell's recommendations for future study when he says:

It should be possible to identify key linkages between, for example, the performance style of Elvin Jones and some of his stylistic descendents such as Tony Williams and Jack DeJohnette, based on similarities in the way in which constructive patterns are utilized. (Brownell 1994, 189)

### **Polyrhythm and Polymeter in the Literature**

Much of the literature on 1950s and 1960s jazz drumming involves the frivolous and ambiguous use of the term "polyrhythm", often conflating rhythmic material with metric considerations. I wish to clarify that the difference between polyrhythmic and polymetric temporal events is that polyrhythmic events are *derived from* the superimposition of polymeters. The theory of superimposed metric layers, or polymetric superimposition as I describe it in this thesis bears similarities with a combination of the work of John F. Link's treatise on long-range polyrhythm in the music of Elliott Carter (2000), Roger T. Dean's study of new structures in jazz since 1960 (1992, 19-47), and Andrew Gander's cross-rhythmic ratios in his study of Elvin Jones' rhythm section gestalt (2005, 46-58).

Toward the end of Chapter Three I discuss the superimposition of a long-range polymetric ratio in Williams' drumming. Long-range polymetric ratio is a concept adapted from John F. Link's dissertation (2000) on the rhythmic practices of composer Elliott Carter. Although Link describes several abstract properties of long-range polyrhythms in far more detail than is necessary for me to go into here given the

specific example I cite in Chapter Three, his notions of phase, cycle, cyclic duration, pulsation total, resultant rhythm are pertinent to the present work. Link defines polyrhythm as “two or more streams of periodic *pulsations*”. A *coincidence point* is when pulsations from all concurrent streams coincide. When coincidence points occur, the polyrhythm is *in-phase* and a *cycle* is the motion between one coincidence point and the next. *Cyclic duration* is the amount of time taken to traverse one cycle and the *pulsation total* is the number of pulses heard in a cycle per given stream (2000, 8, italics in original). Finally, *resultant rhythm* occurs when the attacks from all streams of polyrhythm are merged (2000, 10). Whereas Link uses the term “resultant rhythm” for this phenomenon, I use the term “composite rhythm” throughout this thesis as described earlier.

In his study of new musical structures in jazz and improvised music since 1960s, Roger T. Dean describes the phenomenon of polymetric superimposition as follows:

[referring to an example of Ron Carter’s bass playing] the bass...uses a repeating  $\frac{3}{4}$  pattern with the same pulse as the prevalent  $\frac{4}{4}$ , so that the down beat of every fourth repetition of the bass’s  $\frac{3}{4}$  coincides with the down beat of every third  $\frac{4}{4}$  bar. Because the new metre is generated by aggregations of pulses from the basic metre, the pulse is unaffected.... What is introduced, instead, is an alternative metre, ‘extrametrical’ to the fundamental metre, and continuous for several bars.

These metrical devices involve stating metres other than the fundamental in simple rhythms closely related to beats of the alternative metre. If these rhythms were heard without the fundamental metre they would seem rather rudimentary. But they form a continuous gradation with those in which cross-rhythms from complex subdivisions of the fundamental beat are arranged so as to occupy spaces other than those which fit integrally into bars.... (Dean 1992, 29)

I have explained how my Systems for the Grouping and Ordering of Limbs on the Drumset can be used to analyse such events as those discussed by Dean here under the Omni-Adroitness heading. All other examples given by Dean indicate methods of subdividing asymmetric time signatures and for understanding cross-rhythms of “changing pulse speeds” (1992, 30).

Gander theorises the use of an “axis...in the sense of representing the translation into musical rhythm of an imaginary reference line along which figures have been arranged in a system of coordinates” (2005, 46). The figures in question here are the dotted quarter-note figures performed frequently by Elvin Jones and pianist McCoy Tyner in the John Coltrane Quartet in the mid-1960s that form the backbone of Gander’s study. The figures recur over the barline in  $\frac{4}{4}$  in such a way that a complete cycle takes three measures of  $\frac{4}{4}$  to complete, thus rendering a slower pulse sounding at the rate of  $2:3$  (2005, 47).

In addition to Elliott Carter’s long-range polyrhythms, much use has been made of polyrhythm and polymeter in contemporary classical music since at least as early as when composers Henry Cowell and Conlon Nancarrow began experimenting with higher orders of complexity in the ratios between polyrhythms derived from superimposed metric layers in the early half of the 20<sup>th</sup> Century. Both composers

however went about realising their idea in vastly different ways—Cowell by attempting the formal presentation of a refreshed theory of rhythm; and Nancarrow by turning to a machine rather than living performers to play his music.

In his thought-provoking manifesto, *New Musical Resources* (1969, 45-108), first published in 1930, Cowell presents several revolutionary ideas for a new rhythmic notation and nomenclature that has yet to take hold in the mainstream of composition. Although Cowell's ideas are ingenious in their invention, they are rather a semantic and overly complicated attempt at readdressing the ways in which "tuplets" and meters other than  $\frac{4}{4}$  can be conceived. In the same way that one might conceive of Western rhythmic notation as having a "base four" nature as the decimal number system is "base ten" (Courant and Robbins 1941, 1-9), Cowell proposes methods for notating rhythmic "bases" other than four. For example, as part of his new theory, Cowell refers to a base four system (such as that which is the conventional method for notating rhythm) as the "whole-note series" which includes all divisions of the whole-note by two up to and including sixteenth-notes at the higher end. The next step in Cowell's proposition includes the introduction of a third-note series (featuring triangular noteheads), a fifth-note series featuring square noteheads, and so on up to a fifteenth-note series (1969, 56-58). This he did in an attempt to solve the problem stated below:

We are always at liberty to divide a whole-note into two halves, a half-note into two quarters, a quarter into two eighth-notes, and so on. And any combination of these lesser time-units is acceptable so long as their sum is the equivalent of

the single whole note that we have taken as our base. Rests subdivided on the same principle as note, are treated in the same way as their rhythmic equivalents in sounded notes. But if we wish to introduce into a composition a whole measure of normal length divided into three notes of equal length, there is no way of doing so except by the clumsy expedient of writing the figure 3 over three successive half-notes filling a measure....Were the use of such notes of rare occurrence, this method might be justifiable; since, however, these notes and others having a similar discrepancy in time are very often used, should not an independent method of notation be found for them? (Cowell 1969, 49-50)

Moreover, he adds:

Our system of notation is incapable of representing any except the most primary divisions of the whole note. It becomes evident that if we are to have rhythmical progress, or even cope with some rhythms already in use, and particularly if we are to continue with our scheme of related rhythms and harmonies, new ways of writing must be devised to indicate instantly the actual time-value of each note. We are dealing, of course, not with three-fourths metre, five-fourths metre, etc., but with a whole note divided into three or five equal parts. (Cowell 1969, 56)

Such series' of notations as those invented by Cowell could in fact be implemented using my Systems for the Grouping and Ordering of Limbs on the drumset, however, one obvious oversight within Cowell's system is his neglect of presenting a way for notating rhythmic *rests*. This oversight which, in addition to the complicatedness of having to re-learn music reading in order to understand his model is perhaps one of the most significant reason why Cowell's ideas didn't prevail in any mainstream compositional or theoretical way despite its elegance. I conjecture however that this oversight could be overcome simply by using the present "whole-note series" rest symbols interchangeably throughout all of Cowell's systems<sup>15</sup>.

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<sup>15</sup> Matthew Donald Hébert discusses Cowell's theory and practice in his Master of Music thesis (1996).

Conlon Nancarrow was influenced by some of the theories Cowell presented, eventually moving from the United States to Mexico and becoming a recluse, composing music that was deliberately impossible to be performed by any living pianist or pianists. Instead of live performers, Nancarrow programmed these impossibly elaborate musical tapestries in player piano rolls in order that his pieces be performed properly, or even at all. Widely ascribed to Nancarrow's music is the concept of *temporal dissonance*. Margaret Thomas (1996) quotes Nancarrow as stating the temporal dissonance goes beyond simple polyrhythmic or polymetric relationship:

'I don't think, say, the polyrhythm of 4 against 5 [is dissonant], where after every 4 and every 5 it comes together on the block, but I do think that a *tempo* of 4 [against] a tempo of 5 is dissonant because you have a line going against another line. The former situation is coinciding on, let's say, the measure, and the latter isn't. That's what I call temporal dissonance'. (Conlon Nancarrow quoted in Thomas 1996, 94)

I liken Nancarrow's use of the term "temporal dissonance" as described above to references made to polytempo and superimposed metric modulation later in this thesis.

In other related literature, Brownell discusses the notion of superimposed metric layers as being one of the hallmarks in Elvin Jones' drumming (1994, 142-144), offering a description of Jones' displaced quarter-note triplet figure that is almost identical to that discussed by Gander (2005, 46-47). In *Thinking In Jazz*, Berliner also provides a brief statement on the prevalence of superimposed metric layers in early jazz music:

Lester Young was especially 'fond of three-against-four cross-rhythms, which he would repeat two to four times consecutively' (Berliner 1994, 153)



A significant amount of research has also been carried out in the study of West African<sup>16</sup> and Indian drumming. As this thesis is concerned primarily with jazz drumset performance studies, it is not within the goal of the present study to relate my findings to studies in ethnomusicology, although such work could be carried out in future research.

### **Drumset Coordination in the Literature**

With only very few scholarly references as a basis for his study and building upon the work of Professor George Marsh, Louis Abbott presents a noble yet limited and complicated pedagogical treatise on drumset coordination in his Doctor of Musical Arts essay, *The Development and Application of the Square System of Drumset Coordination* (1999). Abbott proposes an additional notational system and nomenclature to be interpreted in conjunction with regular drumset notation in such a way as the drummer (or “student” as Abbott refers to the participating entity – implying a necessarily pedagogical approach) envisages each of his or her four limbs corresponding to the four corners of a square. The left hand is assigned to the upper left corner; the right hand to the upper right corner; the left foot to the lower left corner; and the right foot to the lower right corner (1999, 2). In doing so, Abbott presents a complicated system requiring a student to learn and interpret a unique notational system and an idiosyncratic nomenclature in addition to learning conventional music notation for drumset. Clearly, if one were to learn and understand musical notation in

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<sup>16</sup> See Chernoff 1979 for a comprehensive treatise on West African drumming and rhythmic sensibilities.

a thorough way, an additional visual cue in the form of a square that needs to be added for each visually present note and rest is a complicated superfluity in learning to play drumset.

Abbott's presentation is limited in several ways. Firstly, the right hand is assigned only a limited number of voices on the drumset in that it can only play the hi-hat or ride cymbals. Secondly, Abbott posits that there are sixteen "possible strokes" at any one time on the drumset using the square system of notation. To display the sixteen possible moves, Abbott uses six lines, four triangles, four encircled single dots, one square and one empty space, each on separate squares (1999, 11-13). This theory concords with the "ordering" I use in the present thesis, however I omit the use of Abbott's sixteenth possibility requiring the use of "no limbs" (1999, 13) when rests are present within the music. In this sense, I believe, rests play themselves without the need to designate the use of no limbs. Whilst it is true that at any one time only one of sixteen (fifteen) possible combinations can be played, Abbott doesn't present any way of utilising polymetric superimposition such as those presented in my two-part, three-part and four-part systems. Thus, the square system is unable to depict any in-depth notion of what I refer to as a harmonically complex grouping of limbs that exponentially expands the *relationship* between the number of possible strokes *over time* in the way that the systems found in Appendix One do (see Figures 4, 6, 8 and 10).

To further complicate the square system, a complete set of four dots are visually present beneath each and every musically notated note in Abbott's system. He devised new nomenclatures such as triangles, figure-8s and perimeters to depict "movement" vertically, horizontally and diagonally around the square in small rhythmic sequences that are represented by arrows pointing from one limb in one corner to any of the three remaining limbs in the other corners (1999, 17-18). The third and most apparent limitation is that there is no way that the visual representation that is the square system can offer a drummer any detailed analytical insight into the performance of any notated piece of music any more than the study of musical notation itself affords. Indeed, Abbott supplements and explains each musical example in his thesis using conventional musical notation that is itself far easier to grasp, making square system somewhat redundant in application.

### **Drumset History in the Literature**

*A History and Analysis of Jazz Drumming to 1942 (Volumes I and II)* (Brown 1976) contains an exhaustively detailed history of the drumset, identifying it as being an instrument of purely American origin at the juncture of the 19<sup>th</sup> and 20<sup>th</sup> Centuries, culminating with the patenting of the current model of bass drum pedal by William F. Ludwig in 1910 (101 - 108), the appearance of the hi-hat stand in around 1927 and tunable tom-toms in the 1930s (403 - 409). The discovery of these dates is enlightening. With the invention of and acceptance of the use of the hi-hat stand being what I call the seated drummer's crowning jewel, these dates indicate the relatively

young age of the drumset as presently being no more than eighty-three years old and it is not surprising to find that many of the innovations described in Chapters Three, Four, Five and Six involve changes in the use of this unique instrument. The hi-hat stand represents the ability for a drummer to generate notes of varying length depending on the degree of pressure applied with the hi-hat foot in conjunction with the rhythms played on the cymbals themselves with the sticks. In this way it acts in a similar yet different way to a piano's sustain pedal<sup>17</sup>.

### **Analyses of Tony Williams' Drumming**

I now turn to outline specifically the ways in which Williams' drumming has been heretofore analysed within the literature, especially as compared to the drumming of his predecessors.

### **Descriptive Journalism**

In many areas, the language used to evaluate Williams' drumming is descriptive and evocative, not technical or theoretical, potentially leaving readers flummoxed as to the exact nature of Williams' sound. For example, John Litweiler chooses to use a descriptive language to evaluate Williams' 1960s drumming in the following statement that may be interpreted in a number of ways:

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<sup>17</sup> Other related studies of jazz drumset performance are by David Schmalenberger in his study of Ed Blackwell (2000); Anthony Brown's study of the development of jazz drumset performance between 1940 and 1950 (1997); and James Hutton's doctoral thesis on "Big Sid" Catlett's drumming (1991).

...rhythmic dislocation, ingenious disruptions and contrary rhythms, innovatory nonaccompaniments, explosive dislocations. This rhythm section [from Eric Dolphy's album, *Out to Lunch*] provides a sharp counterpoint of broken, disjunct, often arrhythmic line in place of a standard rhythm section's function...Dolphy is off with a convoluted solo which plays off the theme and against Williams in fantastic knots and gnarls". (Litweiler 1984, 74-75)

Another example of Litweiler's ambiguous language is:

Tony Williams' drumming in 'Limbo' is brilliant, and what's special about its brilliance is its irrelevance. By 'Vonetta' (1967) he is accompanying Davis' ballad solo with military drum rolls; it's a sign of the times that this is not amazing. (Litweiler 1984, 126)

Most discussion of Williams' drumming is in the form of descriptive journalism and is unhelpful for use in the present study.

### **Scholarly Treatment**

There are several significant studies offering a variety of scholarly points of view on Williams' drumming. Most significant are those by Craig DeVere Woodson, Todd Coolman, Toby Hall and Jeremy Yudkin<sup>18</sup>.

Perhaps the first, most important and extensive scholarly work to analyse Williams' drumming was written by Craig DeVere Woodson in his Master of Arts in Music thesis (Woodson 1973). In his thesis Woodson tackles several areas of Williams' 1960s drumming that are similar to those examined in the present study. In addition to highlighting that there is a "dearth" of scholarly study available on drumset

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<sup>18</sup> Peter Vuust has also published a book on rhythmic interaction in the Miles Davis Quintet of the 1960s, however it is written in Danish (Vuust 2000).

improvisation in general, Woodson's thesis is relevant to my own in several ways. The first point of relevance is in Woodson's attempt to devise a formal system for presenting "proportional notation" in the transcription of drum solos including "free rhythm" that overcomes the "inaccurate" nature of conventional notation (Woodson 1973, 1-6). In order to achieve an understanding of Williams' free rhythms, Woodson sampled a number of recordings using the Melograph Model C "real-time graphic analogue to digital sound [analyser]" (Woodson 1973, 6)—state of the art technology for the day. Secondly, Woodson presents the results of his study as somewhat of a pedagogical model for drumset education as ratified by a panel of Los Angeles-based professional drumset and percussion educators (Woodson 1973, 3-4).

Woodson goes into intricately detailed empirical measurement of the nature of Williams' sound on the recordings he played into the Melogram Model C in order to describe the ways in which he was able to discern the various components of the drumset in the readout produced by the machine (Woodson 1973, 37-62).

Woodson's notational method for drumset includes alternative means of notating the free rhythm and dynamics present in Williams' 1960s drum solos. He uses noteheads of seven distinct sizes to indicate relative dynamics whereby the smallest notehead (0.055") represents the softest notes and the largest (1/8") represents the loudest notes performed on any part of the drumset (Woodson 1973, 68-69). Woodson's notation of Williams' free rhythm was achieved with the utilisation of a system that dispenses with beam and stems by using singular filled-in noteheads for each note placed with

proportional spatial proximity relative to the chronometric passing of time (Woodson 1973, 69-71). Woodson's Figure 12 presents novel graphical methods for the notation of "sounds not normally associated with the drumset" (1973, 19, 71-77). Although admirably novel and informative to a significant degree, none of these methods are relevant to the present study as I have elected to utilise conventional notational methods including the use of complex temporal ratios for rubato as stated earlier. A combined reading and interpretation of both my own transcription of *Walkin'* (see Appendix Ten) and Woodson's (1973, 12-14 [Vol II]) serves to corroborate the finer rhythmic and dynamic detail in Williams' solo.

My earlier description of rhythmic density from broken to continuous is similar to the ways in which Woodson refers to what he calls "rhythmic modes" of which he identifies five in Williams' playing. The first mode is termed "measured rhythm", defined as a constant beats per second density (bsd); the second mode of "free rhythm" is a "constantly changing bsd"; and the third is "implied rhythm" that is described as "a constantly changing bsd but with a constant reference beat in periods of longer than one second"; the fourth mode is silence and the fifth is "the concept of expansion and compression of the bsd" (Woodson 1973, 90). I suggest that my notation of Williams' solo on *Walkin'* from the second half of the second system to the end of the third system of the "TW" section (see Appendix Ten) indicates a great degree of rhythmic relatedness between notes, oscillating from continuous to broken rhythms and back again whereas Woodson concludes that these rhythms are of "random" rhythmic relationship to one another (Woodson 1973, 109).

Todd Coolman's doctoral thesis (1997) provides insight into some of Williams' interactions exclusively within the Miles Davis Quintet during the period that the band was a quintet with Wayne Shorter on saxophone.

Of the corpus of thirty-nine compositions Coolman surveyed to select two pieces that are "typical" of the quintet, he selected Davis' *Agitation* (Davis 1965) and Shorter's *Masqualero* (Davis 1965). What is most surprising about Coolman's thesis however is that his parameters for determining "typical" pieces within the band's repertoire erroneously allowed *Agitation* to make it to the top of his list as he lists the first solo as being a trumpet solo (1997, 32) when the first solo is in fact a drum solo, taking up almost the entire first two minutes of the recording. It is curiously odd that Coolman discounted the drum solo as appearing first on the recording once he learned that the solo had been edited onto the beginning of the track (35). The drum solo was given just under a page of commentary and not included in the main analysis of *Agitation* in Coolman's work. Because of the presence of the drum solo, whether or not the solo was edited onto the track in post production, the recording itself does not in fact fit Coolman's criteria, which required one composition by each of Davis and Shorter.

Taking second place in the table of pieces that most fits Coolman's criteria is *Circle in the Round* (Davis 1998b). However, Wayne Shorter's composition, *Paraphernalia* (Davis 1998a) was disqualified because it includes George Benson on guitar (Coolman 1997, 31). *Circle in the Round* features the guitarist Joe Beck in addition to the quintet and therefore should also have been disqualified from the list of possible Davis



compositions for consideration in Coolman's thesis. *Masqualero* seems an odd choice too, indicating that Coolman didn't take into consideration the overall groove of the pieces with regard to the treatment of the eighth-note and whether or not it is "swung". *Masqualero* seems to have a straight-eighth, almost Latin groove to it whereas most of the pieces on Coolman's list feature swinging eighth-notes, no matter the tempo (1997, 34). Despite these seeming flaws in Coolman's selection criteria, the analyses of the pieces he *did* include are an invaluable resource for study of this band.

Particularly noteworthy in Coolman's study is the section describing the nature of Williams' drumming and interaction within the Miles Davis Quintet based on the piece analysed (1997, 77-85). In his analysis Coolman refers to the use of "polyrhythmic superimposition of three against four" (83) and non-specific "dense polyrhythms" (83). Coolman concludes that Williams' overall style is "conversational" in that his drumming is "both engaging and engaged" (84). In Coolman's view, the elements of Williams' musically new and original vocabulary include:

- 1) an increased level of technical virtuosity, virtually unprecedented,
- 2) an independence of limbs, creating the possibility for any part of the drum kit to dominate the sound at any time,
- 3) a growing awareness that the drums could be conceived of as a melodic and well as a time-keeping resource,
- 4) use of the drum kit to underscore and highlight melodic, harmonic, and rhythmic events throughout the band, especially in service to the soloist,
- 5) an expanded array of sounds, colours, and textures derived from the standard drum kit providing the means to add to musical timbres,
- 6) the "freeing up" of the traditional role of the drummer as the essential timekeeper for the group,
- 7) knowledge of the developments in twentieth century non-jazz musics and the utilisation of their influences,
- 8) the ability, willingness, and 'daring' to dominate the musical discussion at any given moment,
- 9) expanded range of dynamics,
- 10) incredible musical 'reflexes,' allowing Williams to react to spontaneous musical events instantaneously,
- 11) reserving the right to either emphasise or ignore the formal

sections, adding to the abstraction of form, 12) more use of polyrhythms. (Coolman 1997, 78-79)

It is my intention to provide more detail on several of these points raised by Coolman, especially points 1, 2, 5, 6, 9 – 12.

In addition to presenting a study of Williams' musical interactions with pianist Herbie Hancock on Hancock's *Oliloqui Valley* (Hancock 1999a), and trumpeter Miles Davis on Eddie Harris' *Freedom Jazz Dance* (Davis 1992a), Toby Hall's Master of Music thesis (2004) contains some original research that provides greater detail in point seven listed above, that Williams' vocabulary included "knowledge of the developments in twentieth century non-jazz musics and the utilisation of their influence" (Coolman 1997, 79). During his study, Hall interviewed pianist and composer, Mike Nock who collaborated with Williams in the early 1960s in Boston, presumably as part of the Boston Improvisational Ensemble (discussed later in Chapter Two). According to Nock, Williams was "profoundly affected" by Stockhausen's work, particularly *Gesang der Junglinge* (1955-1956) for solo voice, tape machine and five speaker surround sound system (Hall 2004, 4). Hall does not however provide any further detail regarding the exact nature of the ways in which Stockhausen's music affected Williams. Hall also presents a table of the different ride cymbal rhythms he named in his analysis of Williams' performance on *Oliloqui Valley* (Hall 2004, Appendix 1.3). Listed here in order of appearance as they appear in Hall (2004), the rhythms Hall names are equivalent to Eighth-Note Rhythms 30, 90, 79, 21, 6, 19, 54, 76, 28, 2, 8, 113, 1, 17, and 35 in Appendix Three of the present thesis.

In a recent book, *Miles Davis, Miles Smiles, and the Invention of Post Bop*, Jeremy Yudkin (2008) presents a study of Davis' life before the 1960s and asserts his study of the album, *Miles Smiles* (Davis 1992b) as proving the emergence of the post bop style (Yudkin 2008, 7). Yudkin evaluates the ways in which Williams changed the nature of the drummer's role through his playing on this album, citing similar ideas to Coolman when he states that the music on the album represents, amongst other things:

...reinterpretation of familiar [time signatures]; reconceived roles for drums and bass;...a multifaceted juxtaposition of momentum and stasis; a reversal of the locus of greater activity from soloists to drummer; and the replacement of much of the responsibility for timekeeping from drums to bass, thus freeing the drummer in the direction of unprecedented flexibility. (Yudkin 2008, 7)

Yudkin claims that these are "the specific elements, that make up the new style that we can call post bop" (2008, 7). Although the matter is taken up in Brownell (1994, 90-91) to a greater extent, Yudkin's treatment of Williams' metric modulation on the shorter composition *Footprints* (Davis 1992b) is somewhat understated (Yudkin 2008, 92-93).

## **Improvisation**

A most important view to bear in mind in relation to jazz drumset performance studies is that, with the exception of only a handful of notated compositions for the instrument, the vast majority of recorded drumset performances, including interpretation of the written "head" material of the song, the accompaniment and solo passages, particularly those in the jazz idiom, are *improvised* as opposed to having been written down or composed prior to performance. Therefore the nature of the act of improvising needs

to be taken into deep consideration. Throughout the construction of this thesis my initial intentions began to draw parallels with what it seems were the intentions of ethnomusicologist Paul Berliner in his writing of the thorough and comprehensive *Thinking in Jazz* (1994), a case study, as he puts it, of jazz improvisation (15).

Berliner highlights the fact that there is “a lifetime of preparation and knowledge behind every idea that an improviser performs”, thus debunking the traditional definition of “improvisation” as “performance without previous preparation” (17) by quoting Arthur Rhames’ assertion that,

‘Improvisation is an intuitive process for me now...but in the way in which it’s intuitive...I’m calling upon all the resources of all the years of my playing at once: my academic understanding of the music, my historical understanding of the music, and my technical understanding of the instrument that I’m playing. All these things are going into one concentrated effort to produce something that is indicative of what I’m feeling at the time I’m performing’. (Arthur Rhames quoted in Berliner 1994, 16)

Berliner also observed that,

An important aspect of the study generally missing from past research is its focus, not simply on the artworks produced by improvisation, but on the wide compass of practice and thought that improvisers give to music outside formal performance events. This includes group rehearsals, individual practice routines, and imaginative compositional play while away from an instrument. Jazz artists are among those who are especially attuned to the general soundscape of their environments, constantly assessing its features for musical value. (1994, 15)

Williams made a statement reflecting the truth in Berliner’s general assessment of the awareness of jazz musicians. Being an astute observer of his surrounding environment as well as being a young person beginning to conceptualise, he remembers that,

“When I was little I used to count the cars that went by, and listen to the sound. The sound of everything makes it” (Cox 1970, 15). In a further remark relating to the nature of music as being a sonic phenomenon, Williams asserts that

You can do anything you want to do. What matters is how it sounds. The end result. You can play left-handed, right-handed, upside-down, with ten bass drums, ambidextrous like some guys want to be. All that shit is superfluous. If it doesn't sound good, it doesn't mean shit. You got that? I don't care what you do. You can play with garbage cans, billboards, tape recorders, anything you want to do. You can play with three hi-hats, knitting needles, spoons. It's all fine with me. But if it doesn't sound good, if it doesn't make music, then go away. Run away. (Ferriter 1990, 38)

Echoing the importance of Williams' recollection of childhood memories as they relate to the importance of sound in music as quoted above, Berliner goes on to state that his book

tells the story of the remarkableness of the training and rigorous musical thinking that underlie improvisation. It elucidates the creative processes that lie at the heart of the music culture of jazz. Intimate accounts of artistic growth from childhood to old age portray the deeply creative experiences that engage artists, revealing a serious, ongoing preoccupation with the music and music making that define their lives. The book's overall goal is to increase the abilities of readers to comprehend jazz in much the same terms as do its improvisers. Having a framework for interpreting the rich yet disparate nuggets of technical information divulged by the artists through interviews and other public forums can greatly enhance the experience of listening to jazz. (15)

Although my intention for the present study is similar Berliner's intention as quoted above, my attention is more narrowly focussed on the drumming of Tony Williams to February 1969 than is Berliner's focus on jazz in general. Having come to a deeper understanding of Williams' unique musical background led me to assert, like Berliner, that “educators need to understand these practices if they are to be effective in supporting the jazz tradition”, and that,

it is important for educators to ensure that students gain early exposure to jazz and learn to appreciate its rich and varied practices, thereby fostering their continued contributions to the tradition as future artists and knowledgeable audience members. (15)

This thesis, therefore, discusses through the use of extensive transcription and analysis exactly the kind of preparation that is vital for genuinely spontaneous and original musical performance and interaction on the drumset as revealed in the processes employed by Williams, hence my discussion later in the subject areas of autotelic personality, heuristics, entrainment and complex adaptive systems.

Adding to Berliner's ideas about improvisation discussed above, David Alger explains the need for rules in improvised theatre:

Improv is an art. However, it is also a craft. A craft is something that is learned through practice, repetition, trial, error and hard work. Much like any other art, skill in improv is acquired over time. The more time spent improv-ing the greater the improvement (pun intended).

That being said, there are rules which can, in general, make a scene better. As with any art form, you can break all of the rules and still have quality scenes. However, those best able to break the rules are those who first learn and understand them. (Alger 2010)

I interpret Alger's advocacy for setting up improvisational rules in the improv theatre environment as confirming that *discipline* is a fundamental generative quality leading to the emergence of originality in the given art form, invoking Holland's theory of complex adaptive systems as I describe in Chapter One. Alger goes on to list that rule number one in the Pan Theatre is to "Say 'yes and!'" (2010). Here he explains further:

For a story to be built, whether it is short form or long form, the players have to agree to the basic situation and set-up. The who, what, and where have to be developed for a scene to work.

By saying yes, we accept the reality created by our partners and begin the collaborative process from the start of a scene. The collaborative process or group mind helps make us giants, animals, villains, saints and more importantly put us in situations that we would normally avoid. (Alger 2010)

In relation to the discussion of polytempo and superimposed metric modulation in Chapter Three, I interpret Alger to be referring to notions of synergy and entrainment as I discuss in Chapter One when he recommends that the “collaborative process” or “group mind...puts us in situations that we would normally avoid” (2010). Here he refers indirectly to notions of synergy and entrainment in achieving successful theatrical improvisation and therefore I draw a parallel need for the use of the “yes and...” rule in collaborative jazz ensemble improvisation.

## **Conclusion**

The main arguments of this thesis as presented in this chapter indicate the need for a more rigorous scholarly approach to jazz drumset performance studies that cultivates originality. I proposed that Williams’ drumset ideology of feel, technique and creativity be explored and used as a model for the development of such a discipline. I identified that by playing along with recordings and attending live performances, Williams adaptively modeled the work of his predecessors, analysing them and identifying the key notions of feel, technique and creativity in the drumming of Blakey, Roach and Jones respectively and with significant degree of enthusiasm. My observations

indicated that several sources provide a clear context for the study of rhythmic and metric superimpositions. By describing the process of transcription and the properties of musical analysis I devised specifically for analysing recordings of improvised drumset performance as both an interactive ensemble instrument and as a non-interactive solo instrument, I was able to overcome notational difficulties such as the visual representation of arrhythmicity and therefore to notate two significant solos performed by Williams. I described how the properties of rhythm, grouping and ordering of limbs on the drumset, voicing and expression are used in the analysis presented in Chapters Three, Four, Five and Six.

I described my critical position as a scholar-performer and have analysed the various ways the jazz studies literature views the music from the period in question, coming to the understanding that people of African American descent were subjected to extreme racial prejudice and that this partly fuelled a striving for excellence in order to discover and also to create a unique identity and integration in the greater American culture. This striving for creative musical freedom was also partially driven by the prevalence of modernist thought amidst the jazz community. I also reported on my observation that the literature contains very little detailed scholarly analysis of jazz drumset performance in general and even less work on Williams.

In the following chapter I outline in greater detail my findings on Williams' drumset ideology as being comprised of the adaptive modeling of feel, technique and creativity derived from Blakey, Roach and Jones. I then discuss the nature of learning in jazz,



describing the four key aspects I interpret to be central to Williams' methods: 1) autotelic personality, 2) heutagogy, 3) entrainment, and 4) complex adaptive systems.

## **Chapter One**

### **Key Concepts Derived from Tony Williams' Formative Practices**

In this chapter I outline in detail the ways in which I interpret that Williams began to understand the qualities of feel, technique and creativity in the drumming of his predecessors and how he adapted these qualities in his own practice. In doing so I describe autotelic personality, heurtagogy and entrainment in the context of complex adaptive systems as a model for learning and cultivating originality in jazz drumset performance studies.

### **Feel, Technique and Creativity**

Crucial to Williams' emergence as one of the most influential drummers in jazz history is the awareness he acquired from personal observation that what he regarded as good drumming reflects a number of specific qualities. According to Williams, only in combination do these qualities "make the perfect drummer" (Williams 1985) and his adaptive modeling of these qualities throughout his career became an essential and identifiable characteristic of his distinctly original musical personality on the drumset.

Williams first identified the qualities as being displayed in the playing of three local Boston drummers in the late 1950s and early 1960s, namely Alan Dawson, William

“Baggy” Grant and an unnamed third drummer<sup>19</sup>. According to Williams’ analysis, Dawson embodied *technique*, Grant personified *feel*, whilst the third drummer represented *creativity*. When he began investigating the work of drummers from outside Boston later in his youth, Williams deemed that three more widely-known drummers in particular displayed these same qualities with great clarity.

Williams uses the term “feel” to point toward the overall impression Art Blakey’s drumming made on him, also using the terms “passion” and “fire” interchangeably. Similarly, Williams summarises Max Roach’s drumming as embodying “technique” and being “melodic”. Williams also characterises the drumming of Philly Joe Jones with the term “creativity”, stating that he heard Jones play figures that he would not have expected to hear, and that Jones played in a way that combined many features of Blakey and Roach’s drumming. Williams does not go into any more verbal detail regarding his use of these terms and this forms one of the most significant reasons for the present thesis. There is however considerable evidence in what Williams has said to show that he gained a great deal of insight and ability in his formative years by studying the work of these as well as many other drummers, some of whom I listed earlier. Therefore, Chapters Two to Five are investigations of evidence to justify my own interpretation that:

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<sup>19</sup> Williams forgot the name of this third drummer during the presentation in which this sentiment was voiced.

1) *Feel* is the ability to perform the improvisation of musical figures in a variety of conventional and novel ensemble settings in ways that integrate constant high-level affective and mutual musical interaction with the combined musical effect of figures performed simultaneously by each other ensemble member whilst establishing and retaining an autonomous and differentiated musical identity on the drumset, thus exhibiting *collective autonomy* amongst the ensemble members. *Feel* is also characterised by Blakey's love for "swingin'" that is resultant from his exhortation to "play [music] from the heart".

2) *Technique* is the ability to improvise musical figures across the range of the drumset in both ensemble and solo settings that enables dynamic performance utilising extremes of and gradations between various combinations of the elements of:

- volume (loud and soft);
- tempo (fast and slow);
- harmonic density (simple and complex);
- melodic motion (stasis and motility);
- rhythmic density (continuous and broken);
- pitch (high and low);
- timbre (conventional and extended); and
- duration (long and short).

With Roach recognising himself as a composer first, technique is also characterised in a drummer's skill in spontaneously balancing this contrasting array of musical elements when improvising in solo and ensemble contexts.

3) *Creativity* is the ability to analyse and understand the musical figures one enjoys hearing in the prior work of other drummers in such a way that any number and / or combination of the elements described above—each combining in various ways to constitute musical figures—may be varied independently of each of the other elements in musical improvisation, thus resulting in the emergence of possibly *new* figures that are adaptively modeled on those past figures and cultivating originality. Creativity is also characterised in Philly Joe Jones' statement that he is happiest at the time that he newly plays something on the drums that he has never played before, thus revealing his adventurousness.

### **Autotelic Personality**

Although he says that any attempt at developing one's own individual style *per se* is unimportant, Williams, by his own reckoning spent a significant portion of his drumming life listening to and thinking about the individual style of each of the drummers mentioned above. In doing so he adaptively modeled rhythmic figures identified in their playing in a way that resulted in the emergence of a differentiated style of his own that he believed a combination of these drummers "would be playing [like] if they were [he]" (Williams 1985). This was not however done as a way of impressing his own personality on the instrument in any self-aggrandising way. In a number of interviews, Williams' principles reveal an inner urge primarily to understand and pay homage to the tradition of great jazz drummers and to the drumset itself as a sign of respect by putting the importance of the instrument before self-importance, thus

showing signs of possessing an autotelic personality. The musicians he observed inspired him, and so he set about trying to do what they did in his own way:

You know the reason I play the way I do is because when I first started playing, all I ever wanted to do was to *sound* like Max Roach, was to *sound* like Art Blakey, was to *sound* like Philly Joe Jones, was to *sound* like Louis Hayes, was to *sound* like Jimmy Cobb, was to *sound* like Roy Haynes. I really wanted to figure out why they sounded the way they did. I wasn't interested in my own style. So, I set about playing like these guys religiously, and playing their style because it was just such a wonderful, magical experience. I don't see that kind of wonder in others. I get guys comin' up to me – they just got a drumset, they've been playin' maybe four years – and they want their own style. They want to be expressive. I say, 'Well then, if you want to be expressive, you gotta find out what the instrument will do. And to do that, you gotta go back and find out and get an idea of what's already been done.' That's what the instrument's all about. (Ephland 1989, 22)

I interpret much of what Williams says here as being part of his primary motivation in his striving to attain a high degree of excellence and therefore propose that he possessed an autotelic personality. Derived from the composition of two Greek words, *auto* meaning self, and *telos* meaning goal, "autotelic" literally means "a self that has self-contained goals" (Csikszentmihalyi 1990, 209). An autotelic activity is "one that is done not with the expectation of some future benefit, but simply because the doing itself is the reward" (67). Finally, a person with an autotelic personality is someone who has learned to control their own attention and who can, for example, engage in learning for the sake of learning rather than learning for the sake of being knowledgeable (1997, 129).

Csikszentmihalyi outlines in his work the limited way in which attention functions within individuals. For example, estimates have been made stating that an individual's

central nervous system can process a maximum of seven “bits” of information—such as differentiated sound—at any one time and that the time taken to discriminate between one set of “bits” and another is approximately 1/18<sup>th</sup> of a second. By this conclusion, it is possible to process up to 126 “bits” of information per second. These figures are, of course, only speculative and, depending on the point of view they may be seen to be either grossly overestimated or underestimated. Csikszentmihalyi reports that optimists claim that the human being has evolved the proficiency to “chunk” bits of information over time so that many tasks demanding attention become automated over time, making consciousness “infinitely expandable” (1990, 28-29), bearing important relevance to the playing of a drumset as it involves the coordinated performance of polyrhythm and polymeter amongst four limbs.

Regardless of the accuracy of the estimates described above however, fundamental to their importance is the fact that an individual is limited to being able to experience only so much at any given time. Examples of activities that exhaust attention toward the limits of its capacity given by Csikszentmihalyi are 1) walking across a room chewing gum—very little more can be done concurrently in this activity, 2) the inability to truly experience either happiness or sadness when thinking about a problem and 3) the impossibility of running, singing and balancing a chequebook simultaneously (1990, 28). These examples are somewhat obvious in themselves, however, a person must be very careful of the information they consciously allow into their attention at any given time as a person’s ability to retrieve memories, to evaluate them and to decide on an appropriate course of action is determined by their capacity for paying conscious

attention to selecting appropriate and relevant details in the myriad things and events surrounding them at any given moment. All of this information is processed at a maximum speed as described above and one's ability to do this well depends on one's ability to ignore superfluous detail, to eliminate distraction at will and to sustain concentration for as long as is necessary to achieve their goal and no longer.

Csikszentmihalyi refers to attention as *psychic energy* in the sense that, without energy, no work can be done, and that, in doing work, energy is dissipated (1990, 30-33).

The analysis of Williams' musical output on the drumset in Chapters Four to Five reveals the interactive improvisation of extremely high-level complex rhythms amongst his four limbs, a skill that takes a considerable amount of physical and psychic energy to perform successfully in the context of an improvising jazz ensemble. Successful interaction within an improvising musical ensemble is determined by the degree of differentiation and integration within the ensemble, a topic also addressed by Csikszentmihalyi in his discussion of the autotelic personality.

### **Differentiation and Integration**

The more consistently a person is able to effectively concentrate their attention on appropriate and relevant details over time, the more that person, according to Csikszentmihalyi, is said to be *in flow* and that their quality of life improves toward achieving "optimal experience" more frequently in that the self becomes "more



*complex*” following each flow experience as the result of the broad psychological processes of *differentiation* and *integration* (1990, 41).

Here “differentiation” refers to the process of moving toward uniqueness and separating oneself from others while “integration” refers to the opposite process of moving into union with others “with ideas and entities beyond the self”. A “complex self”, then, is one successful in combining these two paradoxically opposing processes (1990, 40-42). Here, Csikszentmihalyi points out that

A self that is only differentiated—not integrated—may attain great individual accomplishments, but risks being mired in self-centred egotism. By the same token, a person whose self is based exclusively on integration will be connected and secure, but lack autonomous individuality. Only when a person invests equal amounts of psychic energy in these two processes and avoids both selfishness and conformity is the self likely to reflect complexity. (1990, 42)

Williams’ autotelic drive is obvious when considering his claim that he would spend periods of up to a week at a time practicing all day and not communicating with other people (Cox 1970, 15; Wald 1978, 7). He also claims that when he was a child he was so eager to begin practicing each day that he would “not even bother getting dressed” and that he would play the drums in his pyjamas (Wald 1978, 7). Williams’ passion for learning to play the drums and to make them sound good is revealed in his recollection of crying when listening to drumming that he *didn’t* enjoy:

The whole idea of the drummer has been a motivating factor for me for many years. Really I love the drums. This is kind of a sappy story, but I remember one time as a kid listening to a band. The drummer was a very cold drummer, and he played louder and louder, and stiffer and stiffer. I looked at him and started crying. I thought, ‘This guy is really playing the drums terribly.’ And I just got very emotional because I really love the drums and I want the drums to sound good. I see a lot of romance and beauty in a drum roll; I really hear it as a

beautiful thing. So the idea of a drummer, and being part of that fraternity, has been strong, and it has carried me. Max Roach was the first drummer to really express it for me. He wrote music and expressed himself well. That was important to me. (Mattingly 1984, 45)

In another interview, Williams cites one drummer's playing as being "offensive":

When I was a kid there was this guy who I thought was really an insensitive drummer, you know, just like a clod on the drums. And one night he was playing so loudly and so badly that I just started crying. Tears were coming out of my eyes because it was so offensive. Not because it was hurting my ears, but it was just so offensive. I was so emotional about things. (Tolleson 1986b, 36)

Williams' emotional reaction to the quality of sound he *did* enjoy listening to also made him cry as is revealed when he remembers

...coming to tears [as a child] because Art Blakey sounded so good and I couldn't duplicate that sound on my drumset. And I didn't realize that it was because he was in a studio with microphones and everything. Here I was in my bedroom, playing my tinny drumset, and I didn't sound like Art Blakey. I was so broken by that: 'Oh God, I'll never be a good drummer.' Blakey sounded so good, the way his hi-hat sounded in combination with the cymbals, the press rolls. And there I was, 13 years old, totally broken. (Milkowski 1992, 78)

When asked if he were thrilled to be part of the Miles Davis band in the '60s, Williams commented,

Well, when you're doing things it's hard to say, 'Oh gee, this is going to be historical sometime.' I mean you don't do that; you just go to the sessions, and 10 or 20 years later people are telling you that it was important. When you're doing it, you can't really feel that way. (de Barros 1983, 15)

Here Williams confirms Csikszentmihalyi's claim that one cannot feel either happy or sad when truly thinking about a problem as stated earlier. Williams is also clearly stating that his attentional objectives in the recording studio were strictly and autotelically musical and not driven by *exotelic* motivations—those described by

Csikszentmihalyi as being driven from external desires, such as playing the stock market to make money, or to teach children for the purposes of turning them into good citizens (1990, 67). These objectives are not autotelic as they are focussed on the consequences of an activity rather than focussed on the activity itself for its own sake.

Though he did receive pedagogical instruction from Dawson, that Williams directed his own artistic development primarily through extensive and continual self-learning fuelled by an emotional desire to play reflects significant traits not only of autotelicism but of a heutagogical approach to learning as well. The possession of an autotelic personality is what appears to have driven Williams toward the continual achievement of greater musical complexity on the drumset by continually and adaptively differentiating his skills and by integrating his effort in order to make his music contextually relevant to the musical and social environments in which he was immersed and from within which he functioned and innovated. The utilisation of heutagogical learning served as a means of enhancing his autotelic personality.

## **Heutagogy**

As stated earlier, much of the prior work conducted in jazz drumset performance studies revolve around essentially pedagogical methodologies and ideals with respect to learning and education (Woodson 1973; Abbott 1999). Pedagogy is the science of teaching children, however the term is often loosely and somewhat misleadingly applied to teaching and education in general. Noticing such conflated methodologies

between learning systems, several education scholars began to move beyond purely pedagogical models (Schön 1984) toward the application of *andragogy*, a specialised model appropriate for teaching adults (Knowles 1970).

Although androgogy incorporates methods of self-determined learning appropriate for adult education, it is shown to have limitations in an article by Hase and Kenyon (2000). In their article, Hase and Kenyon discuss the traditional Lockean educational model that pedagogical and andragogical methodologies are centred on. In such a methodology, the individual mind is assumed to be “a clean slate at birth” for which “learning has to be organised by others who make the appropriate associations and generalisations on behalf of the learner”. In this way, “random individual experiences are taken to be totally inadequate as sources of knowledge, the educational process needs disciplined students, and literacy is seen to precede knowledge acquisition” (2000, 3). In order to extend the basic premise of education beyond pedagogy and adragogy in a way that is appropriate for truly self-determined learning, Hase and Kenyon coined the term *heutagogy*, etymologically derived from a variation on the ancient Greek term for ‘self’ (heut-) combined with the suffix -agogy (2007, 211-212). The concept of heutagogy therefore is “the study of self-determined learning”, resultant from Hase and Kenyon’s combined study of phenomenology, systems thinking, double loop organisational learning, andragogy, learner managed learning, action learning, capability, and work-based learning (2000, 2).

The basic premise of heutagogical self-determined learning includes the theorisation of a model for learning in which the *student* determines how and what is to be learned as an alternative to the prevalent convention of the *teacher* determining what and how students learn in the teacher-learner relationships of pedagogy and andragogy (2000, 2). It is a model in which the importance of “knowing how to learn” and “knowledge sharing” are fundamental, whereas “knowledge hoarding” is central to the previous “teacher centred learning” models (2000, 3).

Of particular relevance to the current study of the life and music of Tony Williams as a model for cultivating originality in jazz drumset performance studies, Hase and Kenyon discuss distance education and the “myth of flexible delivery” as follows:

Since Knowles and the rise of concepts such as instructional design there has been a rapid rise in the use of distance education in both the higher education and vocational education sectors. This has been important for reasons of equity and access. However, there is a myth that the carefully crafted print based materials somehow enable self-directed learning and enabled ‘flexible learning’. The delivery is certainly flexible, but not the learning. Any examination of distance education materials and, the various forms of just in time learning found in VET, are teacher-centred, not learner-centred. The recent emphasis on competency based curricula and training is a good example of the importance attached to single loop learning as opposed to developing people who will be able to manage their own learning.

A heutagogical approach recognises the need to be flexible in the learning where the teacher provides resources but the learner designs the actual course he or she might take by negotiating the learning. Thus learners might read around critical issues or questions and determine what is of interest and relevance to them and then negotiate further reading and assessment tasks. With respect to the latter, assessment becomes more of a learning experience rather than a means to measure attainment. As teachers we should concern ourselves with developing the learner’s capability not just embedding discipline based skills and knowledge. We should relinquish any power we deem ourselves to have. (Hase and Kenyon 2000, 6)

The “resources” mentioned above can be likened to audio recordings used in the study of jazz drumset performance studies, especially to those used by Williams in his studies. The heutagogical aspect in which “the learner designs the actual course he or she might take by negotiating the learning..., read[ing] around critical issues or questions [to] determine what is of interest and relevance to them and then negotiate further reading and assessment tasks...[so that] assessment becomes more of a learning experience rather than a means to measure attainment” is aligned both with Csikszentmihalyi’s notion of autotelic personality and to the ways in which Williams used audio recordings for his own learning as discussed in this thesis. The results of such a heutagogical course of study lead to the theory of entrainment as it affects learning in jazz.

## **Entrainment**

In discussing the notion of entrainment with relevance to the jazz community as I describe it, of particular relevance are two articles: one by Martin Clayton, Rebecca Sager and Udo Will (2004); and the other by Satinder P. Gill (2007). With research derived from the fields of physics, linguistics and psychology, Clayton, Sager and Will broadly define entrainment as “a process whereby two rhythmic processes interact with each other in such a way that they adjust towards and eventually ‘lock in’ to a common phase and/or periodicity” (2004, 3) in what they believe to be the first article addressing entrainment in detail from an ethnomusicological perspective (2). Aspects of entrainment explored by Clayton, Sager and Will that are relevant to this thesis are 1)

those of self-synchrony and interpersonal synchrony in musical performance, 2) humans' innate propensities to entrain, and, 3) the influence of cultural and personal factors on entrainment, socialization, and cultural identification (1).

It is my intention throughout this thesis to highlight various real-world occurrences as interpreted from the accounts of Williams and the jazz community he was a part of in order to encapsulate and draw a relationship between Williams, the jazz community and Clayton, Sager and Will's suggestion that:

An entrainment model suggests we look at engagement with music not simply as a process of encoding and decoding information, but of embodied interaction and 'tuning-in' to musical stimuli. Musicking humans can be seen as embodying multiple oscillators (or endogenous rhythmic processes), oscillators which may be mutually entrained in a process of self-synchrony as well as entraining to external stimuli in the processes of making and engaging with musical sound. Entrainment in musicking implies a profound association between different humans at a physiological level and a shared propensity at a biological level. The implications of this view for studies of socialisation and identification are obvious, and so too is the link to questions of enculturation: someone's ability to respond appropriately to a given musical stimulus can, since it is a learned application of a basic biological tendency, be a marker of the degree to which an individual 'belongs' in a particular social group. (Clayton, Sager and Will 2004, 21)<sup>20</sup>

Gill—directing his attention toward an understanding of cognition—describes entrainment as, “our ability to coordinate the timing of our behaviours and rhythmically

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<sup>20</sup> Although written largely from the point of view of music therapy, Tia DeNora raises an interesting question here concerning questions of exactly where the body ends and where the environment begins in relation to endogenous and exogenous systems such as those discussed here in the field of entrainment (2000, 75). As part of her discussion, DeNora states that entrainment is one of the processes whereby the achievement of the necessary bodily state of homeostasis is achieved when babies listen to their mother's heartbeat in utero (2000, 77). She then points toward a basic examples of musical entrainment as being when music is used for the basis of a march and for dancing. Such choreographed uses of music, DeNora argues, are “media for the autodidactic accumulation of self...awareness” (2000, 78), suggesting the possibility that Williams in fact came to his self awareness through the medium of entraining to music in general.

synchronise our attentional resources” (2007, 567). Gill’s work draws on a confluence of ideas from a variety of interdisciplinary fields, such as pragmatics, social psychology, behaviourism, cognitive science, computational linguistics and gesture, “considered in light of the developments in interactive technology, in order to shape a conceptual framework for understanding entrainment in everyday human interaction” (567).

When considering Clayton, Sager and Will’s notion that “[m]usicking humans can be seen as embodying multiple oscillators (or endogenous rhythmic processes), oscillators which may be mutually entrained in a process of self-synchrony as well as entraining to external stimuli in the processes of making and engaging with musical sound” (2004, 21), I infer throughout this thesis that one of the most effective practice techniques Williams used whilst living in Boston was that of regularly and repeatedly playing along with recordings of Blakey, Roach and Jones et al, trying to make his drums and cymbals sound exactly like the those he heard in the recordings. In this context, I describe entrainment as the inner synchronisation of mental faculties and bodily skills with the audible musical information encoded in recordings that occurs when one attempts to assimilate such information, using it as a model for ordering bodily movements that are intended to produce similar sounds on a musical instrument.

Analysis of the audible musical information encoded in musical recordings represents the potential for the analyst to either become directly aware of the theoretical structure or system underlying the generation of the very sounds being analysed, or to intuitively construct an original theory or system to explain how such sounds may have been generated. Largely though, the theory or system behind the composition or



improvisation of a recorded musical piece is inaudible as it exists on a purely abstract level. This abstraction requires the analyst to construct a framework of their own that seeks to explain the existence of those audible sounds in musically creative ways.

In either case, a tacit infrastructure of musical ideas is invoked in which a silent, non-linear schema is constructed, enabling the practitioner to identify a vocabulary of musical building blocks by engaging in the repetitive and comparative singular process of listening to and playing along with musical recordings and then to adapt these musical building blocks as models for interpretation in new musical settings apart from playing along with the recordings. This is a process that provided for Williams an insight into the musical tendencies of the drummers he studied whilst they were engaged in creative ensemble interaction with other musicians. It is a collection of these tendencies that reveals the tradition-based conventions in the tacit infrastructure that provide roles for ensemble members on their various instruments.

By comparing Williams' habitual tendencies on record with the tendencies of his forerunners, it can be learned how he questioned the assumed roles variously ascribed to the different voices available within the drumset and indeed how he reassigned those roles over time by re-voicing recurrent rhythmic structures and figures from the past in novel ways.

I argue that there is a broader realm in which Williams responded to his environment when improvising on the drumset, thus creating a new environment with broader

relevance. David Bohm and F David Peat (1980, 117; Bohm and Peat 1987, 104-150) argue that there are no such things as disorder or randomness, only higher levels of order, suggesting that seemingly disordered phenomena are in fact organised in a highly complex order that is not immediately apparent without close inspection. By analogy, it makes sense to say that it is almost commonplace to suggest that musical interaction occurs simultaneously between musicians performing together in the same ensemble at the same time, and that musical *correspondence* takes place within seconds or even concurrently. I propose that Williams' musical statements interact with not only the temporally immediate musical environment within the given ensemble, but in a more complex manner taking the history of an extended temporal environment into account so that his responsiveness is to an unfolding tradition in the very act of unfolding that same tradition invoking a deeper sense of centonization as discussed earlier. This notion is made clear in Williams' statement that he plays the drums in a way that he believes his influences would play if they were he (1985). Williams' expanded temporal view of musical interaction serves to identify the broader implications of musical entrainment as set out in relation to the jazz community in which he operated and that befits the model of complex adaptive systems as I outline below and in Chapter Two. I also argue that the study of interaction between jazz musicians performing simultaneously, i.e., "grooving", and the study of the transmission of musical ideas between generations of jazz performers such as is presented in later chapters serves to bear much practical and qualitative data at the level of musical theory in the study and realisation of a model of musical entrainment as it relates to jazz drumset performance studies.

Musicians who develop a collective rapport with one another do so as a result of a kind of *social* entrainment. Trumpeter Wallace Roney offers several anecdotes that encapsulate a deep musical entrainment between Williams and bassist, Ron Carter. In explaining the interaction between Williams and Carter, Roney recalls:

One night we were on a plane to Taiwan, and Ron wanted me to listen to something on his *Walkman*. He was sitting behind me listening to 'Two Bass Hit,' and he passed the headphones up to me. Tony was sitting in front of me, and just a few moments later he turned around and said, 'Hey Wallace, I want you to check this out.' Of course, he didn't know what Ron had just played for me. So he put his headphones on me and I almost fell out. They both were listening to 'Two Bass Hit'—the same take! (Milkowski 1997, 59)

Roney's testimony further serves to indicate the nature and depth of Williams' understanding of the drumming of the 1950s:

We rehearsed every day because those guys loved to play...And at different rehearsals Tony would imitate different drummers, just for fun. He would take a Philly Joe phrase and speed it up, then play it on different parts of the drums, break it up between the different floor toms in different parts of the beat...

We used to go on the road, and he and I knew all the old jazz records. We'd be driving along and sing all the solos off of *Milestones*. We'd start with 'Dr. Jekyll.' We'd sing the melody, we'd sing Miles' solo, we'd sing Coltrane's and Cannonball's solos, we'd sing Red Garland's solo and Paul Chambers' solo—and Tony could even sing Philly Joe's part. From there we'd go to 'Sid's Ahead' and 'Straight No Chaser,' then we'd do the other side of the record. Then we'd go all the way back to Miles' Prestige recordings, and we'd sing all the solos to *Birth Of The Cool*. (Milkowski 1997, 62)

These are telling accounts of social and musical entrainment in various forms.

So far I have described my interpretation of Williams' autotelic personality and heutagogy, as well as having highlighted instances of entrainment in the learning processes within the framework of the jazz community. I will now place the process of

learning in jazz in a broader context by presenting a summarised notion of complex adaptive systems as may be applied to jazz studies in general.

### **Complex Adaptive Systems**

I move now to draw parallels between a general model for jazz drumset performance studies and the nature of complex adaptive systems. I investigate primarily Holland's work (1995, 1998) alongside the work of education scholar John P. Sullivan (2009). By focussing on details that are relevant to the present study, the following is a brief summary of some of the principles Holland sets out for the development of a theory of complex adaptive systems by means of which the phenomenon of emergence is made possible. Following this I will summarise the key concepts presented by Sullivan and relate the primary themes of both authors to the present work.

Complex adaptive systems are "systems composed of interacting agents described in terms of rules. These agents adapt by changing their rules as experience accumulates....A major part of the environment of any given adaptive agent consists of other adaptive agents, so that a portion of any agent's efforts at adaptation is spent adapting to other adaptive agents" (Holland 1995, 10). Although diverse in both form and capability, agents in a complex adaptive system persist in maintaining "coherence [of identity] in the face of change" (10). In order to understand the interaction between a large number of agents, an individual agent's behaviour is determined by a collection of rules that are constructed according to the possible kinds of stimuli and allowed responses for that given agent.

*Adaptation* is an almost paradoxical process by means of which a person's identity becomes concretely fixed as an entity fluidly continuing to 'fit' with new information as it comes to hand by open-mindedly expanding skill and knowledge across a broader, deeper and wider field of experience. It is a process that not only opens up toward a greater variety of associations with more people, practices and ideas, but one that insists upon the constant re-evaluation of past and present associations with people, practices and ideas. This idea reflects Csikszentmihalyi's notion of differentiation and integration as generating more complexity in life as the personality becomes more autotelic. Put succinctly by Holland: "Adaptation occurs when agents learn from each other or change strategies as they gain experience" (Holland 2008). Experience guides the changes in the agent's structure so that as time passes the agent makes better use of its environment for its own ends.

In Holland's view (1995), there are seven basic characteristics of complex adaptive systems comprised of four properties and three mechanisms that can be combined in a variety of ways to further define an adaptive agent. I examine two of the mechanisms below as they are particularly relevant to this study of Tony Williams' jazz drumset ideology. The two mechanisms are *internal models* and *building blocks*.

Holland describes "internal models" as being used for anticipation and prediction (1995, 31). He goes on to relate the building of internal models as being analogous to the development of maps as well as to the development of game plans and strategies that players devise in the playing of non-chance games, such as chess (1998, 28-45).

In further explaining game theory as it relates to modeling, Holland cites three important concepts; *states*, *the tree of moves* and *strategies*. I will now summarise these concepts.

### **States of Play**

“[T]he state of the game at any point in the play”, Holland describes, “is a sufficient enough summary of past history for determination of all future possibilities” (1998, 34). Likening this idea to the transmission and adaptation of musical ideas in jazz drumming through musical entrainment, each piece of live and / or recorded music contains such a history and represents one game, while the notes and figures contained in each piece are similar to the pieces in a game of chess. Holland goes on to qualify that the “*state space* of a board game is simply a collection of all arrangements of pieces on the board that are allowed under the rules of the game” (34). This qualification is important in that there is an indefinitely large number of possible configurations, however, “only a fraction of the arrangements are attainable under the game’s rules” (34). Whilst there are no “rules” *per se* in jazz music that can be applied in any absolute way as rules are applied to define a board game such as chess, there are communally negotiated *conventions* that enable musicians to perform with one another in a variety of contexts.

The unspoken challenges Dizzy Gillespie and Thelonious Monk set upon unsuspecting musicians during the Minton’s jam sessions I discuss in Chapter Two can be said to be the setting of modernist jazz conventions, somewhat constituting and resembling

Holland's notion of "rules of play". An indefinite number of rhythmic or even arrhythmic successions of notes can be sounded on any number of components of a drumset over time, however, it is only under certain agreed *conventions of play* that these notes are "legal" to use Holland's term (1998, 34). These conventions are derived from the internal models developed through gaining practical experience and entrainment within the community of practitioners, i.e., the jazz community.

### **Tree of Moves**

The *root* of Holland's tree of moves describes a game's initial state. The first branches represent the number of states attainable after the first move and the branches growing from the first branches represent the possible states attainable after the second move, and so on until the game's final state or outcome is represented by the leaves of the tree of moves (1998, 35-36). "It is the succession of choices allowed on the way to a leaf that makes the game interesting" (36). The resultant shape of the tree, Holland points out, is more like a bush than a tree as the number of leaves (final outcomes) grows rapidly on the tree of moves and "it is the bushiness that provides the fascination and unpredictability of games" (37). He goes on to demonstrate that in a game in which there are "ten possible moves (branches) from each configuration (state), including the initial configuration", the number of possible moves if the game terminates after two moves is

$10 \times 10 = 10^2 = 100$  distinct ways of playing the game. If the game terminates after ten moves, there are  $10^{10} = 10,000,000,000$  ways of playing the game. Termination after fifty moves—a length and number of options roughly equivalent to chess—yields  $10^{50}$  ways of playing the game, a number which

substantially exceeds the number of atoms in the whole of our planet Earth. (Holland 1998, 37)

A quick consultation of Appendices One to Three in the present thesis will reveal a significantly large number of rhythmic figures that can be distributed on a drumset in a large number of nonlinear ways, leading to a number of possible ways for playing, say, five minutes worth of music on the drumset that is incalculably larger than those described above. It is especially important to keep this notion in mind throughout the course of reading the remainder of this thesis, especially in consideration of the nature of musical rhythm, the grouping and ordering of limbs and drumset voicing and motion as it becomes more and more clear that, out of an indefinitely large number of possibilities, conventional musical figures are emergent from well-considered and informed *decisions* made instantaneously by the player with respect to the *conventions* of musical interactivity in the field. When such large numbers are combined with the choices that are made as a result of *interacting* within an improvising musical ensemble, they become astronomically large. Therefore, similarly for the playing of an extremely complicated board game such as chess as Holland describes, improvising and interacting in a jazz ensemble requires the use of *strategies* to simplify the seemingly infinite and unending emergence of greater complexity.

### **Strategies**

A strategy is “a complete prescription that tells us what to do as the game unfolds; it specifies a sequence of decisions” (Holland 1998, 38). Relating strategy to the use of



the tree of moves in a game, the sequence of decisions made in a game traces a path along the branches of the tree so that the strategy is defined by the branches it chooses (38-39). The concept of strategy is made particularly interesting and relevant to jazz performance when it is applied to a game with two or more players in that one cannot simply prescribe a strategy to a game—nor to the playing of a piece of music in jazz—because neither player knows any of the other players’ strategies during the course of play, nor can they predict what is going to happen (40)<sup>21</sup>. Here is perhaps the most pertinent reason for including a summary of Holland’s treatise on emergence in complex adaptive systems as it relates to Tony Williams’ jazz drumming. Holland says that

[w]hen we play a game repeatedly, the unknown aspects of the other players’ strategies may become clearer. Consider a two-person game where the opponent has fixed on a particular strategy. Observing the opponent in repeated plays of the game can tell us what the opponent does at different branch points (choices) in the game. We can use this information to build a model of the opponent’s strategy. The resulting model will lack many details, because there are just too many possible strategies to uncover a complete description through ‘trial and error.’ Nevertheless, if the model is correct in some respects, we can do better with it than without it. (Holland 1998, 40)

When considered in light of the following Williams quote, the metaphor of complex adaptive systems and the learning processes Williams used in his jazz studies becomes clearer:

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<sup>21</sup> In stating that his seed patterns are “not solely memorized, pre-set patterns or licks that are dredged up from some memory bank and mechanically inserted into a performance”, John Brownell discusses the matter of strategies as part of his Contention #7: That a constant feedback/feedforward process exists at a *low level* that makes improvisation spontaneous, unique and non-mechanical (1994, 159-161). As such, Brownell contests that “[t]o predict the outcome of spontaneous jazz improvisation is as unlikely as foretelling the exact content of a spontaneous discussion of the weather complete with ‘ums,’ ‘ahs,’ and head scratching” (161), highlighting the difficulties surrounding the notion of adaptive agents devising strategies when interacting with one another in a complex adaptive system.

...I think the way I started to sound like myself was by learning all the great things that they played, and then making a kind of mental Rolodex or a graph of what each drummer *didn't* do. In those places, in those gaps in the graph, I found what they didn't do, and started to fill in the spaces they had left with my own playing. (Macdonald 1990, 41)

Williams refers frequently to a kind of mental Rolodex and graph of tendencies he kept of the figures his favourite drummers played and the reasons why they played them.

Clearly, Holland's description of the use of strategy in the building of internal models bears a very close resemblance to the processes that unfold when an improvising musician plays along with a recording (as demonstrated in Williams' quote above) and when that musician also plays simultaneously with other improvising musicians. These strategies are often referred to as "building a rapport" between musicians, revealing a social process that can be likened back to the process of entrainment I described earlier in this chapter.

Importantly, Holland reflects that there exist too many states of play to define a strategy by "listing all the game states with the moves prescribed for each state" (1998, 40).

Therefore, strategies are defined by a set of rules, "usually rules of thumb" (41), which I have likened to *conventions* in the performance of jazz music. Such rules of thumb, or *building blocks* as Holland refers to them also, point toward features of the game that "occur frequently and are relevant to decisions at various points in the game" (41). By way of these rules, game states are grouped into "clusters" of states featuring similar decisions or moves, much like the process of "chunking" bits of information, referred to

by Csikszentmihalyi in addressing the direction of attention or psychic energy.

Conventions in jazz are realised in the performance of musical *figures* and this is the term I use when referring to such phenomena as building blocks and rules in my own work. It is by discovering and using such figures (building blocks, conventions, rules) that “we obtain an effective reduction of the enormous size of the game tree and make possible an overall prescription that controls play throughout the game” (Holland 1998, 41) and this is done through repeated play.

More importantly still, throughout the entire process of model building, whether in a game or in the course of playing a piece of improvised music in a jazz ensemble, “*all* players are *simultaneously* trying to build models of what the other players are doing. Under this extension, the situation becomes much more complicated” (1998, 42). In discussing innovation, Holland goes on to say that, “[o]nce the building blocks (atoms, parts, generators) are chosen, a large part of the creative act is the selective exploration of the possibilities offered by various combinations” (211). In answering the question of how to act selectively in using building blocks, Holland suggests that only immersion in the field through disciplined practice will allow someone to become “so familiar with the elements (building blocks) of the discipline that [they] no longer have to think about how they are combined, [thus entering] the creative phase” (211-212). He then states that, “[t]o a large degree [this] is what study of a discipline is all about: the acquisition of the building blocks and associated techniques of that discipline”, and that “[f]eeling’ for a discipline only comes from constant immersion” (212-213).

A final note on Holland's building blocks is that new ones are rarely discovered and "most innovations stem from the generation of new combinations of well-tried blocks." (1998, 214). He claims that:

Once a set of building blocks has been chosen, innovation depends on selection from among the plethora of potential combinations. The possibilities are so numerous that the same building blocks can be used over and over again without seriously impairing the chances for original discoveries. Think of the standard building blocks provided by words in a language, or folk themes in music. The key to handling this complexity is the discovery of salient patterns in the tree of combinations. Creative individuals exhibit a talent for such selection, but the mechanisms they employ are largely unknown. (Holland 1998, 218)

As can be inferred, internal models and building blocks in association with states of play, the tree of moves and strategies are examples of mental mechanisms by means of which musical ideas may be transmitted and adapted between drummers resulting in a synergistic emergence of apparently novel musical ideas for improvisation on the drumset, as I will demonstrate in the case of Williams through my musical analysis in later chapters.

### **Emergent Learning in Complex Adaptive Systems**

Learning, as Holland puts it, is the "sin qua non" in complex adaptive systems—without which, complex adaptive systems could not be (1995, 8). This commonality in concepts of learning, adaptation and emergence leads to the question of the transmission and development of musical ideas (building blocks) in the jazz communities. Whilst such transmission is broached significantly by Berliner (1994, 36-

59), the actual mental *framework* (internal models) upon which the transmission of ideas ultimately leads to learning is rarely considered in the literature.

It is not surprising to find that studies in the education field take an interdisciplinary look at complex adaptive systems in an effort to formulate more sophisticated pedagogical and heutagogical concepts and methods. To date, however, there are only three studies sharing any broad relevance to the notion of emergent learning in music and, of these, I examine John P. Sullivan's doctoral thesis (2009) which is a study of the application of complex adaptive systems as a method for the development of emergent learning in three different school settings<sup>22</sup>. I will refer to Sullivan's concept of complex adaptive systems as a whole, not only because it is a confluence of perspectives on complex adaptive systems from a broad variety of fields natural sciences, psychology, philosophy and learning theory (9, 36), but also because it is highly relevant to the present study in that one of Sullivan's three case studies is of emergent learning in an elective high school jazz rock band.

When compared with simultaneous observations of geometry and English classes, Sullivan concludes that the jazz rock ensemble in his study is "the poster class for emergent learning" (172). In relation to my own work I concur with Sullivan when he states that

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<sup>22</sup> The second study is an elaborate treatise by Morris B Holbrook (2003) on general notions of complexity theories with quaint jazz metaphors presented throughout. Thirdly, the collaborative *Emergent Pedagogy: Learning to Enjoy the Uncontrollable – and Make it Productive* (Dalke et al. 2007) also provides insight in the area of education that can be broadly applied to learning in jazz. Limitations of space preclude any discussion of these two studies here.

the synergy of interest to this work has been 'emergent learning,' which I define as the acquisition of new knowledge by an entire group when no individual member of the group possessed it before. The theory of complex adaptive systems suggests that this synergy should be more likely if the boundaries, networking, and nonlinearity of the group are *optimized*. (2009, 157-158, emphasis added)

Whereas Sullivan's work is centered solely on emergent learning in the classroom, my work is centered solely on emergent learning in professional jazz ensembles.

Therefore, the "acquisition of new knowledge by an entire group when no individual member of the group possessed it before" is concerned with the expression of musical ideas generated by improvisational interaction within jazz ensembles by way of the use of internal models and building blocks.

Sullivan's concise definition of complex adaptive systems states that they are "*well-networked* collectives of discrete agents that are: *non-linear, bounded and synergistic*" (5). He defines these terms in the following ways.

### **Well-Networked**

At first, to define "well-networked", Sullivan highlights a significant difference in the use of the terms "collection" and "collective". A collection of people may be found in an elevator where there is minimal interaction and thus no group dynamic formed.

This he contrasts with the effects that collaboration in a classroom has on the collective of its members in that relationships are forged through well-networked interactions, leading to group-learning that will not happen amongst the disconnected collection of

people in an elevator. A well-networked collective then, in Sullivan's view, is one that lies in between extremes of complete differentiation (such as the collection of people in an elevator in which there is nearly a complete absence of the network), and complete integration (such as a collection of people in a cult where the network is so intimate that one can lose one's sense of individual identity) (2009, 125). For a collection of people to become a collective of people, several characteristics must be networked: agency, short-range relationships, and nested or fractal networking (2009, 10).

### **Agency**

The notion of agency is strikingly similar to Csikszentmihalyi's description of the autotelic personality in that it reflects *differentiation* and *integration* amongst agents. Sullivan simply uses the term "undifferentiated" in place of Csikszentmihalyi's "integration". I follow Csikszentmihalyi's term. Diversity of experience and opinion amongst well-networked agents is also a vital feature of complex adaptive systems, and avoids stagnation and mediocrity in much the same way as biodiversity is essential for sustained survival in an ecosystem. It is diversity that fuels the system with enough resources to adapt to new situations and to survive (Sullivan 2009, 11-14).

### **Short-Range Relationships**

The relationships occurring between independent agents in a complex adaptive system are necessarily short-range in that any one agent is only able to influence the entire system *directly* through a limited number of other nearby agents. Steven Johnson is

quoted as estimating this limit as being around 150, based on recent anthropological evidence. These interactions “cascade” into a series of other local interactions thus producing change in the entire system through either centralized, decentralized or distributed network architectures (2009, 14-15).

Sullivan describes the nature of the communication and interaction of the jazz rock ensemble as demonstrating short-ranged networking. He observed that verbal communication in the ensemble was minimal in between performances, suggesting that the time at which the most communication is necessary in a jazz ensemble is during the actual performance of the tune; a time when verbal communication is not possible. Although constant and intimate communication was maintained through body language such as head tilts and eye contact in Sullivan’s observations, the vast majority of group communication took place in the act of musical listening and in the non-verbal positing of musical ideas (129). Sullivan summarises his observations of the jazz rock ensemble as a well-networked collective by pointing out that “the more everyone communicated at once, the more effective the network, and the better the performance” and that “[l]iberated from the inherently linear nature of the spoken word, they created an even more intimately connected, multidimensional, nonlinear network” (130).



## **Nested or Fractal Relationships**

The “groups” that Sullivan refers to (2009, 1), or Holland’s “aggregates”, are *nested* in a variety of higher level groups. For example, the behaviour of the class situations Sullivan observed operated under the influence of still larger aggregates: a department is an aggregation of classes; a school is an aggregation of departments and is influenced by the aggregation families, which in turn aggregate into the church (the school Sullivan studied is a Catholic school) and into society in general. The exact degree of influence exerted on the class by each higher aggregate order becomes difficult to measure in a way that Sullivan likens to the problem that Benoit Mandelbrot, the pioneer of fractals was confronted with in the idea of measuring the coast of Great Britain:

If one simply draws an oval around the island it would have a certain length, accounting for each bay would make the measurement longer. Adding inlets causes the measure to be longer still and so on toward infinity. Similarly, the closer one looked at the influences that affected these classes, the more factors one found, the more intertwined their interactions, and the more difficult they become to measure. (Sullivan 2009, 141)

In relation to the present study, the individuals comprising a jazz ensemble are each nested in higher order aggregations, each bearing an almost immeasurably fractal like influence on the behaviour of the individual and of the overall group in the performance of improvised music. For example, each instrumentalist is part of an aggregate of instrumentalists on that same instrument joined historiographically through tradition and recordings and contemporaneously through activity and interaction. Each instrumentalist is a member of a “section” in the ensemble, the “rhythm section” or the “front line” for example. The ensemble itself is an aggregation of active agents (the

musicians). Each band member is a member of a certain family, which is a member of society, etc. The effects of the interpersonal dynamics of behaviour that these relationships bear on the musical output of an ensemble are indeed immeasurable<sup>23</sup>.

Nested or fractal networking is based upon the mathematics of chaos theory in which greater magnification of a fractal shape—a shape composed of similar shapes—will reveal “self-similarity” on many levels of reiteration, whereas magnification of Euclidean geometry, such as a square will reveal either a corner, or part of a line, or empty space in that it is not self-similar at deeper levels of magnification (2009, 16). By analogy, complex adaptive systems are composed of, and compose still more complex adaptive systems (Sullivan 2009, 18).

### **Non-Linearity**

In addition to being comprised of well-networked collectives of discrete agents, complex adaptive systems feature “nonlinearity”. Nonlinearity functions in such a way that makes predictability in a complex adaptive system far from easy, rendering simple “if...then” assumptions ineffective. In describing the nonlinearity of learning in the

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<sup>23</sup> Looking at the transmission of ideas and learning in jazz through the lens of nested, fractal relationships as understood in the discipline of complex adaptive systems therefore sheds an interesting light on Roger T. Dean’s argument that, given the self-referential nature of music (compared to the referential nature of language), the development of musical structures occurs autonomously of sociopolitical structures (1992, xiii-xxi; 191-207). In a sense, to say that the development of musical structures is autonomous is true, but only to the extent that one freely elects to focus on the autonomy of musical structures independently of the effects that the broader sociopolitical arenas inevitably exerted on the existence and development of that structure. In reality then, the two phenomena are inextricably *nested* in one another with each casting immeasurable influence on the development of the other and I argue that in musicological discourse, they *diverge* only at what Nicholas Gebhardt (2001, 1) refers to as points of disjuncture established for the dialectical purposes of research.

school jazz rock ensemble he studied, Sullivan reiterates that “Among the defining characteristics of jazz is [the] attempt to stay at all times away from the mundane, from anything that has been done before, from the ordinary” (2009, 145). This reiteration rings true in light of what Tony Williams described as one of his fundamental purposes in generating his own music:

We were very serious and we didn't feel like we had to be any other way. Basically, I'm still the same person. But that's no reason to live in the past. If I felt that playing with Miles was the best I'm ever gonna play, then I would just give up. The reason it came out so well was because it was fresh; when the freshness wears off, I have to find something else to do or else I'm not stimulated. I still think there are very few people who can play jazz drums a certain kind of way. But just because of that it doesn't mean that I have to go out and prove it all the time because I happen to be one of the few people who can do it on a certain class level. It doesn't mean that I have to spend my life being a martyr. I don't want to be a martyr and I don't want to be a museum piece. I don't want people to come out and hear me because it's nostalgic. (Gibbs 1976, 17)

In a similar regard, Williams also talked about the originality of the music generated in the Miles Davis Quintet, supporting Sullivan's notion that one of the characteristics of jazz is the avoidance of the mundane in relation to learning:

Everything I've done, I've done because I enjoyed doing it. Also, I didn't want to repeat what I had already done. The reason that Miles' band was so wonderful was because it was fresh. When you ask people to do the same thing year after year, it is no longer fresh. If I want that spark again, in myself, then I have to go on to something else. I have to find a fresh kind of thing that I'll want to get up and do. (Mattingly 1984, 13)

Nonlinearity is comprised of three major subsets: existence far from equilibrium, the nature of feedback loops, and the butterfly effect (Sullivan 2009, 20).

## **Existence Far From Equilibrium**

Equilibrium is “a state of inherent stability in which there is little net change” (Sullivan 2009, 20), contrasting with a state of disorder in which there is no organisation at all. Systems far from equilibrium, such as a living dog, are open in that they are in constant interaction with their environment, whereas, in contrast, systems that are in equilibrium, such as a block of wood sitting on a table are closed and interact minimally with their environment. Systems far from equilibrium are not in a state of complete disorganization, rather, they are “organized enough to act as a system, but flexible enough to change” (21). Sullivan gives the example of the complex communications that go on between the brain, the inner ear and the legs to maintain balance when walking across a room to demonstrate that with feedback loops in a complex adaptive system “constant, reflexive interactions among elements of a system serve to magnify some effects and suppress others” (21).

Sullivan further describes the nature of learning as occurring in a state of “cognitive dissonance” with the state of the learner being “far from equilibrium” or “at the edge of chaos” when he says “[o]ne can not learn from an equilibrium state. Stagnation and learning are completely antithetical. In terms of learning, an equilibrium state would be one in which one knows what one knows and there is no flow of information in or out” (2009, 142). Echoing this statement about learning, Williams recalls,

When I was a kid I thought this was what you did: You worked at whatever there was to get better at. Being a good musician meant to keep studying, keep learning. You didn't just specialize. Even back then, the thing what drove me on was wanting to do more, to have a say, to create an atmosphere. (Scherman 1991, 50)

Here Williams describes his motivation to learn piano and composition skills, indicating his operating in a state far from equilibrium:

I decided I wanted piano lessons around 1965, after I had made two albums, *Lifetime* and *Spring*, on Blue Note. I knew what I could do without knowledge of the piano and wondered what I could do with some harmony and theory, knowledge of chords, you know. It was a progression I felt I needed and I studied privately for two years. (Wald 1978, 7)

### **The Nature of Feedback Loops and The Butterfly Effect**

A small change of input into a feedback loop in a complex adaptive system can result in significant and unpredictable phenomena known as “the butterfly effect” (22), which takes its name from the question meteorologist / mathematician Edward Lorenz famously ask: “Does the flap of a butterfly’s wings in Brazil set off a tornado in Texas?” (quoted in Sullivan 2009, 22).

To give an analogy of the constant, complex and intertwined nature of the feedback loop generated in the jazz rock ensemble, Sullivan likens the unflagging attention paid by each member of the ensemble that allows for subtle musical adjustments to be made in the class to “a complex juggling performance, where the entire group together is trying to keep a large number of balls in the air by very quickly catching and releasing them from and to all directions” (2009, 153). The disproportionate effect of the addition of one extra member to the jazz rock ensemble class Sullivan observed for twelve months serves to prove some degree of a “social” butterfly effect in action in that the addition of this extra member had an effect on the overall ensemble that was greater than 1/7 as it would be in a linear model (156-157). Such an effect can be

observed in Todd Coolman's study of the Miles Davis Quintet when tenor saxophonist Wayne Shorter became a permanent member of the group, replacing Sam Rivers, who replaced George Coleman (Coolman 1997). I demonstrate in Chapters Three, Four and Five how small changes of building blocks and internal models can generate far reaching and immeasurable change in jazz drumset performance vocabulary.

### **Bounded**

Activity occurring in a complex adaptive system is *bounded*. Sullivan describes a bounded system of activity as being one that is kept together by "group-held meaning" (2009, 24). "If the entire organisation is truly committed to some mission, each member will, without significant further instruction, act in some way that is not strictly or precisely predictable, but consistently points toward that mission" (25). The coherence generated by such a boundedness as group-held meaning is referred to as a "strange attractor" in that a strange attractor is a bounded space "within which chaotic activity occurs, but within which discernable patterns emerge" (23).

### **Group-Held Meaning and Strange Attractors**

When discussing the boundedness of the jazz rock ensemble that served as a case study, Sullivan observed that certain questions such as, "What is jazz?" and "With all of this emphasis on improvisation, what makes something the same song, even when you play it so differently each time?" were asked. These elicited the response "that's a good question" students in the ensemble (2009, 120). These are the questions that

formed the boundaries for the behaviour of the jazz rock ensemble and they were deemed to be good questions because of the difficulty in answering them, even though the answer is self-evident to the listener (121). An additional boundary was observed in the fact that the students were all confined to playing from the same “sheet with a few notes scribbled on it” (124). I take this to mean that the students were bounded to play and outline the form of the same piece of music they were playing at any given time.

My suggestion is that the more a group is confined to continually stating the actual, literal information contained in the composition of piece of music, such as the harmonic rhythm of the form as heard in the modernist bebop music of the 1940s and 1950s, the more that group is operating under the *relative heteronomy* of the tune. In contrast, a group that plays more freely “over the form” and “over the barline”, not necessarily making any overt references to the essential characteristics of the piece can be said to operate as a *collective autonomy*. The notion of the differentiated individual integrating within a collective autonomy highlights the *agency* of the individual in the collective, or “aggregation” of individuals. I elaborate on these two contrasting notions in Chapters Three to Five. In both cases however, there are overtones here of Holland’s overall description of complex adaptive systems as maintaining “coherence in the face of change” (1995, 4).

## Synergy and Constructivism

Finally, and perhaps most importantly for this study, Sullivan closes his summary of well-networked, nonlinear and bounded complex adaptive systems by discussing that they are “synergistic”, meaning that the whole is greater than the sum of its parts in that they “can *adapt* of their own accord... to make themselves better suited to their environments” by responding to stimuli (2009, 26, italics are mine). An example can be drawn from Holland’s work where, in his chapter entitled, “Checkers”, he describes processes in which his colleague, Arthur Samuel, a pioneer in Artificial Intelligence, designed a computer program that “learned” to play a better game of checkers than its programmer, ultimately beating its programmer—clearly a sign of the sum of the whole being greater than the sum of the parts (Holland 1998, 53-80).

The above can be related to the following statement from trumpeter Wallace Roney that I interpret to describe the community of jazz musicians in which Williams was immersed as a well-networked, bounded and synergistic complex adaptive system:

When Papa Jo Jones was still around, he told Tony, ‘Listen, we laid our hands on you,’ ‘we’ meaning Tony’s peers and those who came before him. They passed the drum legacy onto him. Tony was in charge at that point. Papa Jo said, ‘Whatever you feel you should do with the drums, we picked you to be the one.’ I asked Tony about it one day, and he put his head down very humbly and said, ‘Yeah, that happened. He said I was the chosen one.’

That’s something that people should know, that Papa Jo chose Tony to be the one to carry on what happens with drumming” (Milkowski 1997, 64).

The trust Jones placed in Williams on behalf of his peers and those who came before him indicates a degree of reliance upon the notion of constructivism and synergy. In



constructivist educational theory resounding in overtones of heutagogical thought, Denis C. Phillips states that, “Constructivism recognises the agent’s role as an active participant in the learning process, independently constructing realities that are not dictated strictly by a teacher. For constructivists, information is not an unalterable, abstract object that is simply passed on to a student. Rather, learners actively create perceptions of the world based on their own experiences” (Phillips 1995, paraphrased in Sullivan 2009, 33-34). Sullivan clarifies that “[a]n active agent in a complex adaptive system is one who is able to independently construct knowledge, and then provide that insight to the system” (2009, 34). Additionally, Soviet psychologist Lev Vygotsky contends that learning is a social act as well as an act of individual construction and that “[s]tudents did not simply construct new understandings by observing things in the world, but did so with guidance provided by their social interactions” (Hedegaard, paraphrased in Sullivan 2009, 34).

### **Emergent Learning and Being in the Zone**

Each time one hears a new song, new knowledge is acquired (Sullivan 2009, 164). Sullivan also surmises that “[e]ach playing of each song in each rehearsal and performance of the Jazz Rock Ensemble was...unique to that moment – never heard on Earth before and never to be heard again” (164). The classroom teacher in charge of the jazz rock ensemble, Dr. Flynn, reported that “[The students] can’t always get to that plateau. Professionals get to that plateau much more frequently, although, I would say, not always. And I think that – in a sense it’s called being ‘in the zone’ – those types of

things" (Sullivan 2009, 174). This statement seemingly negates Sullivan's suggestion that each performance by the classroom jazz rock ensemble was emergent, however, Sullivan concedes that

Dr. Flynn is simply holding emergence to a higher standard than I have. He talked about being 'in the zone,' which is a special level of emergence, on a higher plane than the minimal definition I provided. I continue to assert that every time students played a tune, they created a new entity, and therefore experienced emergent learning. I also agree with Dr. Flynn that this process can reach a special level, when the tune comes out really well, which is when emergence is easiest to detect. (Sullivan 2009, 174)

Flynn's reference to being "in the zone" refers to high-level performance by professional jazz musicians, such as Williams. I infer the state of being "in the zone" as being deeply connected to Csikszentmihalyi's notion of being "in flow" (1990) and so the processes of being "in the zone", "in flow" and generating "emergent learning" as described here are synonymous in interactive jazz improvisation. It is a performer's state of being "in the zone" that makes their performance one in which they are, in Ingrid Monson's vernacular "saying something" and it is in saying something that a performer leaves their audience wanting still more (Monson 1996, 1-2). I deduce that Blakey, Roach, Jones and Haynes each were "saying something" on the recordings that Williams returned to constantly throughout his career and that led him in turn to "say something" as well.

One final word of relevance to the present thesis is that whilst Sullivan acknowledges the unpredictability and spontaneous nature of complex adaptive systems, he insists that "teachers are dominant influences on the *environment* of the classroom, and that

complex adaptive systems of students then respond to that environment” (184, italics in original). In light of my own study, I suggest that an analogy may be drawn between the teachers in Sullivan’s study, and the bandleaders and composers in my study such as Art Blakey, Horace Silver, John Coltrane or Miles Davis. Where the environments of the classrooms studied in Sullivan’s thesis are bounded by rules and formalities imposed by a vast hierarchy of organisations in which the classrooms are nested (the direct effects of which are difficult to measure in a similar way that fractals are difficult to measure) and upheld by their teachers, the environment of professional jazz ensembles is similarly bounded by such organisational hierarchies, the direct influence of which is mediated by the dominant agency of bandleaders and composers.

## **Conclusion**

In this chapter I outlined multitudinous and complex key concepts I interpret to be behind Williams’ formative practice. To begin with, I described Williams’ notion of feel, technique and creativity and the ways in which he arrived at the idea that only in combination do these three qualities make the perfect drummer. Williams’ arrived at this drumset ideology through the repeated listening to and analysis of many recordings containing drummers Blakey, Roach, Jones, Haynes and others. In joining the informal network of a jazz community he was able to filter his ideas back into the network. I interpreted Williams’ learning spirit as reflecting the possession of an autotelic personality and described the ways in which the possession of an autotelic personality leads to greater complexity in life, especially when one is at once differentiated and

integrated within a community as set out by Csikszentmihalyi (1990, 1996, 1997). The discussion of autotelic personality was then enhanced by considering that Williams adopted heutagogical methods of learning instead of relying solely on pedagogical models. I then described this integration within the jazz community as taking place by way of social and musical entrainment as described by Clayton, Sager and Will (2004). Following my description of autotelicism, heutagogy and entrainment, I placed these qualities in the context of complex adaptive systems (Holland 1995, 1998; Sullivan 2009) as corresponding to the ways in which learning takes place in jazz communities.

In Chapter Two, I present a biographical history of the intellectual community that operated as the modernist bebop movement in the United States in the 1940s and 1950s. This is to provide a contextualisation of the jazz community within which Williams explored his musical ideas. I will then complete the chapter with a biographical account of Williams' personal and musical life from the time of his birth in December 1945 to the time he left the Miles Davis Quintet in late 1968.

## Chapter Two

### Biographical and Contextual Materials

This chapter contains the contextualisation of Williams' biography within the intellectual community that operated as the modernist bebop movement in the United States in the 1940s and 1950s and traces Williams' development through the 1960s until the postmodernist onset of post bop and jazz-rock music that took precedence in the 1970s. To begin with, I will outline the environment in which bebop originated, and then complete the chapter with a biographical account of Williams' development from his birth in December 1945 until he left the Miles Davis Quintet in late 1968.

In gathering information about the origins and ideals associated with jazz music from 1940 to 1954, I relied primarily on the historical accounts contained in David H. Rosenthal's *Hard Bop* (1992); and a compilation of interviews with jazz musicians, *Hear Me Talkin' To Ya*, edited by Nat Hentoff and Nat Shapiro (1955).

### Bebop in America Prior to 1945

Tony Williams made his musical contributions within a community of like-minded peers and mentors that dates to 1941. This group of peers established an informal intellectual home in New York City's Minton's Playhouse during the late-night jam sessions that took place there. Located in Harlem on 118<sup>th</sup> St, Minton's was, according to modern jazz folklore, the birthplace of Bebop music (Rosenthal 1992, 10) and

played host to an impressive array of well-known and highly regarded musicians. Some of the well-known musicians who took part in the early experiments at Minton's are drummers Kenny Clarke, Max Roach and Art Blakey; pianists Thelonious Monk and Bud Powell; trumpeters Dizzy Gillespie, Miles Davis and Kenny Dorham; saxophonists Charlie Parker, Sonny Stitt and Dexter Gordon (12); as well as vocalist Carmen McRae and Billy Eckstine; bassist Milt Hinton, pianist Mary Lou Williams; clarinetist Tony Scott; multi-instrumentalist and band leader Teddy Hill; banjoist Danny Barker; trombonist Benny Green; and pianists William "Count" Basie and Earl Hines (Hentoff and Shapiro 1955). These were professional musicians who had their training in the swing music of the 1930s. They would perform professionally in downtown New York venues such as the Apollo Theatre early in the evening before frequenting Minton's after-hours to participate in the jam session that took place nightly.

According to vocalist Carmen McRae and bassist Milt Hinton, prior to Minton's becoming the central focus as a late-night jam venue, veterans of the swing generation such as saxophonist Lester Young, pianist Art Tatum as well as many of the personnel of some of the most well-known big bands of the time, such as the Benny Goodman Orchestra and Artie Shaw's big band, would listen to drummer Chick Webb with his orchestra at the Savoy Ballroom before congregating at Puss Johnson's at 130<sup>th</sup> Street each night. Young, along with Goodman and Goodman's guitarist Charlie Christian, bassist Jimmy Blanton (from Duke Ellington's band) and others began making their way to Minton's after it became established in 1941 (Hentoff and Shapiro 1955, 299-319).

Drummer Kenny Clarke insists that there was no name originally designated for the style of music played at Minton's until after he was drafted into the US Army in 1943. When the music was given a descriptive term prior to 1943, it was simply referred to as being "modern" music (Hentoff and Shapiro 1955, 311). Upon returning from the armed services, Clarke observed that the term "bebop" was in common usage. The origin of the term "bebop" is a story of conjecture and is perhaps elucidated by trumpeter Oran "Hot Lips" Page's suggestion that pianist Fats Waller coined the term "bop" when he would shout, "'Stop that crazy boppin' and a-stoppin' and play that jive like the rest of us guys'", as it seems many of the younger musicians who would sit in with the band were unable to play fluently and would rest for eight to twelve bars in between their phrases (312). As will be expounded later in this chapter, pianist Teddy Hill suggested that the label "be-bop" evolved out of the name "Klook" that McRae recalled was unofficially given to Clarke, phonetically mimicking some of the figures Clarke played on the drums. The notion of onomatopoeically naming musical phrases was common practice and, according to Billy Eckstine is reflected in several of Gillespie's song titles, such as *Oop-Bop-Sh'Bam* and *Salt Peanuts*, which are based on drum and bass motifs that Gillespie would often hum (311).

Gillespie, who was significantly influenced by trumpeter Roy Eldridge appears to have been obsessed with a rare enthusiasm for creativity in that he was constantly striving to produce something new in his music. Clarke seems to have shared a similar enthusiasm and began to change his playing style in 1937 when playing in Teddy Hill's band. As he recalls:

It was with Teddy when I really got the thing together that I wanted to play. I was trying to make the drums more musical instead of just a dead beat. As far as I was concerned, the usual way of playing drums had become quite monotonous. Around this time, I began to play things with the band, with the drums as a real participating instrument with its own voice. I'd never heard anyone else do it before. (Hentoff and Shapiro 1955, 309)

Here Clarke gives evidence of being in a state far from equilibrium in his drive for creativity, a quality essential to agents in a complex adaptive system as described in Chapter One. Prior to Minton's, Clarke's initial idea for change was sparked when saxophonist Joe Garland provided him with only a trumpet part to interpret on the drumset instead of a drum chart:

That's where I hit upon the idea of playing like that all the time. He'd just leave it to my own discretion to play the things out of the part that I thought the most effective. What I mean is, I played rhythm patterns, and they were superimposed over the regular beat. (1955, 310)

By interpreting Garland's trumpet parts, Clarke began to develop a method for playing the drumset melodically by setting up a dialogue between the snare drum and bass drum, a method that was not prevalent in any way during the swing era. Clarke is also credited with being the first drummer to state his reiterative time feel on the ride cymbal instead of the practice of playing it on the hi-hats that prevailed in the 1930s:

...it was chiefly through Roy [Eldridge] that I began to play the top cymbal—superimposing rhythms with the left hand—and that helped me develop my ideas all the more. I'd seen most guys who'd played drums with Roy before just leaving their left hand idle, but I just had to find something to do with it. So I began to write out parts for myself which today they call co-ordinated independence in jazz percussion. All the drummers up to this time had been mostly copying Jo Jones and playing sock [hi-hat] cymbal. Actually, I'd begun playing the top cymbal before I joined Roy, and the guys used to ride me for not playing the sock cymbal on the after-beat like Jo Jones. (1955, 310)



Clarke's new approach to the drumset would enable him to play melodically syncopated figures on the snare and bass drums whilst keeping time on his ride cymbal. Although Eldridge enjoyed and encouraged this new approach, not all of Clarke's colleagues were impressed. Clarke was eventually fired from Hill's band because Hill believed Clarke "broke the tempo too much" (Hentoff and Shaprio 1955, 310). Clarke asserts however that

[Hill] wasn't listening, because I was really keeping a beat going all the time. By my improvising with the left hand, I guess he got kind of confused. (1955, 310)

As stated earlier, Gillespie was influenced by Eldridge and so it is not surprising to find that Gillespie echoed Eldridge's support of Clarke's new ideas for the drumset whilst the two played together in Hill's band. Clarke appears confident of Gillespie's support in his assertion that Gillespie taught his subsequent drummers, including Blakey and Roach to play in his style (1955, 310). Upon being queried about this in an interview many years later however, Roach denied being taught by Gillespie, stating:

That's not true. The people who were responsible for me playing what I played on drums were Chick Webb, Sidney Catlett...not horn players or pianists. They don't know anything about the instrument! Let's get that together. The people I listened to in order to learn how to play this instrument were Chick Webb, Sidney Catlett, the Kenny Clarkes, the O'Neil Spencers, these folks. That's where I learned to play this instrument. *Not* from Dizzy Gillespie or from Miles Davis or anybody else! (Fish 1982, 52)

Perhaps the practice of nick-naming people and compositions onomatopoeically that I referred to earlier reflected an effort to make reference to musical notions that were difficult to put into words. Even Clarke's nick-name "Klook" was difficult for Carmen McRae to describe. She recalls that "Kenny got called Klook. It really should sound

like Kloog, because of something he used to do on drums, sort of a riff that sounded like klook-a-mop". Clarke's nick-name could also have resulted from Hill's inability to comprehend the new sounds Clarke was eliciting from the drumset. Hill stated that

Kenny Clarke kept playing those offbeats and little rhythmic tricks on the bass drums. I used to imitate him and I'd ask him, 'What is that klook-mop stuff?' That's what it sounded like, and that's what we called the music they were playing. Later on we called it be-bop. (Hentoff and Shapiro 1955, 310)

Ironically, after disbanding his own band in 1939, Teddy Hill became the manager of Minton's in 1941 and it was he who ultimately put a band together that included Clarke on drums as well as pianist Thelonious Monk. He then delegated to Clarke the responsibility of leading the band (1955, 302).

The younger and lesser musicians whom, as I mentioned earlier, Waller shouted at in response to their seeming ineptitude were ostensibly confounded by the difficulty of the music that was being played by the more superior musicians. According to Dizzy Gillespie,

there were always some cats showing up there who couldn't blow at all but would take six or seven choruses to prove it.

So on afternoons before a session, Thelonious Monk and I began to work out some complex variations on chords and the like, and we used them at night to scare away the no-talent guys.

After a while, we got more and more interested in what we were doing as music, and, as we began to explore more and more, our music evolved. (1955, 300-301)

Of these afternoon study sessions, Clarke recalls that

We often talked in the afternoon. That's how we came to write different chord progressions and the like. We did that to discourage the sitters-in at night we didn't want. Monk, Joe Guy, Dizzy and I would work them out. We often did it on the job, too. Even during the course of the night at Minton's. We usually did what we pleased on the stand....As for those sitters-in that we didn't want, when we started playing these different changes we'd made up, they'd become discouraged after the first chorus and they'd slowly walk away and leave the professional musicians on stand. (Hentoff and Shapiro 1995, 301)

In 1943, Gillespie was employed by pianist Earl Hines alongside Parker and Benny Green. Hines remembers that, "They were very conscientious about it.... They used to carry exercise books with them and would go through the books in the dressing-rooms when we played theatres" (1955, 313).

The constancy of these daily study sessions in concord with nightly experiments on the band stand suggest that a high degree of social and musical entrainment occurred between those who took part and, to the extent that they were entrained with one another conceptually, their bonds grew tighter whilst filtering away people who became less entrained. One possible explanation for the "no-talent" as Gillespie put it could be that these people were operating closer to a state of equilibrium and, as Gillespie and company were clearly in states far from equilibrium, no such entrainment could have eventuated in their proximity with one another.

What can be gathered here about the community that developed in and evolved from its origins in Minton's Playhouse in the 1940s is that it was made up of a well-networked aggregate of like-minded individuals operating in states far from equilibrium who made a meritocracy out of the pursuit of excellence as well as high technical and

theoretical sophistication in improvised music that characterises the ideals of modernism under the stylistic name of bebop.

### **Tony Williams' Cultural and Musical Milieu**

This section presents an exploration of the cultural and musical milieu Williams was born into in the mid 1940s featuring a character portrait of Williams at this time according to his own testimony. The main thrust of interest in painting such a portrait is in highlighting Williams' constant heutagogical adaptation as a key learning trait that led to his contribution of many musical and artistic novelties throughout his career. I also draw out the most prevalent characteristic attitudes and behaviours indicating Williams' autotelic personality and outline the entrainment generated in the informal fraternal mentoring he received whilst situated within the well-networked community of many of America's most esteemed and proficient jazz musicians of the 1950s and 1960s.

### **Boston, 1945-1962**

Williams moved with his family to Boston, Massachusetts at the age of two after being born in Chicago, Illinois on 12 December 1945. By making this cross-country geographic move, Williams' family may represent a part of the movement of the Second Great Migration that occurred in the United States between 1940 and 1970 when over five million African American people moved from southern states to states on the coast and in the mid-west. Williams' father, Tillmon bore an African heritage

whilst his mother, Alyce Juanez was of Portuguese-Chinese descent making Williams of “African-American-Euro-Asian” descent (*Tony Williams Interview 1995 - Full 1995*, 11:37 – 12:32).

By the time he could walk, Williams was exposed to a wide variety of live music during frequent outings to nightclubs with his father, a weekend alto and tenor saxophonist who played cabaret and club gigs (Taylor 1993, 160; Woods 1970, 17). Bebop had just emerged and was the music of the day in the Williams’ post-war Boston household. Williams recalls from his earliest youth that his father was very interested in music and had been playing all the current records of the time. Through this Williams was exposed to recordings such as those made by Billy Eckstine, Nat King Cole, Louis Jordan, Sonny Stitt and Gene Ammons (Cox 1970, 33; Macdonald 1990, 41; Woods 1970, 17). Williams’ mother also had a large record collection and exposed him to classical music at an early age including Tchaikovsky and Wagner (Tolleson 1986b, 36; Macdonald 1990, 41).

Long-play (LP) microgroove recordings were introduced by Columbia in 1948. These played at  $33\frac{1}{3}$  revolutions per minute (rpm), allowing up to twenty-two and a half minutes per side, or forty-five minutes in total. Live recordings were first made by Norman Granz in 1945 with lukewarm reception that later capitalised on the nature of how jazz music is made, chronologically placing Williams in an ideal situation to benefit from the new technology. Magnetic tape was improved by 1956 and, although

jazz recordings doubled in sales in 1957, Elvis Presley and pop artists were selling many more units than jazz musicians at this time (Anderson 2007, 35).

Williams said he was “just drawn to the drums” as a child and realised he wasn’t going to be a saxophonist after his father gave him the opportunity to try the instrument (Woods 1970, 17). Williams would sit in the audience at his father’s engagements and remembers realising after watching the drummer play that “if *he* can do that, I know *I* can do that...that’s just something you know” (Ephland 1989, 20). In the summer of 1954 (Macdonald 1990, 41), when Williams was eight years old, he asked if he could sit in with his father’s band one night in a club. When granted permission to choose which instrument he would like to sit in on, Williams decided upon the drums. When he sat in on this occasion, he performed on the drumset for the first time in front of a live audience, without having received any formal tuition. There is however some factual inconsistency in Williams’ recollection of precisely when he first began playing the drums, and indeed when he first received instruction in drumming. In his *Jazz-Rock Fusion: The People, The Music* interview, Williams recalls that he attended a rhythm and drum class for children when he was in his third or fourth grade in school and that this was first time he had some drumsticks (Coryell 1978, 116). This took place prior to Williams sitting in with his father’s band (Woods 1970, 17). In any case, following Williams’ debut performance with his father’s band, Williams’ father continued to take him to more and more Boston clubs with a frequency that made Williams well-known enough by the club owners and managers that he was allowed in to the clubs without any parental accompaniment by the time he was twelve years old.

The music on these occasions often required Williams to play shuffles and backbeats and his father danced while playing the saxophone (Woods 1970, 17). One incentive that may have fuelled Williams' desire to continue developing his talent is revealed when he recalls that "all the people in the place would really like it, a little kid playing the drums. So they would give me money, and at the end of some of the nights I'd have more money than the guys in the band. I'd get thirty-five dollars in one night, and the guys in the band were working for fifteen or twenty dollars" (Coryell 1978, 116).

Williams' father bought him an old Radio King drumset around 1956 consisting of a large 28" or 30" bass drum, a 16" tom, a snare and some 12" or 13" hi-hats with bells that were about 9" in diameter (Wald 1978, 6).

### **Alan Dawson**

One of the most important influences in Williams' early mentoring was the tutelage and chaperonage of local Boston drummer, Alan Dawson (b. 14 July 1929, Marietta, Pennsylvania; d. 23 February 1996). Williams' father had played music on occasion with Dawson and, despite Williams recalling that he met Dawson around 1954 or 1955—when he was nine—Dawson recalls meeting an eleven-year-old who "looked about nine" in one interview (Bouchard 1980, 11), and "this ten-year-old kid, sitting behind what looked like a 28" bass drum" in another (Scott 1989, 34). If Williams' father had bought Williams his drums in 1956 and Dawson recalls seeing Williams at that large bass drum, it may therefore have been some time in 1955 or 1956 that

Williams and Dawson met. Once in the Williams' attic with Dawson, Tillmon began playing the saxophone and Tony played along. Dawson recalls that "This baby started to cook, playing beautiful time and fills. Believe it or not, this youngster had good time, good taste and good feeling—everything but chops!" (Bouchard 1980, 11).

Williams then became Dawson's first formal student (Bouchard 1980, 22; Scott 1989, 34) and Dawson began teaching Williams to read as he recalls that Williams could not read music at the time they met (Scott 1989, 34). After a year and a half of study with Dawson, Williams decided to dedicate himself to a high volume of practice, claiming to have practiced eight hours a day, every day from 1956 to 1962 (Taylor 1993, 160).

Dawson held a regular gig at Mt. Auburn Club 47 in Cambridge at this time and, as part of his show, would let Williams sit in on a couple of tunes each night (Ephland 1989, 21). In a tribute to Dawson's influence following Dawson's death, Williams recalls,

I met Mr. Dawson when I was nine years old. He went out of his way to encourage me, help me and to see that I had opportunities to develop my meager skills. For example, on Saturday nights he would drive one hundred miles out of his way to pick me up in Roxbury, drive to Cambridge to let me perform with his trio and gain valuable experience, and then return me safely home before returning home himself to Lexington. I was twelve years old. Every drummer, local and worldwide, knew of his legendary speed, precision and control. Mr. Dawson didn't only teach me to play the drums, he taught me how to conduct myself as a musician and as a man. (Anderson 1996)

Elsewhere, Williams states that,

What I basically got from Alan was clarity. He had a lot of independence, but so did other people. I get this question about independence a lot, even from drummers, but they can't even be clear about their ideas. I mean you hear them play something, and you say, 'What was it that he played?' Or if they hear themselves back on tape, they say they thought they played good but that it didn't sound like that. So the idea is that when you play something for it to sound like what you intended, not to have a 'maybe' kind of sound. So that's



what I got from Alan, the idea that you have to play clearly. (de Barros 1983, 15)

Williams says that when he listens to Dawson, he feels the same sensation in listening to him as he feels when listening to Louis Hayes and Jimmy Cobb (Woods 1970, 17), two elder drummers who enter the story a little later on.

Williams recalls that when he first started listening, he listened to Philly Joe Jones, Art Blakey and Max Roach: "The big three" (Woods 1970, 18) who "[f]rom the late '40s through to the early '60s...made the perfect package". Williams says he "studied them all intensely, incorporating as much as I could into my own work" (Underwood 1979, 54). "I've heard these things all through my career" (Woods 1970, 18) as well as "Miles, the Jazz Messengers, Trane, Rollins," Prestige, Blue Note "and the Riversides" (Wald 1978, 6). From 1950 through 1952, "before rock and roll...we were listening to people like The Oreos and The Clovers....They used to call them Bird Groups" (Macdonald 1990, 41). Williams was also listening to The Clovers, Drifters, Dion, Frankie Lyman and The Teenagers, The Coasters and the Belmonts (Wald 1978, 6; Woods 1970, 18) "before Bill Haley and way before Elvis. Listening to the radio. And then TV came along and you started watching movies and hearing television music. Or going to the movies and hearing all this orchestra music. Remember that atonal music from the show *Combat*? Remember the theme to the *Alfred Hitchcock Show*? I remember thinking, 'Wow, that's nice music. It makes you feel something. I'd like to be able to do that'" (Tolleson 1986b, 51). He also recalls watching *American Bandstand* each day when he would come home from school and that he

...was leading two lives. I played with guns and holsters right up until I was about 14, and I joined Miles when I was 17...I think I had a very full childhood. My childhood lasted into my 20's believe me. I'm still trying to shake a lot of it. But I didn't miss anything. (Mattingly 1984, 12)

Also around this time, Williams recalls, he was the lead singer in a four-piece group called the Monticellos. "For a long time I was really little for my age. I was the littlest one, and we'd stand with the big guys in the back and me up front, and us all doing steps. So those were my roots" (Woods 1970, 18). Continuing on about the "two worlds" he was living in:

I was living in one world where I was making friends in grammar school and in high school, going to parties with them, listening to rock and hanging out on corners. And then I got a chance to go out with my father and play. I'd be with him and all the older musicians, his friends, and they took me into their scene and showed me what they had. So, it was two worlds all the time for me. For the longest time—from the time I was nine to the time I stopped hanging out with the cats at school, which was when I left. (Woods 1970, 18)

He says that he left school around the time that he "was about fifteen or sixteen" (18).

### **Art Blakey**

By 1958, Williams was sitting in with organist Johnny "Hammond" Smith (Milkowski 1997, 52). Art Blakey played in Boston in 1958 with his band The Jazz Messengers. Blakey's drumming would have been well-known to Williams by this time at least for the fact that he was the drummer on a number of the Eckstine recordings Williams would have listened to from his father's collection. Williams had developed enough confidence and skill by this time to ask Blakey if he could sit in with the band. Blakey allowed Williams to play an entire set with the band, which included trumpeter Lee

Morgan, saxophonist Wayne Shorter and pianist Bobby Timmons amongst its personnel on that gig (Gibbs 1976, 18). The aspect of Blakey's drumming that most impressed Williams was his sound. "At that time, '54 or '55, that sound was pretty huge, as big as any sound today" (Gibbs 1976, 18). "Art Blakey was sheer drive, seeing, strength, power and excitement, in contrast to the very correct and clear and maybe more clinical approach of Max Roach. Art's ride cymbal and his hi-hats especially stuck out to me" (Underwood 1979, 54). Williams cited Blakey as being his first drumming idol (Mattingly 1984, 13) who, in playing with all the drive and all the passion a drummer could ever ask for, came to personify the quality of *feel* in Williams' mind (Williams 1985).

Arthur 'Art' Blakey (b. 11 October, 1919; d. 16 October 1990) was born in Pittsburgh Pennsylvania and is most commonly revered as being one of the most significant bandleaders in jazz history because of the legion of "stars" who gained their early musical and professional experiences working in his band, The Jazz Messengers from 1956 until his death in 1990.

That Blakey's *feel* was amongst his most definitive characteristics struck not only Williams but also a variety of jazz writers, one of whom was David H. Rosenthal.

Rosenthal states in his introduction to a lengthy interview with Blakey:

Blakey is one of the least superfluously 'busy' drummers in jazz, and this has caused some critics to describe his playing as a 'simplification of Max Roach's and Kenny Clarke's styles. His rhythmic sense is so razor-sharp, and his foot and wrist control so precise, that he need do little more than 'keep time' to create an atmosphere of tremendous controlled power. His accompanying

figures sparingly used, come at the right moments to support the soloist with sudden bursts of energy. Likewise, Blakey's solos are usually structured around a few melodic motifs played against each other contrapuntally as he builds to a climax. Musical coherence is never sacrificed to technical flash. (Rosenthal 1986, 269)

Rosenthal's interview is the source from whence much of the information about Blakey is here summarised. Blakey was interested in jazz music very early on and was "nurtured" by the rhythms in the church he attended. Prior to leaving in 1939 to tour with Fletcher Henderson, Blakey began to make his living as a pianist in Pittsburgh, "singing dirty songs" as he wandered around from table to table in a speakeasy playing a spinet. After hearing Erroll Garner play the piano, Blakey decided to quit the piano and took up playing the drums on the same day (Rosenthal 1986, 270-271).

Musically, Blakey was influenced by watching a Pittsburgh show drummer named "Honeyboy" Minor. He learned by watching Chick Webb and "Big Sid" Catlett whenever they played in Pittsburgh and by listening to them on record. Blakey also made a crystal radio receiver to listen to broadcasts from Chicago (272).

In 1944, Blakey began a three year stint playing in Billy Eckstine's band, which he recalled as his "greatest musical experience" (272). Blakey foreshadowed Williams' inner urgings to develop new ideas in the music when he said, "I wanted to be different...sort of an innovator—to try and find different things to do...different ways to play. I watched Chick Webb, watched him develop from being a time-keeper to being

a band-leader, from the back to the front. And he was fantastic, so then I took a lot from him" (Rosenthal 1986, 272).

Blakey observed that the people who participated in the music gave off a sense of happiness and that it was this happiness that made the music *swing*. This sense of "swingin'" was generated by musicians playing together with "split-second timing" without reading any music—an indirect reference to a kind of musical entrainment—and is what appealed to Blakey most about playing jazz (1986, 272). He referred to the act of playing music while reading from notation as "conventional" music whilst his term for improvised music played by ear was "jamming" (273).

When asked for his thoughts on so-called "cool" music hailing from the American west coast in the late 1940s and early '50s, Blakey responded by saying,

They don't have no fire in their music. The place, Los Angeles, is too far spread. I just left them out there. Now, if you live in Hollywood and you're going to a concert by the sea out there, it's forty-nine and nine-tenths miles. And if you drive out there and have a couple of drinks, and you want to go somewhere else, you can't make it. You've got to go home. You've driven almost a hundred miles, or over...You go out there, you get lackadaisical. It's too far apart. The musicians do not come together, and that is important...I don't think they had any fire, that's what I'm saying. Fire! That's what people want. You know, music is supposed to wash away the dust of everyday life, not come in cool. You're supposed to make them turn around, pat their feet. That's what jazz is about. (Rosenthal 1986, 277)

In the above statement, Blakey is suggesting that a community has more chance of supporting a jazz community when that community comes together and that this coming together is what generates the "fire" that he insists is so important. I interpret

this to mean that *feel* is generated by “coming together”, which establishes a kind of well-networked community as well as a kind of entrainment as I have described it.

In relation to the notion of feel then, Blakey’s suggestion is to

Play with fire; play from your heart, not from your brain. You got to know how to utilize, make the two meet. You just don’t play out of the top of your head, or play down to the people. I think you should play *to* the people. (Rosenthal 1986, 278)

That Blakey’s feel is derived from his conviction that music is to be played from the heart is further hinted at in the following statement:

All the great artists and all the great painters and all the great musicians that I know about way before me never played for money. They did it because they believed in it. That’s what they wanted to do, and believe me when I tell you: it takes more nerve to be a jazz musician than any other kind of musician in the world. It takes a lot of guts. You talk about having heart! You got to have a whole lots of heart! (Rosenthal 1986, 278-279)

One of Blakey’s reasons for forming the original Jazz Messengers with Horace Silver, Kenny Dorham, Doug Watkins and Hank Mobley was to eliminate the informal jamming referred to earlier and to present a rehearsed, planned set of music for the sake of audience satisfaction. This was due in part to Monk telling Blakey that he had to “identify” himself when playing the drums (280). Blakey began to do this by presenting an organised ensemble that played arrangements, and that didn’t just “jam” (Rosenthal 1986, 280).

Regarding technique, Blakey wasn't concerned with any methods or theories espousing any correct way to hold a drumstick, instead he speaks of the nature of unpredictability in jazz improvisation and the problems with transcription:

There's no certain way to do it; you don't hold the sticks a certain way. The Africans don't hold the sticks a certain way; they've been beating drums a long time. The main idea of it is to get results. So, [some English musicians] said they were going to sit there and write down my solos, so I started playing a thing with a tissue-paper roll. I brought the roll up real high and—BAM! I looked around and said, "Now write that down!" See? Damn the notes. The *feeling* is the thing, and they cannot do that! That's what it's all about in jazz'. (Rosenthal 1986, 284-285, emphasis in the original)

Blakey talks indirectly about his wish to employ only musicians operating in a state far from equilibrium as described in Chapter One:

I feel that a guy in my band--, if he just plays clinical and doesn't make no mistakes, I can't use him. I know he's not trying. I don't want him to show off how much he knows, how many changes he can play.

Trying to get perfection—that's *stupid!* There ain't be One perfect, and that's God. The only thing we can ever hope to reach and ever will reach is a degree of excellence. That's all you can do. You cannot be perfect. That's impossible! Reach that degree of excellence, and then you reach up a little higher. (Rosenthal 1986, 286)

Finally, in defining what he meant by excellence in the quote above, Blakey describes his professionalism. By "excellence", Blakey means

Knowing your instrument and playing from your heart. Don't be afraid to enjoy what you're doing. If you enjoy it, the audience will enjoy it. The audience don't come there to be given a music lesson; they come in to enjoy themselves. If the soul is sad--, no matter how sad you are, if you start smiling or laughing, the soul begins to rejoice. But if you're sad and depressed yourself, the soul begins to mourn and get depressed. It's the same thing in music; it's a spiritual thing. If you're enjoying yourself. They begin to enjoy themselves!" (Rosenthal 1986, 286).

“Knowing your instrument” could be interpreted to summarise what I believe Williams meant when he ascribed the term “technique” to the drumming of Max Roach and I will now elaborate on the relationship between Williams and Roach.

## **Max Roach**

In 1959, Williams formed a relationship with Max Roach that was to mark the beginning of an important mentorship for the remainder of Williams’ career. Roach’s band toured through Boston and, as he had approached Blakey about sitting in a year earlier, Williams approached Roach, receiving a similarly affirmative response. On that occasion, Roach’s band included Booker Little on trumpet, George Coleman on saxophone, Ray Draper on tuba and possibly Art Davis on bass (Gibbs 1976, 18). In that same year, after having saved 20 out of 30 dollars a week, money earned by working a three night weekend on his first gig and, with the help of his mother, Williams bought a set of Gretsch drums identical in size and finish to the silver sparkle set Max Roach used at the time (Wald 1978, 6; Mattingly 1984, 46). Williams remembers:

Max Roach was perhaps the biggest influence. He brought a tremendous musicality to the drums. Playing a drum set is different from playing congas or timbales or other percussion instruments. A trap drum set is a dance band set that has a tradition of its own. You sit down to play it, and you play with all four limbs. Max brought a very modern touch to drumming. When he took a solo, you could hear the song that was being played. When Max took solos on a 12 bar blues, you heard the 12 bar phrases; if it was a 32 bar song, you hear the 32 bars. He played the song, and he enabled you to hear it. He fulfilled what Sid Catlett and Baby Dodds had been approaching before him. He crystallized what they had been doing into a very profound statement. (Underwood 1979, 54)



Of Williams at this time, Roach recalls:

I knew him when he was a little boy, when his father used to bring him to the clubs in Boston. And even though his feet couldn't touch the pedals, he could play the arrangements of all the bands, Jazz Messengers and the others. He knew all the drummers' parts. (Flans 1997, 87)

As the following background story on Roach will attest, Roach must have seen someone much like himself when he met Williams in 1959. Maxwell Lemuel Roach was born on 10 January 1924 in Newland, North Carolina and died at age 83 on 16 August 2007 in Manhattan, New York (Keepnews 2007). When Roach was four years old his family moved from his hometown to the Bedford-Styvesant district in Brooklyn, New York City where he was to grow up. He became musical at a young age, beginning piano lessons at age eight and beginning to play the drums a few years later (Mathieson 1999, 125; Keepnews 2007). Some of Roach's earliest musical experiences involved him performing with jazz luminary Duke Ellington as well as with Lester Young while still a teenager. Roach recalls receiving an important and informal lesson from Young on developing originality as a musician:

When I first got to play with Lester Young as a youngster, I thought I should try to play just like Jo Jones, because that's what I figured Prez [Young] would want. One night, I said goodnight to him after the gig, and what he said to me by way of reply was 'you can't join the throng 'til you write your own song'. That was his way of telling me that playing like Papa Jo was not the way for me to do it, and I have never forgotten that. It's a story I often tell young musicians, and the moral is that the people who have really come up with the great music in this field are the ones who have developed a truly individual voice. (Mathieson 1999, 126-127)

Roach enrolled at Manhattan School of Music initially as a timpani major under the tutelage of Al Friesse who also taught Saul Goodman (Bravos 1982, 39), but after being

told that his technique was incorrect, Roach switched to composition major (Taylor 1993, 117-118). He paid for his tuition by playing gigs on 52<sup>nd</sup> street, first as a pianist, and later as a drummer. Whilst he was a pianist, the drummer on those gigs was Art Blakey (Bravos 1982, 40).

Roach talks in several places about an idea he received from Jo Jones that indirectly indicates that Jones had a sense of the importance of the development of musical and social entrainment in bands. For example, he remembers that,

When the great Count Basie band first came on the scene, it seemed to me that everyone in that band had their own very strong individual personality. Later, Joe Jones told me that he felt that was a result of the time they spent playing together which allowed them to develop in their own individual way, and I have always remembered that as a band-leader myself. (Mathieson 1999, 151)

Roach reiterates this notion of entrainment in a way that also describes

Csikszentmihalyi's differentiation and integration characteristics of the autotelic

personality that are essential for originality and creativity as discussed in Chapter One:

You have to work with the people for a while. I was talking to Joe Jones one day. He commented something like, 'It's very important how a person develops his own musical personality.' He says, 'First, you have to be in a situation for a few years, the same musical setting, so that you can develop your character....I notice most of the people who have an *easily* identifiable musical character are those who are with steady groups and they travel around.

You have to be there to play every night and deal with your instrument, and with yourself in a situation that allows you a chance to experiment and add and discard, and add and discard, until finally you come up with something. (Fish 1982, 10)

Seeing himself primarily as a composer (Bravos 1982, 39), Roach seemed to have applied a compositional approach to developing ideas on the drumset and it is this

compositional trait that led Williams to cite Roach as being “melodic” and, ultimately as being the drummer who, to him, exemplified technique. Roach’s perspective on the physical aspects of playing the drumset that are usually referred to as being technical took less of a priority than the compositional aspects:

After you’ve mastered the techniques and you’ve got good hands, good feel, good coordination; your separation is together, you know how to use all four limbs equally yet apart, the next step is *ideas*. You have to create and invent new ideas that do things, and each idea has to be different. It has to be a different challenge. If this idea is dense, then maybe the next idea you’re playing can be very open. There are gradations *between* dense and open. You use all the techniques that are involved in creating a musical composition or creating a poem: periods, question marks, call and response. All these kind of things. It can be done within the context of a piece that’s being played, if you’re playing within a solo context. (Fish 1982, 52-57)

It is interesting to note that, despite Roach’s interest in creating and inventing new ideas, Roach physically assaulted Ornette Coleman (and threatened Coleman with future violence) following a performance of Coleman’s at the alternative Newport festival in 1960 for which Roach was joint-curator with bassist Charles Mingus, so enraged was he by Coleman’s new and unique approach to jazz (Anderson 2007, 51), an approach explained briefly later in this chapter.

One of the most generally agreed upon attributions of Williams’ drumming of the 1960s and that is discussed in detail in later chapters, is the quality of the sound he drew out of the ride cymbal. The sound itself has been described in various ways in countless articles not least as being representative of “that K sound” – a slogan cleverly adopted by the Avedis Zildjian company in their advertising materials. On his cymbal of the 1960s, Williams recalls:

The K. sound – I got that from Max actually. Years ago – I think it was 1960 – I came to New York to visit Max. I had met him I think in '59 or '58...I went to visit him and we went out to the old Gretsch factory in Brooklyn. I met Mr. Gretsch – Fred Gretsch. At this time they had K. Zildjians at the factory. Max said, 'Here, why don't you take this one? This sounds great.' Max started me on the sound – a big, high, dark sound. That's the ride cymbal I have. It's a high tone, but the cymbal itself is a dark sound. I learned that, definitely among other things from Max. (Mattingly 1984, 46)

Reiterating Roach's perspective that the next step one has to take after sufficient technique has been mastered on the drumset is that of developing *ideas*, I will now examine how Williams came to identify Philly Joe Jones with creativity.

### **Philly Joe Jones**

Williams recalls that he "used to listen to Philly Joe night and day" (Tolleson 1986a, 46) and cites Jones as being "sort of an amalgam" of both Blakey and Roach (Underwood 1979, 54). To Williams, Jones was the drummer who personified creativity and "brought his own spark and lift to the drums" (54). Jones (born 15 July 1923; died 30 August 1985) was born Joseph Rudolph Jones in Philadelphia and later had his name legally changed to Philly Joe Jones as bandleaders would introduce him as "the Joe Jones from Philly", which turned into "Philly Joe" to avoid being confused with drummer Jo Jones from Count Basie's band (Mattingly 1982, 10).

After being discharged from of the armed services, Jones drove a streetcar in Philadelphia and bought his first set of drums. "I took them down in the cellar where I lived, and just went to it, until I thought I was ready to come out of that cellar" (10).

Once he came out of his cellar, Jones found himself a gig playing drums at night whilst continuing to drive the streetcar in the day for the next six months. Blakey and Roach would be passengers on the streetcar whenever they were in Philadelphia. Jones would go to hear them play and they would also go to hear him play in the night time. He was also influenced by the drumming of Sid Catlett, Kenny Clarke, Chick Webb, Buddy Rich (41) and Baby Dodds (44) amongst others such as O'Neil Spencer and Slim Gaillard (Gleason 1994, 39). During long conversations in the streetcar, and in a grocery delivery truck that Jones also used to drive, Blakey and Roach would ask Jones, "Why don't you come to New York?" (39). After becoming "tired of being in Philadelphia" (Mattingly 1982, 10), Jones moved to New York City in either 1947 or 1948 as he recalls (11).

Jones became extremely busy as a freelance musician in New York in the early 1950s:

I started getting a lot of record dates thrown my way. They were really coming *fast*, and I was the most-recorded drummer in New York for about a 10 or 12 year period....Sometimes I'd be doing 2 or 3 dates a day! I had drums in one studio, and another set in another studio, because I didn't have time to set them up. I'd just grab the cymbals and run. I'd maybe finish one date at 3:00 in the afternoon, and be on another one at 4:30, at a different studio. (Mattingly 1982, 11)

During this period Jones received a lot of calls to play on big band dates and so he began studying with Cozy Cole to improve his music reading ability. He also reports that he knew Roach to have studied some "advanced things" with Cozy Cole (Mattingly 1982, 11) although it is unclear as to what these "things" were.

As well as revealing details about his own development, Jones offers some insights about the nature of the study done by the musicians of the day when he was with Miles Davis. It was peer support, encouragement and inspiration that led these musicians on. He describes ideas that incorporate notions of synergy and entrainment when talking about the significant influence that both Davis and Eric Dolphy had on John Coltrane's musical development:

John started to evolve when he joined Miles....Miles would suggest things to Trane which were very valuable and Trane would listen; he was the kind of guy who wouldn't pass anything up. And on top of that, he started seeing another way *he* wanted to go, so he started studying harder.

Eric Dolphy played a heck of a big part in John's life. Eric was a virtuoso and he would come into the room in California when Trane and I were rooming together. Every day, I would wake up to Trane and Eric playing in the other room and they would be unravelling....Eric loved him and he loved Eric....I would hear them going into the things that you started hearing Trane play a little later. Eric influenced Trane about playing that way....(Davis 1976, 51 - 52)

Jones seems to echo the ideologies of Blakey and Roach in that a drummer needs to develop an identity, and foreshadows Williams ideology by stating the need to develop a deep understanding of the music of the past:

I always say a drummer has to find himself; seasoning means so much...

...Young drummers today are coming up in an era where all of us, all the drummers the young ones admire, are playing modern drums. Therefore, the young drummer doesn't have in his mind the older drummers: Chick Webb, Baby Dodds, or Sid Catlett. They haven't ever seen Baby Dodds or sat and watched him play like I did. Or Sid. These are the drummers for the next 20 years. I don't care how the drums move. If any drummer can tell me he can't go back and listen to Chick and Dave Tough and Baby and Sid...and tell me that's not drums, I'll break up the drums and forget it! (Gleason 1994, 38)

There is a sense in Jones' statement here that as Blakey, Roach and Jones were the pre-eminent drummers of Williams' era, then Webb, Dodds and Catlett were the pre-eminent drummers of Jones' era.

When asked what makes him feel good when he's playing, Jones replies by saying that

What makes me feel good is when I'm playing something I know I haven't done before. Whenever I hear something that I know I can't play, that's when I go home and practice. I get angry when I try something and it doesn't come out, because my hands are strong enough to make it come out. (Davis 1976, 19)

This statement reveals very strongly that the element at the forefront of Jones's mind with regard to playing the drums is that of *creativity* as Williams identified early on and he displays signs of being in a state far from equilibrium when he is most creative.

Finally, in discussing Coltrane's motivation to continually do more, Jones relays an idea about the need for creativity and warns against any egotistic failure to integrate and continue learning:

...[T]here's no end to music anyway. You can't ever find out everything about your instrument; you're going to keep on searching and you're always going to find something new. But if you get satisfied with yourself, you'll never find anything new. That's the trouble with some of the young musicians today. They get satisfied with the little something that they can do because they sound good and somebody tells them they sound good. So they think, 'I've made it now.' You haven't made it! There's things on the drums I'm hoping to play that I haven't played yet. And I will, because I keep at it. (Davis 1976, 52)

### **Miles Davis, Jimmy Cobb, Louis Hayes, Roy Haynes and Others**

In 1960, Williams met drummer Jimmy Cobb as he toured through Boston. A year later, Cobb returned to Boston with saxophonist Hank Mobley, pianist Wynton Kelly

and bassist Paul Chambers in the Miles Davis Quintet. Of Davis, Williams said, “I was a real fan at the time; I would just wait for *Down Beat* to come out and cut out the pictures to paste them in my book” (Gibbs 1976, 18). Williams asked Cobb if he could sit in as he had done with Blakey and Roach and Cobb replied by saying he wasn’t sure and that Williams had better check with Davis. After the set of music finished, Williams crossed over the stage into the backstage area and asked Davis himself, and Davis denied Williams’ request to sit in by instructing him to “[g]o back, sit down, and listen” (Ephland 1989, 21; Gibbs 1976, 18). “Just having him say something to me was great” (Gibbs 1976, 18), recalled Williams. Cobb, as well as Louis Hayes took the time to sit down and show Williams some drumming techniques (Gibbs 1976, 18; Flans 1997, 98). According to Hayes:

I met Tony when I was appearing with Cannonball Adderley in Boston. I had never heard him play, but we liked each other as two individuals. We’d talk in my room, then I met his mother and father...Tony and I began practicing together. He always had a direction of his own to develop. I think he developed his cymbal beat from me. As far as his concept, it came from listening to Roy Haynes and Alan Dawson.

When Miles asked me to join his group I couldn’t because I was new to Cannonball’s group, so I recommended Tony. After that we would practice together at the Vine Lodge in California when I was with Cannonball and he was with Miles. Those hot summer days—the other people would be swimming, but Tony and I would be practicing.

Tony was one of the hardest-working musicians around. He would practice all day. His main interest was music and developing what he wanted to get together. He didn’t have too many other interests at that time. That’s why he developed to such a high level. He had a great mind. At a young age he had a concept and he knew exactly what he wanted. He couldn’t be swayed. (Flans 1997, 98)



Roy Haynes says:

I remember when I first met him in the Roxbury section of Boston at a club called Connelly's. He was fifteen or sixteen then, before he worked with Jackie McLean. He was a young fellow wearing a cap and with a toothpick in his mouth. When I first heard him play I asked him to sit in; he just rolled so distinctly. Tony had a natural feeling for the instrument. He knocked me out. (Flans 1997, 98)

Louie Bellson also remembers meeting a very young Williams:

His father brought him to an Ellington concert I was performing at when Tony was tiny; I think he was seven. When his dad introduced him to me, I said, 'He's a drummer.' He looked like a drummer even at that young age. (Flans 1997, 86)

### **Sam Rivers and the Boston Improvisational Ensemble**

When Williams was ten, his parents divorced (Tolleson 1986b, 36) and he went into his mother's custody. After the divorce and around the time Williams was fifteen or sixteen (Woods 1970, 18), Ms. Juanez would go away from Monday to Friday in order to further her education. While his mother was away, Williams would "entertain" himself by going to New York by bus as apparently by this time he had left high school to play drums. "She'd leave on Monday morning, and Monday afternoon I was on the bus going away, to New York. And I'd be here 'till Friday morning; I'd come right back and she'd come in Friday night" (Cox 1970, 33). Presumably it was during one or more of these trips to New York in which Williams' expeditions to the Zildjian warehouse with Roach took place. Tillmon wanted his son to play music but was opposed to the idea of him becoming a professional as he didn't want the music to interfere with school studies. He was always encouraging, however knowing about everything that

went along with being a professional “felt there was always the danger of evil forces”. Williams also felt that his mother “didn’t go for” the idea of him becoming a professional musician (DeMichael 1965, 19).

Throughout this period, despite the feelings of his parents, Williams was also acquiring practical performance experience in Boston, primarily with saxophonist, flautist and pianist Sam Rivers, whom Williams later recommended as a member of Davis’ quintet for a brief 1964 tour of Japan. Rivers formed a quartet in the early 1960s with an adolescent Williams on drums, Hal Galper on piano and bassist Henry Grimes (Panken 2000, 35). Rivers remembers Williams introducing himself with an attitude expressing, “I’m here, check me out” at the time they met, and his recollection of Williams’ drumming of the time was that “there were very few musicians who really liked to play with him, because Tony liked to play fast and that was a problem for a lot of musicians” (Erdmann 2004, 24). Williams says that he “really got a lot from” Rivers—in his thirties at the time—by “hanging out, acting foolish” and playing with him (DeMichael 1965, 19). Williams and Rivers met in Club 47 in Cambridge and continued working there (Woods 1970, 18). Rivers’ recollection that not everyone wanted to play with Williams is echoed here in Williams’ statement that there was a degree of competitiveness and hostility evident in some of the older Boston musicians at the time:

We used to go into clubs, and they wouldn’t let us sit in...I remember one time, this friend of mine [pianist Phil Moore III], we were in a band, a beautiful

band<sup>24</sup>. We were playing in a club, and they came in and told the leader of this band, 'You don't need those kids. You need some older men. You need some experienced men.' So they got the gig. (DeMichael 1965, 19).

Williams and Rivers would get together with other musicians who became known collectively as The Boston Improvisational Ensemble, "a chamber group of avant-garde European musicians who played a mixture of classical music and jazz, but not in an obvious or clumsy way" (Coryell 1978, 115). The ensemble played on Sunday afternoons and would improvise to cards, time, watches, a clock, to numbers on the wall, as well as playing behind poetry (Ephland 1989, 21). "They'd put graphs up on the wall, and we'd play to that and then they'd put numbers up and we'd play to that, and we'd play to a timeclock, in all kinds of variations, different variations, and from that we went to other things" (Woods 1970, 18). According to Williams, "A guy would say, 'okay, we're going to play this phrase for two and a half seconds,' and it was really out. I was doing that for a long time, even when I came to New York" (Cox 1970, 14).

As stated earlier, Williams is also reported by pianist Mike Nock, a colleague at the time, to have been profoundly affected by Stockhausen's work, *Gesang der Junglinge* (1955-1956) for solo voice, tape machine and five speaker surround sound system around this time (Hall 2004, 4). Although the literature is not exactly clear about the ways in which Williams was affected by this music, drummer Billy Hart reports that in addition to Stockhausen's music Williams was "into" Varése and Messiaen (Micallef 2008, 46).

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<sup>24</sup> Howard Johnson also played baritone saxophone on these gigs with Moore and Williams—Johnson did not yet own a tuba (Stokes 2005, 89).

## **Ornette Coleman and Elvin Jones**

Pianist, Leroy Fallana asked Williams to join his band when Williams was fourteen or fifteen years old. Rivers was also in the band and the bassist was Jimmy Towles. The material was “straight-ahead” owing to Fallana being a “Horace Silver-type of piano player”. It was during this period that Williams began to play “dates [and] casuals” (Ephland 1989, 21). Also during this period is when Williams recalls having first heard the music of alto saxophonist Ornette Coleman. “When I was in Boston, playin’ with Sam, one of the things that really opened my ears was the first time I heard Ornette Coleman. That first record I heard – I think it was *Change of The Century* – was just unbelievable, the impact it made on me. This was about 1959, 1960” (Ephland 1989, 21). Coleman’s iconoclastic approach is summarised briefly by Anderson:

Coleman reordered structural principles to afford the members of his group maximum melodic and rhythmic freedom. By allowing each musician to play inside or outside conventional chord, bar, pitch, and tempo guidelines, he pursued an expressive and collective approach to improvisation. (2007, 1)

Williams also recalls that it was around the time that he was fifteen or sixteen years old that his concept including the notions of feel, technique and creativity began (Williams 1985, 32:00).

Another event that seems to have opened Williams’ ears up around this time is described by tuba player Howard Johnson. Johnson met Williams whilst based in Boston as a member of the navy and lived in the Williams household for two years until early 1963. Johnson was performing with Alan Dawson, Herb Pomeroy and artists emerging from Berklee, including Chick Corea and Gary Burton. Johnson was later

associated with Eric Dolphy and appears with Williams on the Gil Evans and Miles Davis recording of *Falling Water* (Stokes 2005, 89; Davis and Evans 1996). Johnson recalls that

...when [The John Coltrane Quartet's] *Africa / Brass* (Coltrane 1961) came out [Williams] used to spend hours playing along with it. He'd turn it up real loud. That record put his whole playing into another space...He would spend hours playing [it] over and over again. I'd wake up in the morning and he'd be doing that. (Nash 1997)

In Williams' confession that he initially did not like Jones' drumming, he also goes on to demonstrate that his primary concern was that of originality through at least to 1970 when the interview took place:

When I first heard Elvin Jones, I didn't like him, it bothered me. But that was then. And that type of playing has a mood, a temperament and I try to get out of that because it's been done, I've done it and people still play a certain way. My influences are like what I *don't* want to play now. What I *do* want to play is coming from another area, a higher plane. Like the way rock drummers play. I'm taking from that and maybe I'll come to something that nobody has heard. Because I listen to rock drummers and they're playing hard and they're playing OK, but still a lot of it is shit that I wouldn't dream of playing anymore" (Woods 1970, 18).

### **Jackie McLean**

By 1962, at the age of sixteen, Williams was regarded as one of the finest drummers in Boston. He was a member of the house rhythm section in a club named Connelly's. The club would hire a different "name" horn player from New York each week for a week at a time. Alto saxophonist, Jackie McLean was one of these name players in December 1962. McLean offers insight into Williams' character at the time in the liner notes to his Blue Note album of early 1963, *One Step Beyond*. McLean states:

In December 1962 I left New York for Boston to do a week at Connelly's. It was the week before Christmas, to be exact. Again it was a local rhythm section and again it was the rush to get in town early the first day to rehearse the section and get some originals set up. It was already dark when I arrived at the club.

When I hit the door, a young man gave me a hand with my bags. I thanked him and sat down to catch my breath. After a few minutes, the young man returned and informed me that the musicians were up by the band stand and waiting. Looking at this youngster again and thanking him once more, I assumed that he was a young jazz enthusiast waiting to listen to a band rehearsal before going to home to his studies. At this point I stood up, and having no idea with whom I was going to play, I turned and asked the kid if he knew who the musicians were. He immediately answered, 'yes with a certain look of excitement in his eyes. 'Who's on bass?' I asked. 'John Nevs,' was the reply. 'And on piano?' 'Ray Santizi.'

'What about the drums?' I inquired. 'ME! —Tony Williams—and I am very happy to meet you, Jackie.' 'You?' I said with amazement and some doubt seasoned with a little worry all mixed together. 'Damn—you'll have to excuse me, Tony, but you look so young! How old are you?' 'Seventeen,' he answered with a big, happy grin that I was to get to know very well in the weeks and months that followed. We had a lot of musical fun that week. The whole rhythm section was good. John Nevs and Tony had played together quite a bit, and in Tony I heard and felt a fresh inspiration that made me want to play. (McLean 2000c)

In Ephland (1989), Williams states that McLean asked Williams to accompany him back to New York to work in Jack Gelber's play, *The Connection* (Redd 2005) and that when asked, Williams said "yeah sure, I'd love to, but you'll have to ask my mom". However, in the *One Step Beyond* liner notes McLean claims that it was Williams who instigated the move. McLean recounts:

One night, between sets, Tony told me that he would love to come to New York and work with me. At the time *The Connection* was still running, and I was Musical Director. So with Mrs. Williams' (Tony's Mom) consent and blessings, I brought him to my house on Christmas Eve. I couldn't think of anything more that I would want for Christmas. We worked *The Connection* until it closed. (McLean 2000c)

Litweiler further obscures the facts in his erroneous statement that “Williams, who at age seventeen left home in Boston to play a 1962 Christmas week gig with Jackie McLean in New York, and stayed” (1984, 116). Williams said that he had wanted to get out of Boston and move to New York for a long time, and so McLean became the link for the move that Williams supposes would have happened eventually anyway. Williams lived in the McLean house from Christmas Eve 1962 for several months (Ephland 1989, 21).

### **New York City, 1963–1969**

Once Williams moved to New York with McLean, his recording career began almost immediately and I have divided his recording career until 1969 into three periods.

These are:

1. Jackie McLean and *The Connection* (11 February 1963 – 30 April 1963)
2. Acoustic Period with Miles Davis and Others (14 May 1963 – 19 July 1967)
3. Electric Period with Miles Davis (4 December 1967 – 18 February 1969)

The period with Jackie McLean and *The Connection* is brief, spanning only eleven weeks, whilst the Acoustic Period with Miles Davis and Others is the period in which Williams made most of his recordings in the 1960s, lasting just over four years before the brief transitory Electric Period with Miles Davis, lasting just over one year from 4 December 1967 to 18 February 1969.

### **Jackie McLean and *The Connection***

As well as performing in *The Connection*, Williams played drums on many other concerts with McLean and on four recordings after moving to New York, prior to recording as a member of the Miles Davis Quintet. These recordings were made in the two-and-a-half months between 11 February 1963 when he made his recording debut on Jackie McLean's lesser-known *Vertigo* to 30 April 1963 when he recorded again with McLean on *One Step Beyond*. Two more albums were recorded between these two dates and subsequently released. These are, *My Point of View* by Herbie Hancock, recorded 19 March 1963; and, *Una Mas*, recorded 1 April 1963 by trumpeter Kenny Dorham. If Williams had not have gone into Miles Davis' fold in the early May of 1963, these four recordings represent that Williams was not only a proficient enough musician to have held his own in jazz music's most highly advanced company for the time, but that he was also beginning to pave new rhythmic ground on the drumset as I discuss in Chapters Three and Five. The eighteen pieces recorded on these four albums represent most of the broad categories in which Williams' recorded output would fall and develop over the ensuing six years, as is discussed in Chapter Three.

It is interesting to note that McLean and others neglect to mention the recording session that took place in February 1963 that resulted in the 1980 release entitled *Vertigo*.

Perhaps McLean was under the impression at the time of writing the liner notes to *One Step Beyond* that *Vertigo* would never be heard by the general public. Richard Cook cites three sessions that took place under McLean's name for Blue Note between his 1962 album, *Let Freedom Ring*, and *One Step Beyond* (Cook 2003, 164). *Vertigo*



features a different band than that used on *One Step Beyond*. The musicians on *Vertigo* are trumpeter Donald Byrd alongside Herbie Hancock at the piano and Butch Warren on bass. This is an important session as it is the first recording that features Hancock and Williams playing together as well as being Williams' recording debut. As will be seen in later chapters, the musical entrainment that developed between Hancock and Williams proved to be one of the most vital aspects in the development of jazz music in the late 1960s.

*One Step Beyond* was notably more avant garde than anything the saxophonist had previously recorded as he, like Williams, had been influenced by the changing tides ushered in by Ornette Coleman's music and was also searching for something new (Cook 2003, 162-163). McLean says that Williams "spent hours" listening to African and Indian music and that they spent some time listening to Indian rhythms together and discussing "the many rhythmic possibilities between horn and drums". He also says that the band rehearsed frequently in order to develop new ideas—many of which were Williams'—prior to recording *One Step Beyond* (McLean 2000c). Acceptance of the freer style however was lukewarm at the time as Ingrid Monson reports. Pianist Cecil Taylor and his band—who were pivotal in pushing the boundaries of the avant garde at the time—were fired from the Coronet, a club in Brooklyn's Bedford-Styvesant area, due to the club manager feeling that the music "'was not good enough for the Coronet'" (Monson 2007, 273). Taylor and his band ignored that they had been fired and drummer Sonny Murray sat down at his drums to begin the next set of music when he was threatened with a knife by one of the manager's friends (274). After performing

in a similarly “outside” manner to Taylor’s band at the Coronet the following night, Williams witnessed McLean being punched in the mouth (274).

### **Acoustic Period with Miles Davis and Others**

Miles Davis took Philly Joe Jones to hear Williams play on a concert in midtown Manhattan with McLean after McLean suggested to Davis that he come and hear his new band. Trombonist Grachan Moncur III phoned Williams about a month after the concert to tell him that Davis was looking for him. Williams says he thought it was a joke and that he consequently hung up the phone. Shortly after, Davis himself phoned Williams from California stating that he wanted to get together upon his return to New York (Ephland 1989, 21). Williams met at Davis’ house with pianist Herbie Hancock and bassist Ron Carter for what turned out to be somewhat of an informal audition.

Hancock recalls of this time:

I didn’t find this out until many years later, but Miles had me, Tony and Ron play together in the recreation room downstairs [in his 77<sup>th</sup> Street Manhattan apartment] while he was upstairs listening to us over the intercom...He came in when we first got there, played a few notes on his horn, then said, ‘Ah, shit, I’ll be right back’ and that’s the last we saw of him. Ron led the audition, but not in a traditional sense. He was essentially functioning as a musical director. Miles had left sheets of music on the piano, so Ron took the lead and said, ‘Let’s play this’ or ‘Do you want to try this?’ At the end of the session, Miles returned and asked us all to return the next day. (Ouellette 2008, 104)

In the second of what would ultimately be a three-day session in Davis’ recreation room, Hancock recalls Davis listening to the trio in the company of his closest friends, arranger and composer, Gil Evans and again, drummer Philly Joe Jones, both of whom he invited over ostensibly “to listen to his new band” before he finally played a few

pieces with them on the third day (Ouellette 2008, 104). It was following this three-day session that the band went into the Columbia studio to record the three pieces that appear on Davis' *Seven Steps to Heaven* album (105). Shortly after this date, the band travelled to Europe and with Williams being so young he "wanted to go home" (128). Whilst on tour, the trio would have rhythmic conversations together lasting into the morning after each concert to discuss what they played that night and how they were going to support the soloist in the future (Davis and Troupe 1989, 278; Ouellette 2008, 119, 129). Davis makes an indirect reference to unpredictability and synergy when he says, "even we didn't know where it was all going to. But we did know that it was going somewhere" (1989, 278).

Carter uses the metaphor of chemistry to describe the musical relationship he and Williams developed over this period: "With Tony I knew we were going into this endless lab as skilled chemists, and we wouldn't get fired if one of us made some explosions along the way" (129). Davis said that Williams preferred when a player made mistakes if they were going for something in the name of creativity (Davis and Troupe 1989, 279). I interpret Carter's analogy here as being similar to the use of the notion of "Yes, and..." in improv theatre and elaborate on this notion in Chapter Three in my discussion of polytempo and superimposed metric modulation.

Davis assigned Carter the role of being Williams' chaperone during tours as Williams was still too young to be unaccompanied in bars in the United States, despite having been allowed to do so in his earlier youth as discussed previously (130). Williams

refers to having used a tape recorder “from early on” (Williams 1985) in order to provide feedback on his own performance and Davis recalls Williams as having acquired a tape recorder whilst in his band (Davis and Troupe 1989, 280). Hancock also used a tape recorder at that time for similar reasons (279).

The four years dating from 14 May 1963 to 19 July 1967 denote the period throughout which Williams recorded not only with Davis, but with a variety of other artists in acoustic live and studio-based environments. As well as appearing on more than a dozen recordings eventually released by Davis and recording two albums under his own name for Blue Note, Williams made himself available to multi-instrumentalists Eric Dolphy and Sam Rivers; pianists Herbie Hancock and Andrew Hill; saxophonists Wayne Shorter and Charles Lloyd; composer / arranger Gil Evans in collaboration with Davis; and trombonist Grachan Moncur III during this period. Not only did Williams record many examples of more traditional styles during this period, but this is when most of the early recorded documents of his exploits in the avant-garde were produced, resulting in a juxtaposition of extreme artistic contrasts, highlighting Monson’s observations that no musician she studied identified solely as being an “avant-garde” player (1991, 82). It is not as though the avant garde and traditional worlds existed in mutually exclusive ways for Williams at this time as he seemed to flow seamlessly from one style to another with extremely close proximity on his calendar. Indeed, one of the most apparent difficulties in analysing a body of work such as that of Williams’ in the current thesis is to distinguish between those two modes of existence that seem to keep many professional musicians embroiled in an internal struggle of values where the

dichotomy of meeting the assumed professionalistic necessities required to adhere to the practices established in a pre-existing tradition clash with a personal commitment to complete artistic self-expression such as is described in William Cameron's psychological explanation of jazz musicians<sup>25</sup>:

Identifying with jazzmen, [a young teenage musician] perceives the outside world itself as disorganized and crude and worthy of no respect. At the same time, the paradoxical demands of the group ideals and the conflicts between commercially profitable dance music and the esthetically satisfying jazz become almost intolerable, so that he must develop a sort of 'controlled schizophrenia'—an ability alternately to care and not care what he is doing. If he fails to make this tenuous adjustment, he may easily become seriously disorganized, but his neurotic and anti-social behavior will itself be tolerated by group members so long as it does not impede progress toward their principal goal—the production of jazz. (Cameron 1954, 182)

For example, not two weeks after being recorded playing mostly well-known standards and jazz classics with Davis in a concert at New York's Lincoln Centre on the evening of 12 February 1964 for a double release that is now compiled as the popular *The Complete Concert: 1964* (Davis 1992a), Williams was back in Rudy Van Gelder's New Jersey studio with Eric Dolphy to record the Blue Note release, *Out To Lunch* (Dolphy 1999), promoted as being one of the most iconoclastic statements of avant-garde musical principles. Williams' musical vocabulary on the one date seems audibly to inform what is also heard on the other. None of the Dolphy music was performed live though as it was only performed during the recording of the album (Sidran 1995, 282). Wallace Roney attests that at the time Williams recorded *The Complete Concert: 1964* he was "trying to tune his drums like Max [Roach]" and that upon hearing the first

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<sup>25</sup> Gander proposes a kind of *rapprochement* as a solution for this struggle (2005, 16-24), also discussed briefly in Chapter One of the present thesis.

playback of the concert recording he decided to change his tuning because he “thought it sounded like he was playing with knitting needles” (Wittet 1999, 146).

Williams’ revised notion of the drummer’s role is presented as being controversial in the drummers’ round table interview published by *Down Beat* magazine in March 1964. The article is entitled “Drum Talk Coast To Coast” and finds Williams in direct discussion with Art Blakey, Mel Lewis and Cozy Cole in New York City. This discussion is compiled amidst similar discussions that took place in Chicago and Los Angeles with several other prominent drummers from that period, including Shelly Manne, Elvin Jones and Joe Morello. Williams and Lewis appear to be at odds with one another on several key points throughout the discussion whilst Blakey sometimes acts as a kind of mediator between the two. One of the key issues is that of the assumed role of the drummer and the various sound sources of the drumset. I draw from *Down Beat*’s round table discussion in the analytical chapters.

Williams’ tenure with the Miles Davis Quintet dramatically increased the breadth and diversity in the music Williams consequently expressed on the drumset, especially in collaboration with Hancock. Hancock recalls that whilst travelling to Chicago together to perform on what would eventually be released as the “Plugged Nickel” albums, he and Williams “made a pact” that they would “go to opposite extremes” and play music that, “[i]nstead of playing with expectation, [they would] play the opposite of what was expected” (Ouellette 2008, 120). They called it “anti-music—purposefully destroying the music to put it together in a new way” (120).

Williams seemed to be unaware at the time of the impact his work with Davis was to have on the history of jazz music, nor did he seem to care. For example, in a 1965 interview with *Down Beat* magazine, he is asked whether or not he had been on any other recording dates other than with Davis at that time and talks only hesitantly about his first date as a leader for Blue Note Records. When asked why he was so hesitant, the article proceeds awkwardly as follows,

‘Oh, it’s just the way I feel. It’s not anything extraordinary. So if I say’—and his voice took on an extrovert’s manner—‘I just did my first record date, and it’s coming out in so-and-so month...’ He left the statement hanging, probably assuming he had made his point. (DeMichael 1965, 36)

Williams’ aloofness here reflects that of an artist concerned primarily with the problems of achieving musical excellence over the problems of achieving great commercial or extrinsic success, perhaps in the sense that Blakey meant as discussed earlier in this chapter.

By August 1965, Williams’ drumming had been received internationally as generally being novel as an article by Jack Cooke, published in the British journal, *Jazz Monthly* attests (Cooke 1965). Cooke, seemingly overwhelmed by Williams’ originality, is unable to hear Williams’ point of departure from his predecessors when he says,

[Williams’] style is based on a set of highly organised, musically mature ideas, and with such an individual style as this it is hard to trace influences. Indeed, it might be unfair; the high degree of originality that Williams shows in his best work and the fact of his extreme youth seem to imply that most of his time has been spent playing rather than listening to others, so it might as be well only to make out certain points of contact with other styles and leave it at that. (Cooke 1965, 15)

Cook then concludes by observing that “[t]o a very large extent the old conception of the rhythm section disappears completely on [*Out to Lunch*]” (16).

The presence of such a strange review in the 1965 British press in conjunction with Williams’ memory of this period brings about the observation that Williams was not entirely at ease in his personal life throughout the tumult of his rapidly garnered international acclaim. The following quote reveals Williams coming to terms with the significant age difference that made him much younger than many of the people he performed with and how lonely he felt with such a generational gap:

...I’ve had to go through what I’ve been through alone. When I was in Boston as a kid, there was no one else around me my age that was doing what I was doing. I was 10, 11, 12 years old working with guys in their 30s, 40s, and 50s. When I arrived in New York I was 17 and I was working with people in their 20s, 30s, and 40s. So I had already been through a lot at a young age. I had to develop the emotional strength to adjust and go through the things that I went through. (Ferriter 1990, 37)

Williams also admits to having suffered emotionally, stating that he felt the jazz community was only interested in his drumming and not in who he was as a person:

I felt like all everybody wanted was this drummer, that Tony Williams was not there, that I didn’t matter. And it caused me a lot of emotional pain.

I’m not talking about fans, I’m talking about people I worked with. That was the pain—that if I weren’t this drummer, I wouldn’t have these people as my friends. And I realized that was true. Everything that went on told me that. There I was in New York by myself—17, 18, 19—and the only reason I was here was because I played the drums as well as I did. It was strange, very strange. In Miles Davis’ band I was the youngest, the smallest and, as I felt, the least educated. I didn’t feel good about myself. (Scherman 1991, 55-56)

He also shows that he had to deal with still more professional envy in New York:



I go through that in New York. It's hard to put my finger on it. It's a feeling. Like one time someone said something like. 'Well, you're working with Miles; I thought I was going to have the gig, but that's cool, that's all right—go ahead and play.... (DeMichael 1965, 19)

The albums Williams recorded for Blue Note under his own name are unlike any other that Blue Note had previously produced in that the product of his first session, *Life Time* represents “the first complete program of '60s avant garde jazz to be released by the Blue Note” (Blumenthal 1999). Hancock, who plays on both albums recalls that Williams wrote the songs for his first album, 1964's *Life Time*, using a two-fingered technique on the piano:

One on his right hand...one on his left. No chords really, just two lines, and I had to write out the notes for him. His writing was very raw. But I wasn't about to dismiss something because it was a two-fingered composition; knowing the kind of mind Tony had, I just wanted to not get in his way, to help him realize whatever he had in the back of his head. And I still think the compositions on those first two albums [*Life Time* and *Spring*] were great. (Scherman 1991, 50)

Williams insists that his motives for making these records were purely artistic in that he was creatively striving to come up with something new and original, indicating another glimpse at his autotelic personality:

On those first records with Lifetime, or even those early Blue Note records, I was just trying to do something that no one else had done. I had been hearing things that other people had done and I thought, 'Wow, if they can do *that*, then I can do *this*.' That's how it came about. The problem that I had was that I didn't think about money. If I'd had that in mind, things might have been different. The music might not have been what it was. I don't know. If I had thought about money, I might have gotten involved with studio work, or gone in some other direction. But I wasn't involved in watching other people make money; I just wanted to work. That's been the major thing that's been frustrating – the fact that I wanted to work, and I wanted to play. Like anyone else, when I was a kid, I thought that all I had to do was be the best at what I did, and everything would be okay. But I found out that it wasn't that way. It was very confusing. (Mattingly 1984, 12-13)

He further elaborates that his two Blue Note albums

are more sort of free-playing, avant-garde kinds of things. And they came out really well...those were coming out of my experience with a lot of things—my love for Ornette Coleman’s music at the time, Cecil Taylor’s music, Eric Dolphy—all the things that I had heard that I was really involved in. I was listening to a lot of Bartók at that time, every day. Stockhausen and a lot of Stravinsky, too. So the influences were wide-ranging. (Milkowski 1992, 24)

Williams was working with Cecil Taylor throughout this period, although they didn’t record until 1979, and as well as playing a few times with trumpeter Freddie Hubbard, he also worked in the John Coltrane Quartet one night when Elvin Jones was playing at a drum exhibition (DeMichael 1965, 36). He expresses his uneasy feelings about having been on so many “all-star” Blue Note recording dates already at such a young age, offering an explanation as to the possible reasons that he only appears on Davis recordings after Rivers’ *Fuchsia Swing Song*, recorded 21 May 1965:

I started feeling very uneasy because everything—I wasn’t listening to anybody. The group I was with, with Miles, was so great everything else to me was—there was nothing that I had any desire to be a part of. People had asked me to make records with them and I had to turn them down because I didn’t want to make records just for the sake of making records, for the romantic feeling of being in a studio. Another reason was because I had played with about everybody I had wanted to play with...

...because I had already done what these guys were doing, was on top of what was going to happen, so after that, when they asked me again, I said, I’ve already done that, you know. I’ve already made a record with you. Then I started feeling, well, there’s got to be something else, because John Coltrane left such an impression, on not only the jazz scene, but the whole music scene with what his band produced. So it had to be something else. (Cox 1970, 32)

With Coltrane dying in mid-1967, this feeling Williams had, this “something else” revealed itself in the sound of electrically amplified guitars, such as that of Jimi Hendrix

(Cox 1970, 32). It was a sound that Davis would also begin to recognise and seek to incorporate in his own music (Stern 1990).

### **Electric Period with Miles Davis**

The fourteen months from 4 December 1967 to 18 February 1969 mark a brief period when Williams recorded exclusively for Miles Davis (and with Davis in collaboration with composer and arranger Gil Evans on one occasion) in a context shaped by the change of texture, timbre and dynamics resultant from Davis' introduction of electric instruments to his band. Several albums recorded in this period that are available today were not originally released at the time they were recorded, possibly because the record company executives may have been afraid that the apparent aesthetic shift in style and mood on these "out takes" would diminish Davis' future album sales and consequently income for the company, despite the fact that these shifts were adaptively inspired by the progressive music of the day.

James Brown's influential hit *Cold Sweat* was released in 1967 and Davis found himself "moving toward a guitar sound" in his music because he liked the way Brown used the guitar in his music. He also cites listening to influential blues guitarists Muddy Waters and B. B. King at the time (Stern 1990). The reason for moving toward the use of the Fender Rhodes electric piano was because, according to Davis,

The Fender Rhodes has one sound and that sound is itself. It has no other sound. You always know what it is. I'm crazy about the way Gil Evans voices his music, so I wanted to get me a Gil Evans sound in a small band...It didn't have nothing to do with me wanting to go electric, like a lot of people said, just to be having some electrical shit up in my band. I just wanted the kind of

voicing a Fender / Rhodes could give me that a regular piano couldn't. (Davis and Troupe 1989, 295)

As for the use of the electric bass, Davis says that he simply "wanted to hear the bass line a little stronger. If you can hear a bass line, then any note in a sound that you play can be heard" (Davis and Troupe 1989, 289). Davis' need to hear the bass line a little stronger could be due to the fact that Williams remembers his own playing becoming "more and more aggressive" around 1967 and 1968 (Ouellette 2008, 135), which could have obscured the timbre of the acoustic instruments with sheer volume. Davis goes on to say that when he moved into using the electric sound, he was moving in a direction that critics called "fusion", whilst he was simply only interested in experimenting with new sounds (Davis and Troupe 1989, 289).

Williams had been listening to popular music for a long time by 1967: "...When I was with Miles, I was 17. The Beatles were older than me. So why would people find it odd that I like that music?" (Mattingly 1984, 12). He remembers being the only jazz musician to have a poster of The Beatles on his wall in 1964 (Gibbs 1976, 17). Like Davis, he was also listening to Brown's funk. Producer Bob Belden confirms that Brown's "Cold Sweat" was of significant influence on the music of Davis' *Filles De Kilimanjaro*:

On the session reel for *Kilimanjaro*, Tony said, 'I'm hungry, I'm going to get a sandwich,' and he leaves...You hear a click. Tony goes to the record store and listens to 'Cold Sweat' and comes back and plays the tune. (Micallef 2008, 46)

In addition to Brown's music, Williams cites that he was listening to several other bands that had influence on him at the time. These were vibraphonist Gary Burton's band (Burton 1967, 1968a, 1968b, 1996), which featured guitarist Larry Coryell with Steve Swallow on bass and either Roy Haynes or Bob Moses on drums; and Charles Lloyd's group (Lloyd 1994) with pianist Keith Jarrett, drummer Jack DeJohnette and either Ron McClure or Cecil McBee on bass. Williams was also "right on" Jimi Hendrix "[w]hen he first hit the scene" (Gibbs 1976, 16).

I just started hearing a lot of electricity. The first thing I can remember—it wasn't the first thing to hit me, but it's the first thing I can remember—was Jimi Hendrix's first record and the sound of it, you know, with all that electricity, you—I mean, not presence electricity, but the amplified electricity, the sound of the guitars, and that started to excite me, and I wanted to hear more of that. (Cox 1970, 14)

Williams states that if he were to be stranded on a desert island, Hendrix's *Electric Ladyland* (1997) would be one of three recordings he would like to be left with (Coryell 1978, 117); the others being Elgar's *Enigma Variations* and Davis' *Milestones* (1958). Additionally, Berry Gordy's record label Motown Records with its pool of African American artists was beginning to make more of a national mark around this time<sup>26</sup>.

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<sup>26</sup> To form an idea of the impact that Motown had on the experience of African American people at the time, Oprah Winfrey is quoted as remembering that

It was December 27 1964—I was ten years old—when I tuned in to watch *The Ed Sullivan Show*...and it was a moment that changed my life....When I saw The Supremes on TV that night, it was magical to me because I had never seen black women on television (although we were called "colored" at the time) or anywhere for that matter who conveyed such glamour and such grace....And nobody was used to seeing us portrayed the way I saw The Supremes....And for years I wanted to be like Diana Ross or just somebody Supreme.

--Oprah Winfrey, *The Oprah Winfrey Show* (November 1993). (Quoted in Kooijman 2002, 4)

Although Winfrey is referring specifically to the triumph of African American women that was represented by the appearance of The Supremes on *The Ed Sullivan Show*, the sentiment applies to

Listening to the bands mentioned earlier, as well as to Cream (Milkowski 1992, 70) made Williams want to steer his music in a direction that incorporated electrically amplified instruments and he started to think about leaving Davis and forming his own group. Wallace Roney describes the events that led to Williams leaving Davis' band toward the end of 1968. Williams wanted Davis to use a guitarist in the band and so Davis booked George Benson to play, after initially using Joe Beck and Bucky Pizzarelli on other occasions. Roney claims that Jack DeJohnette gave Williams a tape of British guitarist John McLaughlin whom Williams included in the original line-up of Lifetime, his first band after leaving Davis, completed by organist Larry Young. Davis claims that it was bassist Dave Holland who gave Williams the tape of McLaughlin (Davis and Troupe 1989, 296). Lifetime began performing at Count Basie's club in Harlem to audience members such as Hendrix and Marvin Gaye. Davis was also in the crowd and enjoyed the music so much that he attempted to persuade Williams that he wanted the Lifetime line-up to be his own next band. Williams would only let Davis do this if the outfit was called 'Miles Davis presents the Tony Williams Lifetime', but Davis did not want to do this. Not known to Williams at the time, Davis did book McLaughlin to record on the *In A Silent Way* (Davis 2002a) session; the final recording session that Williams was to play on with Davis. Roney alleges that the reason Williams played only a very simple part on the drum rim for most of the album is because he was irate at Davis' apparent deception in booking McLaughlin and Young against his wishes for *In A Silent Way* (Micallef 2008, 48). Joe Zawinul is however the organist on *In A Silent*

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African Americans of both sexes as Motown was the largest independent record company and the largest black-owned company and had been dubbed, "The Sound of Young America" (Kooijman 2002, 4).

Way and not Young as Roney states. Whilst Jack DeJohnette claims to have joined Davis' band in 1968 (DeJohnette 2010), Davis confirms that he had begun using DeJohnette in the band in 1968 but that it wasn't until "around the first of the year of 1969" that DeJohnette actually replaced Williams in the band (Davis and Troupe 1989, 295). Whilst DeJohnette does play on a recording made 27 November 1968 (Davis 2009), Williams' final recorded appearance with Davis is on *In A Silent Way*. Davis said that he booked Williams over DeJohnette because he "wanted Tony's sound" (Davis and Troupe 1989, 295).

One reason Williams gives for leaving Davis' band to form his own is that he says he grew tired of Davis' pace in the recording process:

Miles would record in the morning from ten or whenever the studios at Columbia were available. He would record for three, three and a half hours. We would play two tunes, and that was it. This would go on for three days. I got tired of it. (Woods 1970, 16)

The band would spend often the entire three and a half hours doing many takes of one tune. In recording *Emergency*, Williams' band recorded for twelve hours straight on their first day in the studio in an effort to put as much different material on tape as possible (Woods 1970, 16), working at Williams' preferred pace.

## **Conclusion**

In this chapter I presented an unfolding of the detailed events that surrounded the emergence of bebop music in New York in the 1940s and traced the lineage of bebop's

intellectual community to 1962 when Williams joined. I then followed Williams' activity after he moved to New York City and discovered that his prodigious skill led him at times to feel isolated as people were more interested in Tony Williams the drummer and not Tony Williams the person. I showed how Williams ardently pursued his drumset ideology until the time he left Davis to form his own group. In pursuing his drumset ideology and striving for originality, Williams embraced a lot of the popular music of the day that included the use of electrically amplified instruments and this led him to play with more velocity on the drumset, expanding the instrument's expressive capacity. In the following chapter, I investigate the styles in which Williams exercised his drumset ideology throughout this period by presenting a detailed overview of some of his contributions to jazz, culminating in the onset of a postmodernist aesthetic that has since been called post bop, jazz-rock and fusion.



## Chapter Three

### A Stylistic Overview of Tony Williams' Drumming to 1969

In this chapter I present an overview of the various stylistic contexts in which Tony Williams's drumming was recorded until February 1969. Williams was already an experienced and proficient drummer by the time he recorded with McLean for the first time, and much of his development can be said to have occurred in non-linear ways as his development is difficult to measure through the lens of an unfolding chronology. It is necessary then to consider his body of work as a whole as his innovations developed across a broad range of musical *style*. Therefore, rather than give an account of Williams' development in a chronological way, I have divided the chronology into a broad array of styles that he played contiguously throughout the 1960s. The purpose of this chapter is to describe Williams' approach to these styles and to point to the multiplicity of innovations he made at various points during the six year period of his career examined in this thesis. As the chapter progresses, Williams is seen to move further away from the modernist notions that characterise the bebop of previous eras and closer to a postmodernist aesthetic resulting in the inception of the styles known as jazz-rock and post bop and fusion. Rather than giving an account of all pieces appearing in each of these categories I discuss only those pieces that include significant musical events that indicate Williams' grasp on the bebop idiom and that indicate the quintessence of his originality. A complete list of pieces in each category is in the tables presented in Appendix Four. The general styles analysed are shown in Table 2 shown below.

**Table 2:** A Stylistic Overview of Tony Williams' Drumming to 1969

Style	Classification
Swing	Slow
	Medium
	Medium Up
	Up
Ballad	
Triple Time	
Avant Garde	
Multi-Section and Other	
Straight Eighth and Latin	
Sixteenth-Note	
Drum Solos	
Complex Temporal Events	
	Polytempo / Superimposed Metric Modulation
	Metric Modulation
	Tempo Fluctuation

### Swing

By far the largest component of Williams' large body of recorded work in the early to mid-1960s involves him performing "swing" eighth-note music in  $\frac{4}{4}$  with sticks. With the tempo of these pieces ranging from 81 beats per minute (bpm) on Wayne Shorter's *Vonetta* (Davis 1962) to 344 bpm on the Davis classic, *Milestones* (Davis 1989), a large range of musical swing feels are represented. These feels, distinct from one another in

a resultant difference of tempi, are classified into four general tempo ranges. These are shown below in Table 3:

**Table 3:** Tempo Ranges for Tony Williams’ Swing Feel to 1969

Tempo Range	Minimum (bpm)	Maximum (bpm)
Slow	♩ = 81	♩ = 84
Medium	♩ = 108	♩ = 213
Medium-Up	♩ = 217	♩ = 268
Up	♩ = 270	♩ = 344

The majority of jazz standards taken from the “Great American Songbook” in Williams’ recorded output were recorded in  $\frac{4}{4}$  with swing eighth-notes and played with sticks. A number of pieces that have become jazz classics in their own right and that were originally composed by the performing artist—sometimes specifically for the recording date—such as Wayne Shorter’s *Nefertiti* (Davis 1967), Herbie Hancock’s *Dolphin Dance* and *The Eye of the Hurricane* (Hancock 1999b), Sam Rivers’ *Beatrice* (Rivers 1995) and *No Blues* (Davis 1995c; 1995g) and *So What* (Davis 1964; 1992b; 1995e; 2005a; and 2007) by Miles Davis are also in  $\frac{4}{4}$  with swing eighth-notes and played with sticks.

The music classified as “swing” in this chapter is deemed so by the way the eighth-note is treated in that it is “swung” and not “straight”. The performance of “straight-eighths”

is a style of its own that is covered later in this chapter and is defined by music wherein equal periods of time elapse between the onset sounding of each consecutive eighth-note, giving a ratio of 1:1 between the onset of eighth-notes at all tempi. Swing music sounds with an unequal period of time elapsing between the onset of the eighth-notes that are on the beat and those that are off the beat. Those that are on the beat are characteristically longer than those that are off the beat, giving a “long-short” feeling. The degree of unequal timing is usually sounded with a ratio that is dependent on the tempo of the piece. For example, eighth-notes in up-tempo swing pieces with a tempo of 270 bpm or more tend to sound closest to a 1:1 ratio (Riley 1994, 60). Most of these selections are performed with sticks and are in the time signature of  $\frac{4}{4}$ , except where noted and the passages studied are in the mode of ensemble accompaniment.

I do not involve this study in any empirical measurement of the precise chronometric timing or theoretical rate of Williams’ eighth-note swing with reference to how close his off-beat eighth-notes are to the following beat in milliseconds or which swing ratios he most characteristically tends towards at various tempi. This is for two reasons: one being that my aim is focussed on highlighting the actual rhythmic *vocabulary* Williams chose in his performance and how his choices varied from those of his predecessors; the other being that such a study has already been rigorously conducted and published in the article “Swing Ratios and Ensemble Timing in Jazz Performance: Evidence for a Common Rhythmic Pattern” as it appeared in the journal, *Music Perception* (Friberg and Sundström 2002, 333-349). By using a spectrogram to analyse the millisecond

timing of notes sounding in repetitive and unvarying passages of jazz ride cymbal playing, Friberg and Sundström studied recordings made by four well-known jazz drummers in Jack DeJohnette, Jeff Watts, Adam Nussbaum and Williams. DeJohnette, Watts and Williams were studied on well-known commercially available jazz albums, whilst Nussbaum was studied on a play-along recording in which he was not interacting with a soloist. Friberg and Sundström empirically reveal swing ratios that range from 3.5:1 at slower tempi to 1:1 at faster tempi with an assortment of variations noted between both drummers and tempi. The recordings used to study Williams' swing ratio were *My Funny Valentine* and *Four & More*, compiled as mentioned above in the two-disc set *The Complete Concert: 1964* (Davis 1992a), from which the analysis of "Walkin'" appears later in this thesis. Interestingly, Williams demonstrated the greatest amount of variation in his swing ratio on tempi below 200 bpm. At the slowest tempi studied, Williams' swing ratio registered at between 3:1 and 3.5:1. Across the board, the mythical ratio of 2:1 that is said to comprise the fabric of most eighth-note passages that swing in jazz music was only found to be evident at around 200 bpm in the Friberg and Sundström study.

### **Slow Swing**

There are three examples of Williams' playing with a swing feel in the slow range and these are outlined in Table 4 (see Appendix Four).

Perhaps because it was made on his first recording date, Williams' playing on *Yams* (McLean 2000a) is more traditional in flavour than on *Vonetta* (Davis 1962) and *Fall* (Davis 1967), both recorded in mid-1967. *Yams* is a blues in which Williams uses the ride cymbal as the lead voice, maintaining a regular swing pattern and sparse, unobtrusive accompaniment on other parts of the drumset, primarily on the snare drum.

*Vonetta* features a kind of neo-traditionalist drumming in that Williams keeps time primarily on the snare drum after the statement of the main theme during which he accents the rhythmic figures with cymbals and hi-hat. I use the term neo-traditionalist to indicate that his snare drumming is a reminiscent combination of New Orleans second line drumming and military marching, incorporating press rolls and flam rudiments. Williams' rolls are extremely smooth and precise, reminiscent of Blakey, but also mimicking the open / closed hi-hat rhythm used by Jo Jones and the swing drummers of the 1930s. The piece closes with Williams returning to the colouristic use of cymbals he employed during the opening statement.

Williams' drumming on *Fall* is the most abstract of the three slow swing pieces and combines aspects from both *Yams* and *Vonetta* in the combination of snare drum work and ride cymbal propulsion, although, the time feel is more "broken" in *Fall* than in the other two pieces. One of the most interesting features of *Fall* is that Williams uses metric modulation so that the eighth-note triplet in  $\frac{4}{4}$  is made equal to a quarter-note in

$\frac{3}{4}$  for a period during Herbie Hancock's piano solo before closing the piece out with brushes.

### **Medium Swing**

Williams' recorded output of swing tunes at a medium tempo is made up of a combination of a number of standards, some recorded once only (*If Ever I Would Leave You* [Dorham 1999], *There Is No Greater Love* [Davis 1992a] and *East of the Sun (and West of the Moon)* [Lloyd 2006]); others recorded several times by Miles Davis (*Autumn Leaves* [1989; 2005a; 2007] and *All of You* [1964; 1989; 1992b]); as well as new pieces, two of which (Hancock's *Dolphin Dance* [1999b] and Rivers' *Beatrice* [1995]) have become jazz classics in their own right as mentioned above.

Williams plays brushes during the first head in many of these pieces. To play the hi-hat on beats two and four with the left foot was mostly standard practice in the bebop and hard bop years prior to Williams' career. An interesting feature of Williams' brush playing at a medium tempo is that, he omits playing the hi-hat on two and four or in any regular fashion, as is also discussed in other styles below. With the exception of *Cheers* (McLean 2000a) and *Capricorn* (Davis 2002b), Williams also omits playing the hi-hat regularly on beats two and four with his left foot. At points during *Capricorn*, he plays the hi-hat on all four beats of the bar. This rhythmic device is discussed further in Chapter Six. Because of the powerful dominance of Art Blakey's drumming on the role

of the hi-hat in the jazz ensemble, Williams' practice of omitting the hi-hat seemed to have been rebellious at the time. It is a point discussed at length in *Down Beat's* drummers' round table interview (1964) in which Williams is quoted as saying:

When I hear the hi-hat being played on 2 and 4, through every solo, through every chorus, through the whole tune, this seems to be to be—I can't play it like that. Chit, chit, chit, chit—all the way through a tune. My time is on the cymbal and in my head, because when I play the bass drum, I play it where it means something. I just put it in. When a person plays this way, they don't play the bass drum, they don't play the hi-hat—well, they say they're playing completely free—that word is a drag too. What makes it different is that they don't have any bottom. (Down Beat 1964, 15)

Williams' *Love Song* (Williams 1987) is a multi-metric composition in that it alternates between the meter of  $\frac{5}{4}$  and  $\frac{3}{4}$  with a 2:5 polyrhythmic ratio operating in the  $\frac{5}{4}$  sections.

### **Medium-Up Swing**

The swing pieces Williams recorded at tempi between 217 bpm and 268 bpm were recorded mostly in the acoustic period with Miles Davis and others with the earliest being Hancock's "King Cobra" from *My Point of View* (1999c) on which Williams plays the only drum solo studied in this thesis that is played over a piano and bass vamp figure. Also recorded in the early period, on Kenny Dorham's *Straight Ahead* (1999) Williams is heard performing in perhaps the most traditional way of all the repertoire studied here, as the title suggests. Clearly however, Roy Haynes' drumming as studied later in the thesis has made its mark on Williams' aesthetic.



During many of the pieces recorded in 1964 and 1965, Williams is rarely heard playing the hi-hat at all with his left foot, except for occasional accent. Williams discusses the problems this new (absence of) sound created in ensemble interaction at the time in *Down Beat's* round table discussion in which Blakey also took part. The following comments reflect that Williams shared a similar kind of difficulty experienced earlier by Kenny Clarke and Dizzy Gillespie as I discussed in Chapter Two:

When I say the bottom is missing, when I speak of the bottom, I don't speak of the bottom as being the bass drum. I speak of the bottom as just a certain feeling we get—a sound. You get it right off the cymbal....

Since I've been playing, a lot of musicians have told me things like 'play your hi-hat on 2 and 4, and play the time,' but what they don't seem to realize is that I *am* playing the time, because as soon as the leader says 'one...two...one, two, three, four,' that's it. There's the time right there. So as far as me playing this [Williams bangs floor to simulate steady bass drum rhythm], I can't play it, because the time is there. Everyone knows where time is—the meter is there. (Down Beat 1964, 16)

Blakey takes over in the discussion:

Wait a minute. Saxophone players, trumpet players are virtuosos. They're supposed to be soloists. But do you realize how many musicians know anything about rhythm? If they did, they'd be playing like Charlie Parker and Dizzy Gillespie. All of them. They would be playing at least a reasonable facsimile. But look at them. (Down Beat 1964, 16)

Williams then recommends that "those are the people that shouldn't be playing".

Blakey quickly reprimands Williams for his comment, "No, you can't say that", demonstrating his continuing informal role as mentor. Williams concludes and states his position very clearly, indicating that he operated in a state far from equilibrium as discuss in Chapter One and revealing a tendency toward the desire for a kind of group interaction that I describe throughout this thesis as a collective autonomy:

The soloists feel what they're playing is always theirs, but it isn't, because when we're playing the time, that's our business. So whatever I'm playin, the soloist will turn around to me and say, 'Where's the time?' I'm playing the time—it's just that he doesn't have any knowledge of it. He doesn't know what he's doing. (Down Beat 1964, 16)

Another sonic alternative is heard on *The Best Thing For You* (Lloyd 2008) when Williams rides for a ten-second period on his left-side crash cymbal during the head in to the piece. This is one of many sonic variations Williams used and, whereas John Riley states that Williams “never changed his ride in the middle of a tune” and that his left-side crash cymbal “was never used as a second ride” (Riley 1997, 103), it is clear that Williams uses this sound here and indeed sporadically throughout remainder of his entire career.

By October 1966, Williams began to play his hi-hat more frequently as can be heard on *Orbits* (Davis 1992b). Carter plays a walking  $\frac{4}{4}$  part on the bass and Williams' cymbal part swings, however an interesting feature of this piece is Williams' perpetual use of the rim click sound on his snare drum in lieu of regular comping figures on the head of the drum. With the occasional Latin sordu part on his bass drum, Williams makes a strange juxtaposition of Latin and jazz styles on *Orbits*. *The Sorcerer* (Davis 1962), Williams' own *Hand Jive* (Davis 1967) and *Madness* (Davis 1967), recorded in mid 1967 at the end of Davis' acoustic period are each much more aggressive than those recorded earlier in the period and Williams' drumming grows to be more and more solo-like in the ensemble sections as Berliner recognised (1994, 332). Shorter's

*Paraphernalia* (Davis 1998a) represents an interesting paradigm shift toward a postmodern mindset as Williams reverts to the traditional swing hi-hat pattern during most of the tune. The addition of guitarist George Benson introduces one of Davis' earliest forays into using the sound of electric instruments in his band. *Paraphernalia* is the final piece recorded in the band's repertoire to feature the swing rhythm.

### **Up Swing**

Perhaps Williams is best known from throughout his time with Davis for his up-tempo swing drumming. Shorter remarks about Williams' passion for intense velocity:

I remember when we played with Miles. Whenever Miles wanted to play something with velocity, he'd call the tune 'Joshua,' and Tony would say, 'Yeah!' Tony was a soldier like [the biblical] Joshua. He used velocity to make things right. (Ouellette 2008, 127).

Williams' drumming on "So What" on *The Complete Live At The Plugged Nickel 1965* (Davis 1995e) is indeed so intense that the band gives way to an incendiary drum solo for the only time on the five versions of this piece reviewed for this thesis.

Williams incorporates a number of timbral and temporal variations on the earlier bebop model during Davis' "Agitation" from *The Complete Live At The Plugged Nickel 1965* (Davis 1995b). During Shorter's solo (3:03-6:55) Williams plays the tempo freely and allows it to fluctuate independently of the pace of Carter's bass lines in non-metrical ways, at times freeing up from time playing completely and relying on timbral contrasts before Shorter resets the original tempo at 6:55. Williams then changes to brushes for

the beginning of Hancock's piano solo at 8:03 before resuming to sticks at 9:16. Here he plays freely on the snare drum before resuming the tempo at 9:54. After Hancock restates the theme at 11:30, Williams begins a free solo on his hi-hat cymbals before effecting a ringing snare solo that gives way to Davis' final statement of the melody.

One interesting point of interaction occurs during Shorter's tenor solo on *Milestones* from Davis' Plugged Nickel recordings (Davis 1995b). At 1:56 Shorter briefly quotes the melody from Grachan Moncur III's *The Twins* (Moncur 1995) amidst his solo lines. Williams immediately converts from playing snare drum conventionally to playing rim clicks on the snare for accompaniment, an acknowledgement of the original in which he used rim clicks in the same way eighteen months earlier.

As this is the stylistic category in which the major pieces in the thesis are analysed in Chapters Four and Five, I will now move into other stylistic areas of Williams' recorded output from the 1960s.

### **Ballads**

Williams' drumming is extremely subdued and understated in his treatment of ballads throughout his 1960s career and is therefore perhaps not considered too widely in the extant literature. With minimal use of concurrent sounds on the drumset, Williams mainly relies on the use of a continuous sweeping motion with brushes on the snare drum, rarely moving around the drumset. Williams uses the hi-hat on the beat

throughout *The Pleasure is Mine* (Hancock 1999c) in early 1963 however, by the time he recorded *Voice in the Night* (Lloyd 2006) in early 1965, his ballad playing relied primarily on the monodic use of the brush sweep. Other devices include rapid single stroke rolls with the brushes at formal junctures in the piece on the snare, toms or cymbals in addition to shifting to double-time feel (sometimes into a quadruple-time feel such as on *When I Fall In Love* [Davis 1995f]), and using sticks in the same sense as in the medium tempo swing pieces discussed above. Williams again rides on his left cymbal for about ten seconds at 4:30 during a quadruple-time section on *Stella By Starlight* (Davis 1995d). I discuss more about Williams' treatment of ballads toward the end of the present chapter under the Complex Temporal Events heading.

### **Pieces in Triple Time**

Continuing in the theme of rarely discussed traits in the broad spectrum of Williams' 1960s drumming is the area of pieces featuring triple time signature. It is a small part of the main corpus, however, several pieces warrant mentioning here. With the exception of *Frankenstein* (McLean 2000b), *All Blues* (Davis 1992a; 1995h), *Thandiwa* (Moncur III 1995), *Lost* and *Valse Triste* (Shorter 1990), which are played with sticks and have a more driving, swinging feeling, the majority of other pieces in triple time from this period feature Williams playing in a subdued style akin to the way he plays ballads with brushes as described above. These ballad-like representations were recorded in 1965. In his own composition *Pee Wee* (Davis 1962), the last piece recorded in  $\frac{3}{4}$  in

this period, Williams combines the subtleties of his brush playing in  $\frac{3}{4}$  with the more colouristic use of sticks in the meter during the pieces listed above. Williams' most unusual interpretation in the  $\frac{3}{4}$  meter is heard on *Limbo* (Davis 2009a) when he plays a virtually non-stop single stroke roll on the snare drum, splashing the hi-hat with his left foot and adding occasional interjections with cymbal punctuations and accents.

### **Avant Garde**

Williams was staunchly involved with the avant garde musicians of the day and, as mentioned earlier, his first release as a leader, *Life Time* (Williams 1999a), recorded when Williams was 18 years old signalled Blue Note's first release containing a full program of avant garde music (Blumenthal 1999). The first piece appearing chronologically in Williams' recorded output that features an avant garde flavour however is "Ghost Town" from *One Step Beyond* (McLean 2000b). In this piece, Williams is heard eliciting unusual sounds from the drumset in the head sections such as choking the crash cymbal, striking the rims and side of the drums and the bell of the cymbals. The body section of *Ghost Town* however is played over an almost clumsy sounding, blues infused slow swing feel, detracting from the avant garde nature of the head. Moncur III's *Air Raid* (Moncur III 1994) is performed in a similar manner later in 1963 except that the tempo of the body of the piece is up, surrounded by more avant garde textures in the opening and closing heads. *Evolution* from the album of the same name (Moncur III 1994) is a much more successful attempt at the avant garde, with

Williams abandoning all pulse and performing a quasi-broken military snare part over a cyclic, drone-like accompaniment of solos on the horns and Bobby Hutcherson's vibraphone.

Unlike the work of other drummers who are more widely referenced as representing 1960s avant garde music such as Andrew Cyrille, Sunny Murray and Milford Graves, most of Williams' avant garde work has at least a slight reference to some kind of measured rhythm. He describes his approach to the idiom in contrast to other avant garde players of the day:

I've heard some drummers...with these sound effects; all they're doing is creating an undercurrent of sound. And when they do this, they are so limited with this, that they don't ever go anywhere. It's just a whole lot of sound under everything else, and they never take it off the ground...

Some of the drummers may play that way because they think that's the only place to go. Today, I think the drum—when I say this I speak for myself—I would be more inclined to play a sound, but the sound would be in a rhythm. Like sound patterns, instead of just a paradiddle or something like that, but it would be played in a pattern, and it would fit with everything else that's going on. (Down Beat 1964, 14)

With the exception of "Something Sweet, Something Tender", the majority pieces of Eric Dolphy's *Out To Lunch* (1999) feature metric pulse throughout, although the meters are difficult to decipher as they are constantly changing<sup>27</sup>. The free nature of the soloist's interpretations of each form influences Williams' interaction significantly and therefore these pieces are here classified as avant garde rather than as swing pieces.

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<sup>27</sup> The time signature of such pieces is accordingly noted as N/4 in Appendix Four.

Recorded within weeks of one another, each of Hancock's piece, *The Egg* (Hancock 1999a), the album *Some Other Stuff* (Moncur III 1995) and Williams' recording debut as a leader *Life Time* (Williams 1999a) similarly feature perhaps some of the most avant garde textures of Williams' recorded output of mid-1964. *The Egg* is composed of a trumpet melody played over a rhythm section ostinato in which Williams constructs an ostinato using his snare, hi-hat splashes, bass drum and floor tom before the piece breaks into an entirely free sounding section of spontaneous improvisation in the middle and returning again to the melody and ostinato at the end. "Gnostic" and "Nomadic" from Moncur III's *Some Other Stuff* (1995) feature no fixed metric pulse and Williams uses an extremely textural and colouristic approach to these pieces with "Nomadic" being composed as a drum feature for Williams' uniquely original style.

Recorded in August 1964, *Two Pieces of One: Green* (Williams 1999a) is mostly a duet between Williams and Rivers that sounds freely conceived and spontaneous in its performance. The piece offers an insight into the rapport the two had been developing since their days playing together in Rivers' band and in the Boston Improvisation Ensemble. One of the most unusual piece in Williams' entire repertoire is the percussion ensemble improvisation between Williams, Hutcherson and Hancock on *Memory* (Williams 1999a), sounding as though it belongs more in the corpus of works by Varèse than by an 18-year-old jazz drummer. Williams' use of a riveted "sizzle" cymbal on this track offers a sonic variation from his usual sound.



Just over a year later Williams recorded *Spring* (Williams 1987), an extension, continuation and development of the aesthetic he generated on *Life Time* and, with the exception of the drum solo piece “Echo”, Williams draws from various combinations of saxophonists Rivers and Shorter, Hancock at the piano and bassist Gary Peacock. It is worth noting here that Peacock was the bassist for avant garde saxophone titan, Albert Ayler and had recorded Ayler’s *Spiritual Unity* (2005) only weeks before he joined Williams on the *Life Time* session.

Even though it wasn’t released at the time of recording, Davis’ *Circle In The Round* (1998b) represents a substantial departure from the aesthetic model built prior to its recording on 4 December 1967, marking the beginning of Williams’ Electric Period with Miles Davis as I call it in this thesis. The piece has an undulating  $\frac{12}{8}$  feeling and features Davis’ first use of the electric guitar, which is played by Joe Beck whilst Hancock is heard on an electrified celeste. Williams’ drumming on here ranges from driving and soloistic to subdued and timbral. He occasionally uses a flat ride cymbal for interspersed crash accents. This is the only time throughout the 1960s recordings he is heard using a flat ride cymbal. Although Roy Haynes is generally regarded as being the first to play the flat ride cymbal design on Chick Corea’s *Now He Sings, Now He Sobs* (Corea 1988) recorded in March 1968, Williams’ use of the flat ride on *Circle In The Round* predates Haynes’ use of such a cymbal.

By mid-1968, Davis had begun using the electric bass and Fender Rhodes electric piano in his band, both of which are heard on “*Toute De Suite*” (1990b) and “*Mademoiselle Mabry (Miss Mabry)*” (1990c) from *Filles De Kilimanjaro*. Williams plays two distinctly different feels on *Toute De Suite*. The piece begins with the head in a slow  $\frac{3}{4}$  with the compound feeling of a  $\frac{9}{8}$  meter and Williams plays the hi-hat in an irregular open and closed traditional jazz style. Following the head, Williams goes into a double-time feeling over staccato, syncopated comping figures from Hancock and Carter. There is no audible reference to any regular meter in the solo section of *Toute De Suite* and Williams avoids any kind of “section marking” figures of any kind. Rather, his drumming surges along a continuum that it seems would not necessarily ever have to end.

Williams recorded *Mademoiselle Mabry (Miss Mabry)* three months later Davis’ new rhythm section that comprised pianist Chick Corea (whom Williams recommended to Davis after Hancock left the group [Ouellette 2008, 134]) and bassist Dave Holland. Williams’ drumming on this piece is particularly spacious and impressionistic in that he only colours the piece with sporadic melodies on the tom toms, snare (with the snare wires disengaged), bass drum and rolls on the cymbals. Occasionally he will add a series of consecutive eighth-notes, closing the hi-hat with his left foot. Of note is the sound of a fifth drum tonality indicating the use of an additional tom tom, making it a five-piece drumset that Williams uses on this track. These latter pieces indicate a complete break with any recognisable conventions stemming from the bebop of the

previous twenty-five years and may perhaps legitimately constitute a formal beginning of the post bop idiom, dating post bop as beginning between 18 and 24 months after Yudkin suggests (2009, 123).

### **Multi-Section and Other Pieces**

A number of pieces Williams recorded in the 1960s prior to leaving Davis are unusual in that the feels he plays on them only occur once in this entire period and so I have grouped these unique pieces together in the category of Multi-Section and Other Pieces. *Dusty Foot* (McLean 2000) from Williams' period with Jackie McLean is a boogaloo in  $\frac{6}{4}$ . *And What If I Don't* (Hancock 1999c) from the same period alternates from a shuffle to swing in  $\frac{4}{4}$  and *Sao Paulo* (Dorham 1999). *On So Near, So Far* (Davis 2005b) Williams plays a constant  $\frac{12}{8}$  feel on his cymbal reminiscent of Louis Hayes' treatment of the interlude section on Horace Silver's piece *No Smokin'* from 1957 (Silver 2002).

*Spectrum* (Hill 1999), *Oliloqui Valley* (Hancock 1999a) and *Country Son* (Davis 1998a) each feature the use of multiple sections that change feel from section to section. *Oliloqui Valley* is a major piece studied in Hall's thesis of 2004 (18-33) with the head featuring a straight-eighth figure in which Williams plays with brushes, the solo sections feature swing in  $\frac{4}{4}$ . The form of *Country Son* (Davis 1998b) is discussed in detail by

Bob Belden as “a three-part composition separated by two interludes” (1998, 96) that include a swing section, a rock section based on a bass figure (both in  $\frac{4}{4}$ ), a  $\frac{3}{4}$  ballad section and the interludes float atmospherically with no pulse.

“Limbo” (Davis 1962) is interpreted very differently in the version appearing on *Sorcerer* than the version described above under the Triple Time heading. The  $\frac{3}{4}$  version was recorded only days earlier but released many years later on *Directions* (Davis 2009). In the later version on *Sorcerer*, Williams employs the device of metric modulation as he does in Shorter’s “Footprints” (Davis 1992b). I describe the kind of metric modulation used during *Limbo* later in this chapter as the use of metric modulation is one of Williams’ most significant contributions to the creative application of new rhythmic devices on the drumset.

Concluding this overview of avant garde, multi-section and other pieces in Williams’ 1960s oeuvre are the Gil Evans pieces recorded by the Miles Davis Quintet with chamber orchestras of various size and unique instrumentation: *The Time of the Barracudas*, recorded 10 October 1963; and *Falling Water* (takes 4, 6, 8 and 9), recorded 16 February 1968 (Davis and Evans 1996). *The Time of the Barracudas* is a compilation of a number of unrelated musical cues that Davis and Evans were commissioned to compose and record for Peter Barnes’ play of the same name (Belden 1996, 86). The feels Williams plays throughout the compilation range through the

styles of military-esque snare march,  $\frac{3}{4}$  swing, slow blues and medium-tempo shuffle.

Recorded four and a half years later, four takes of *Falling Water* feature Williams' playing amidst Evans' unique orchestration of mandolin, Hawaiian guitar, electric guitar, harp, Wurlitzer electric piano and timpani in the rhythm section mixing with French horn, tuba, flute, bassoon and English horn over composed bass lines (Belden 1996, 92-93) eliciting one of the most impressionistically texture-based of Williams' performances throughout this entire period.

### **Straight-Eighth and Latin**

Boogaloo was a popular sound at the time Williams moved to New York. Following the overwhelming success of Hancock's *Watermelon Man* (Hancock 1987) recorded in 1962, *Blind Man, Blind Man* (Hancock 1999c) sounds as though it is a lengthy attempt at a follow-up that is perhaps less successful. Kenny Dorham's *Una Mas (One More Time)* (Dorham 1999) features Williams playing a Brazilian bossa nova beat, which was also popular beat in 1963. At times throughout *Una Mas*, Williams plays a cowbell with his left hand. Also engaging with the traditional sounds of the blues infused boogaloo beat is Hancock's *Cantaloupe Island* (Hancock 1999a), recorded in mid-1964 during Williams' acoustic period with Davis.

With the recording of Carter's *Eighty-One* (Davis 1965) in January 1965, Williams is heard to play straight-eighth time that is more freely floating in the snare and bass drum

parts and not so tied to the regular, recurrent themes of the boogaloo and bossa nova of the previous pieces. His approach here is more improvisational and it is on Hancock's *Maiden Voyage* (Hancock 1999b), recorded two months later, that Williams sounds to have broken entirely free from the traditional Latin and dance oriented constraints of the boogaloo and bossa nova. The piece is modal and centred around a riff figure in the bass over two bars of  $\frac{4}{4}$  with an accent pattern based on  $\frac{2}{8} + \frac{3}{8} + \frac{6}{8} + \frac{5}{8}$ <sup>28</sup>, leaving Williams free to improvise over the top, which he does with his snare wires disengaged and occasionally making quasi reference to swing eighth-notes.

It is not until *Sorcerer* in mid-1967 that Williams records another straight-eighth based piece in "Masqualero" (Davis 1962) during which, at times, he plays sixteenth-note figures making the piece sound similar to an up-tempo jazz swing feel with Carter playing broken time on the bass instead of a walking  $\frac{4}{4}$  figure. Williams returns to a Latin influenced feel in *Prince of Darkness* (Davis 1962) in the use of the rim-stick sonority and the Brazilian sordu bass drum part. Apart from the regularity of the bass drum part, Williams improvises the rhythms he plays with his sticks, rather than stating any conventional rhythms.

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<sup>28</sup> See Dean (1992, 19 – 27) for a detailed analysis of such a rhythmic device.

Williams continues with a quasi-Latin feeling a month later on *Riot* (Davis 1967). In discussing the lead-up to Williams' drumming style on Davis *Filles De Kilimanjaro*, Billy Hart remarks that

Tony had figured out the bebop guys, and that they were playing Latin from Dizzy and Bird's interest in Afro-Cuban. Around the same time, the Brazilian thing hit. Tony had that advantage over the previous bebop drummers in that he could compare the Cuban vocabulary with the Brazilian. (Micallef 2007, 46)

Williams recorded four pieces with Davis between 28 December 1967 and 15 February 1968, which, remarkably, were not released until several years later. These pieces are "Water On The Pond" and "Fun", which were released on the *Directions* compilation in 1980 (Davis 2009) and "Side Car I" and "Side Car II", both of which appeared for the first time on *Circle In The Round* (Davis 1991b) in 1979. *Water On The Pond* was recorded in the same series of sessions that yielded *Circle In The Round* and features a written bass part, doubled by the addition of guitarist Joe Beck with electric piano played by Hancock and with Davis occasionally playing bar chimes. Mysteriously, the sound of a sometimes two-handed rim-click part is present in addition to what is clearly and obviously a full, two-handed use of the drumset on this track. According to Bob Belden (1998, 89), there is no documented evidence on the master tape reel indicating that any overdub took place. When asked about it in 1995, Williams did not recall the presence of an additional drummer on the session. Nor, supposedly would he "lay in a part that is sometimes out of sync with what he originally played" (Belden 1998, 90). Whatever the reason for Williams' seeming aloofness on the matter, the sonority of the drums on *Water On The Pond* is one that requires the use of four hands concurrently and suggests that either there was an

additional drummer on the session or that there was undocumented use of studio overdubbing technology during this session.

Featuring another composed, riff-based figure for Carter on the electric bass, the title track of *Filles De Kilimanjaro* is the first successful attempt at consolidating the disparate instrumentation ideas discussed earlier in this section into a coherent sound in a piece with straight eighth-notes. On *In A Silent Way / It's About Time* (Davis 2002a), recorded on 18 February 1969, marking the end of his recording career with Davis, Williams' rim-click, apparently in protest to Davis subversively booking guitarist McLaughlin for the session against Williams' wishes (Micallef 2008, 48) is heard for almost the entirety of the epic twenty-minute length of the track with the exception of the sixteenth-note based funk rhythm he breaks into at 13:50 for approximately forty seconds.

With the use of a straight eight-note instead of the conventional swing eighth-note, moving at all times perpetually further away from conventional Latin models as well, these pieces fit neither the hard bop model of the early to mid-1960s nor the post bop model that would be distilled six months later on *Filles De Kilimanjaro*. Guitarists Joe Beck and Bucky Pizzarelli had already recorded several pieces with Davis before Benson became the first guitarist appearing on tracks that were released at the time of recording.



## Sixteenth-Notes

Toward the end of his acoustic period with Davis and others, Williams begins using the sixteenth-note as an expressive rhythmic vehicle. Most of pieces in this category come after 17 May 1968 once Davis had already begun experimenting with the use of electric instruments. Despite being recorded five months after “Paraphernalia” (discussed above), “Stuff” is the opening track on *Miles In The Sky* (Davis 1998a) and is the first opportunity the public had to hear Carter and Hancock on electric instruments with Williams playing sixteenth-note oriented funk beats (after *Freedom Jazz Dance* [Davis 1992b]) at the time. Notably, Williams plays his beat on the closed hi-hat with his right hand rather than on the ride cymbal as would normally have been expected prior to the release of *Stuff*, creating an extreme textural change in Williams’ body of work, perhaps legitimately representing the first jazz rock piece Williams recorded. This use of the closed hi-hat is however short-lived as, one month later Williams is back on the ride cymbal with his right hand on *Petits Machins (Little Stuff)* (Davis, 1990a) playing eighth-notes consistently with his left foot on the hi-hat. This open and yet metered expressive freedom with which Williams plays this piece gives the sense that he is playing up-tempo jazz and thinking in half time so that two bars of eighth-notes in up-tempo swing now equal one bar of sixteenth-notes. His drumming on *Petits Machins (Little Stuff)* expands on Berliner’s observation of solo-like drumming as previously discussed. Finally, Williams’ hypnotically monotonous repetition of consecutive sixteenth-notes on the closed hi-hat, accenting each quarter-note beat throughout the eighteen-minute-long *Shhh / Peaceful* (Davis 2002a) indicates a

significant point of departure into the postmodernist world as described throughout this thesis.

## **Drum Solos**

The corresponding table in Appendix Four serves primarily as a reference listing all the pieces in which Williams plays a drums solo on the recordings to February 1969, several of which I have already discussed. As Chapter Five features in-depth analysis of two complete pieces containing drum solos, I will not go into any further depth here regarding Williams' drum solos<sup>29</sup>.

## **Complex Temporal Events**

I now present some brief examples that highlight some specific instances in which Williams performed more complex polyrhythmic and polymetric superimpositions than previous drummers. Whereas in Chapter Five I will discuss Williams' contributions to the improvised performance of complex rhythm in the solo passages played in *Vertigo* and *Walkin'*, importantly, each of the instances described under the present heading took place during interactive ensemble settings, not in solo settings. The complex temporal events described in this section were not made solely by Williams, but they occurred synergistically as part of an overall group effort. These extensions in polyrhythmic and polymetric practice involve the use of long-range polyrhythm with

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<sup>29</sup> See also Woodson 1973 for an in-depth empirical study focussed exclusively on recordings of Williams' drum solos that were commercially available prior to 1973, also discussed herein in the Review of Related Literature.

higher ratios than the 2:3 and 4:3 ratios most common in the ensemble music studied in Chapter Four. They also include the use of polytempo and metric modulation.

I propose that in the Miles Davis Quintet, bassist Ron Carter may have had a significant influence on the performance of these ideas as, in 1960 Carter recorded with trumpeter and composer Don Ellis, prior to joining Davis in 1962. Ellis is well-known for his novel use of cross-rhythms and tempo and for crusading for development in such areas (as further elaborated on by Thomas John Strait [2000] and Sean P. Fenlon [2002]).

The temporal variances created on Ellis' album *How Time Passes* (Ellis 1987), which features Carter on bass, is evidence of Carter's knowledge and experience in the development and performance of complex temporal ideas in group settings, experience that he brought to the Miles Davis Quintet.

### **Polymetric Superimposition Using Long-Range Polyhythmic Ratio**

Drummer Kenny Washington is quoted as “[viewing] jazz history through the lens of piano and drum relationships” when he says,

For me there's certain piano and drum hookups throughout the history. Vernell Fournier and Ahmad Jamal, instant hookup. Wynton Kelly and Jimmy Cobb, Sonny Clark and Philly Joe Jones. (Monson 1996, 58)

One such relationship to add to Washington's list is that of Hancock and Williams, whom Davis recalled as always maintaining eye contact on stage (Davis and Troupe 1989, 275) and whom I describe as sharing an acute sense of rhythmic and metric musical entrainment with one another. One such example of a novel voicing of rhythm on the drumset was recorded in Japan on 14 July 1964 during a performance of

Davis' modal composition "So What". This recording appears on *Miles In Tokyo*, the only Davis album to feature tenor saxophonist Sam Rivers (Davis 1964). The tempo fluctuates somewhat between solos on this version, but at approximately 330 bpm during its brightest moments, this version is played at the second fastest tempo of the five versions officially released from this period. One of the most striking rhythmic events occurring between 2:13 and 2:37 in this version is Williams and Hancock's entrained unison performance of the superimposition of a  $\frac{7}{4}$  meter over  $\frac{4}{4}$ , yielding a long-range polyrhythmic ratio of 8:7 or "eight in the regular time of seven breves"<sup>30</sup> during the fifth chorus of Davis' solo. See Figure 11, shown in two parts.

During this chorus Hancock is heard beginning the superimposition on beat three of the seventh bar in the first A section, with a second accent on beat one of the following bar. He then proceeds to strike a chord on every seventh quarter-note thereafter until beat four in bar 30 in the final A section of the chorus. Williams begins accenting on the snare and bass drums in unison, joining in on beat three of Hancock's sixth recurrence of the  $\frac{7}{4}$  figure (on beat four of bar 16 in the second A section). Hancock and Williams then continue accenting the third beat of the superimposed  $\frac{7}{4}$  meter nine

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<sup>30</sup> A breve is also known in some nomenclature as a *double whole-note*.

times in total<sup>31</sup> before the chorus is completed with one final bar in  $\frac{4}{4}$  during which

Williams accents beats one and three. Hancock completes fourteen complete cycles of the superimposed  $\frac{7}{4}$  meter.

The figure displays four systems of musical notation for a drum set, labeled A1, A2, B1, and A1. Each system consists of two staves: the top staff for Hi-Hat (HH) and the bottom staff for Tom-Toms (TW).  
 - System A1 (measures 1-8): Top staff has HH accents on beats 1 and 3. Bottom staff shows a 4/4 meter with accents on beats 1, 2, 3, 4, 5, 6, 7, and 8. A bracket labeled 'HH ONLY' spans measures 7 and 8, with a '7/4' time signature above it.  
 - System A2 (measures 9-16): Top staff has HH ONLY in 7/4 with accents on beats 2, 3, 4, 5, and 6. Bottom staff has HH+TW in 4/4 with accents on beats 10, 11, 12, 13, 14, 15, and 16.  
 - System B1 (measures 17-24): Both HH and TW have HH+TW in 7/4 with accents on beats 7, 8, 9, 10, and 11.  
 - System A1 (measures 25-32): Top staff has HH+TW in 7/4 with accents on beats 12, 13, and 14. Bottom staff has HH ONLY in 4/4 with accents on beats 27, 28, 29, and 30, and TW ONLY in 4/4 with accents on beats 31 and 32.

**Figure 11:** Two-Part Polymetric Superimposition in *So What* (2:13 - 2:37).

This particular polymetric superimposition is peculiar in that, if beat one of the regular  $\frac{4}{4}$  meter were accented throughout, one of the larger practical long-range polyrhythmic ratios available under the conventions of modern Western metric notation without

<sup>31</sup> Hancock is marked as perhaps erroneously accenting beat four of the twelfth cycle.

using tied or dotted rhythms would have resulted. Even as these beats were not accented, I still describe the resultant 8:7 ratio because the harmonic rhythm of *So What* remains intact throughout the superimposition, in a sense accenting beat one in  $\frac{4}{4}$  harmonically. The notation of the double whole-note or breve (  $\overset{\frown}{\text{O}}$  ) is largely obsolete in modern music due largely to the fact that the time signature of  $\frac{4}{4}$  is in primary use, meaning that the double whole-note, being eight quarter-notes in length actually crosses over the barline, taking two complete bars for the note length to sound. The most common context in which the double whole-note would appear in modern notations would be in the time signature of  $\frac{4}{2}$ , which is worth the length of a double whole-note, the equivalent of eight quarter-notes but felt “in two”. As I have stated, polyrhythms are resultant on the division of one or a number of beats within the superimposition of polymeters. The present example straddles the possibility of being simultaneously designated as both a metric event as a substructure of *form* and as a superstructural *rhythmic* event as the breve characteristically occurs over two bars of  $\frac{4}{4}$ .

The rhythm as it appears on *Miles In Tokyo* is clearly perceptible on playback of the recording, however, as it appears in what is believed to be an improvised context between Davis, Hancock, Carter and Williams live onstage, it appears as though all

four members of the ensemble were aware of the possibility that such a complex rhythm could be performed at any given time, especially when observing the rapidity with which Williams perceives and acts upon Hancock's piano figure. As I already mentioned, this rhythm section would participate in discussions in one of their hotel rooms following each performance whilst on the road with Davis. Davis became aware that he knew not what to expect from night to night as a result of the changes brought about after these late-night discussions (Davis and Troupe 1989, 278; Ouellette 2008, 119), which, in this case, seemed to result in the synergistic superimposition of  $\frac{7}{4}$  over  $\frac{4}{4}$ . The conception of the event stands out with improvisational maturity incorporating a high level of musical entrainment between Hancock and Williams.

### **Polytempo / Superimposed Metric Modulation**

Demonstrating the use of polytempo and giving rise to a sense of "temporal dissonance", Williams superimposes an additional layer of faster tempo over Carter's walking bass line during Wayne Shorter's tenor saxophone solo on the 22 December 1965 performance of "No Blues" as released on *The Complete Live At The Plugged Nickel 1965* (Davis 1995c). After implying a double-time swing feel on the drums during Shorter's tenor saxophone solo with Carter maintaining the regular tempo, setting up a "two feel" (10:02 - 10:28), Williams shifts temporal gears, but rather than returning to the regular tempo maintained by Carter, he performs a brighter tempo for approximately another thirty seconds before completely settling back into the regular

tempo at 11:02. Carter is steadfast and resolute in his unstinting maintenance of the initial tempo before briefly attempting the performance of a slower tempo for several beats at 1:07 and returning to the regular tempo at 11:11. Shorter sounds to be floating freely across each of these shifts. The indeterminate relationship between the two tempi achieves dramatic effect in a way that defies transcription and is best appreciated in the aural sense achieved by listening.

Vinnie Colaiuta describes superimposed metric modulation as the “*illusion* of the tempo shifting momentarily when in fact it is not” and that such an illusion is achieved by “[layering] one pulse, or time feel...onto another already existing pulse” (Colaiuta 1987, 36, emphasis in original). Colaiuta’s use of “superimposed” is consistent with my use of the term throughout this thesis in that “the original time base remains intact (the tempo doesn’t shift), and the second or layered pulse *does not take the place of the already existing pulse*” (1987, 36, emphasis in original). Superimposed metric modulation describes the same complex temporal phenomenon as polytempo, however it is a more precise term in describing Williams’ performance on *No Blues*. Even though I was unable to determine an exact metric relationship between Carter’s walking bass line in  $\frac{4}{4}$ , the approximate rate of Williams’ superimposed pulse sounds as though it may be based on a quarter-note quintuplet in this performance of polytempo.



This occurrence of polytempo or superimposed metric modulation in the Miles Davis Quintet demonstrates the implicit trust shared amongst the members of the band. It also invokes the twenty basic *Rules of Improv* as they apply to actors in improvisational theatre as I mentioned in the Introduction. Carter's suggestion of a subsequent slower tempo once Williams settles back into the regular tempo of the piece also seems to draw from the same reservoir of ideas promoted by the Pan Theatre when considering that rule number two directs the actors' speech in order that "after the 'and', [they] add information" (Alger 2010). In this sense, Carter acknowledged Williams' suggestion of polytempo, said "yes and...", and then proceeded to add new information by also hinting at polytempo.

### **Metric Modulation**

Williams' unique brand of creativity was such that Davis admits,

I was learning something new every night with that group. One reason was that Tony Williams was such a progressive drummer. He would listen to a record and memorize the whole record, all the solos, the whole thing. He was the only guy in my band who ever told me, 'Man, why don't you practice!' I was missing notes and shit trying to keep up with his young ass. So he started me to practicing again because I had stopped and didn't even know it. But man, I can tell you this: there ain't but one Tony Williams when it comes to playing the drums. There was nobody like him before or since. He's just a motherfucker. Tony played on top of the beat, just a fraction above, and it gave everything a little edge because it *had* a little edge. Tony played polyrhythms all the time. He was a cross between Art Blakey and Philly Joe Jones, Roy Haynes and Max Roach. Those were his idols, and he had a little bit of all their shit. But his shit was definitely his own. When he first came with me he wasn't using the sock [hi-hat] cymbal, so I made him play that. I also told him to use his foot because he had been listening to Max and Roy a lot, and Max doesn't use his foot. But Art Blakey uses his. (Davis and Troup 1989, 274)

This long quote from Davis is a necessary inclusion as it encapsulates much of what I intend to demonstrate through musicological and textual analysis throughout the research and writing of this thesis. Davis' testimony about leading his Second Great Quintet does a lot to support the notion of nonlinearity and synergy as descriptors for complex adaptive systems wherein learning takes place and feeds back into the system in new and immeasurable ways. His exemplary approach to band leading is encapsulated when he says,

I learned a lot from Herbie, Tony, Wayne, and Ron and had just about absorbed all the things I had picked up from them in the almost three and a half years we had been together. (Davis and Troupe 1989, 288)

One of those "things" occurs when Williams performs the complex temporal technique of metric modulation in *Footprints* (Davis 1992b) and *Limbo* (1962). I analysed an alternate version of *Limbo* earlier in this chapter, describing it simply as being in triple time. That version was recorded live in concert on 9 May 1967 (Davis 2009a) and the present version was recorded in the studio one week later on 16 May 1967 affirming Davis' excitement that,

The music we did together changed every fucking night; if you heard it yesterday, it was different tonight. Man, it was something how the shit changed from night to night after a while. (Davis and Troupe 1989, 278)

And, as quoted earlier that,

Tony played to the sound, and he played real hip, slick shit to the sounds he heard. He changed the way he played every night and played different tempos for every sound every night. (Davis and Troupe 1989, 264)

Whereas in the occurrence of superimposed metric modulation the original pulse does not change whilst strong emphasis is given concurrently to a second layer of pulse at a speed metrically related to the original, generating the *illusion* of a tempo shift (Colaiuta 1987, 36) as described above, the original pulse *does* change in the event of metric modulation as I shall describe in the context of Williams' performance on *Footprints* from 1966. In the interest of preserving space, I will not analyse *Limbo* as this treatise on *Footprints* will suffice in covering the same territory.

*Footprints* is in  $\frac{6}{4}$  time at an approximate tempo of 166 bpm. Carter's bass line features

the repetitive figure of  $\frac{6}{4}$  ♩ ♪ ♪ ♪. which he maintains throughout the first eight bars of

this twelve-bar form. In bars nine and ten of the twelve-bar form he plays a vigorous

$\frac{6}{4}$  ♩ ♩ ♩ ♩ ♩ ♩ | ♩ ♩ ♩ ♩ ♩ ♩ simulation of a double-time swing feel.

Williams alludes to a double time swing feel throughout the length of the entire form on his ride cymbal, pre-empting Carter's rhythmic figure from the ninth and tenth bars, improvising other drumset colours intermittently and interjectively. At 1:54, at the top of Davis' third chorus on the trumpet Williams begins to allude to an alternative tempo but makes no definite transition until Davis' fourth chorus when he performs metric modulation based on a dotted eighth-note rhythm, so that the new quarter-note pulse is at the same tempo as dotted eighth-notes were in the former tempo, creating a

modulation ratio of  $8:6 \downarrow$  (eight in the regular time of six quarter-notes) so that eight quarter-notes now pass by in the same amount of time as six quarter-notes would have.

This particular modulation makes the exact rhythm of Carter's bass line ambiguous in the new tempo. Carter seems to maintain his bass line underneath Williams' new tempo, which would make a rhythm of three half-note triplets in the first bar followed by a whole-note in the second bar of the new tempo. Once Williams' new tempo settles in, these half-note triplets are subjected to a slight rhythmic variation as they sound almost identical to the  $\frac{4}{4} \downarrow \downarrow \downarrow$  figure as shown in Figure 12 in the new tempo:

The figure displays two musical systems. The first system, labeled '1:34', shows a tempo of 134 and a 6/4 time signature. The drumset part consists of a complex pattern of eighth and sixteenth notes. The bass part features slanted eighth notes and diamond-shaped symbols. The second system, labeled '2:18', shows a tempo of 218 and a 4/4 time signature. The drumset part continues with a similar pattern, and the bass part shows slanted eighth notes and diamond symbols, illustrating the modulation from 6/4 to 4/4.

**Figure 12:** *Footprints* (1:34 - 1:42 & 2:18 - 2:26).

Given that Williams plays a Latin influenced groove over Carter's bass line as is seen from 2:18 in Figure 12, and that the new tempo and groove are maintained for the

remainder of the track, I decided not to notate Carter's bass line as half-note triplets, but rather in the  $\frac{4}{4}$  ♩. ♩. ♩ rhythm as shown above.

Another example of metric modulation used by Williams in the Miles Davis Quintet is on *I Fall In Love Too Easily* (Davis 1995a, 4:38 - 5:55) when Williams modulates from the double-time tempo of 120 bpm into a tempo utilising the quarter-note triplet as the basis for the new tempo of 180 bpm. The meter also changes to  $\frac{3}{4}$  during this modulation. The band makes another instance of such a modulation during another of Shorter's solos later the same night on a replay of the same tune (Davis 1995c) and then again the following night (1995g).

The reverse affect is achieved on Davis' *All Blues* (Davis 1995h), which begins in  $\frac{6}{4}$ .

The tempo shifts to the slower dotted quarter-note and the meter changes to  $\frac{4}{4}$  so that one bar of  $\frac{4}{4}$  is performed with the same period of time elapsing per bar as elapsed in the brighter  $\frac{6}{4}$ <sup>32</sup>, modulating at the rate of 2:3♩ (two in the regular time of three quarter-notes).

---

<sup>32</sup> Dean analyses this instance of metric modulation in his 1992 book (35 - 39).

## **Tempo Fluctuation**

An example of tempo fluctuation occurs at two different stages during the Davis Quintet's performance of *The Theme* (Davis 1995a, 8:39 - 8:49; 9:24). During the ten second period elapsing from 8:39 during Shorter's tenor solo, the tempo spontaneously undergoes a ritardando from the established tempo of 289 bpm to 242 bpm and remains at the slower pace until slowing even further to 210 bpm at 9:24.

Extreme use of accelerando and ritardando on *No Blues* (Davis 1995g) results in Shorter and Hancock soloing over five different tempi between them. At 3:55, nearing the end of Shorter's second chorus, Carter and Williams initiate an accelerando over the course of approximately 50 seconds from the piece's initial tempo of 180 bpm to a brighter 324 bpm. At 5:28 a ritardando is enacted, shifting the tempo to a slower 235 bpm at 5:56, still as part of Shorter's solo. At 8:18, Williams begins playing the tempo freely until Carter slows further still at 8:39 to 136 bpm. At 10:20, the tempo slows further to 92 bpm where it remains until another accelerando at 11:08 when the tempo reaches to 208 bpm. The final chorus of this version of *No Blues* is also another instance in which Williams is heard to ride on his left-side cymbal.

## **Conclusion**

Bebop was born in an African American embracing of modern principles—or *Afro-modernism* to use Guthrie P. Ramsey's term (2003, 130)—in America's 1940s with a

striving spirit that endured up until the dramatic change of sociopolitical tides with respect to race relations in the late 1960s. This broad stylistic overview of Williams' output as documented in the recordings he made between February 1963 and February 1969 indicates a shift in consciousness from one of modernism as reflected in bebop to a postmodernist ideal as suggested by Dean (1992, xxiii-xxiv) thus completing the musical exploration of the expression of bebop and hard bop ideals, through the avant garde, opening up to post bop, described by Yudkin as "freedom anchored in form" (2008, 123). The styles I identified as slowly revealing this shift in musical consciousness cover 1) swing pieces in four broad distinctions of tempo, 2) ballads, 3) pieces in triple time, 4) avant garde, multi-section and other pieces, 5) straight-eighth and Latin pieces, 6) sixteenth-note pieces, 7) pieces containing drum solos, and 8) complex temporal events such as a) long-range polymetric superimposition, b) polytempo and superimposed metric modulation, c) metric modulation, and d) tempo fluctuation. Each of these styles is supplemented by a table in Appendix Four for reference. Each of these tables includes a complete list of corresponding pieces for each style.

The foregoing analytical overview of Williams' style during the 1960s also presents a clear case for the formulation of a jazz drumset performance studies curriculum or course of study that incorporates in-depth study and practice of each of the styles discussed, whether it be a pedagogical, andragogical or heutagogical course. In the following chapter I analyse in detail four complete musical works featuring drummers Blakey, Roach, Jones and Haynes recorded prior to February 1963 in order to establish

the kind of modernist musical vocabulary Williams' learned as a result of studying each of these drummers. I look at the ways in which these drummers interact musically with the various members of the ensemble that performed each piece. By doing so I aim to provide a kind of methodological template for analysis that enables the cultivation of originality in pedagogical, andragogical and heutagogical jazz drumset performance studies based around the archetype Williams provides for such an endeavor as discussed throughout this thesis.



## **Chapter Four**

### **Musical Analysis of “The Big Three” Plus One: Art Blakey, Max Roach, Philly Joe Jones and Roy Haynes**

In this chapter I present analyses of the recorded works of Art Blakey, Max Roach, Philly Joe Jones and Roy Haynes that illustrate by musicological example how I find these drummers to have respectively embodied the feel, technique and creativity as I interpret Tony Williams to have meant. The method by which this is achieved is by applying the analytical criteria referred to in the Introduction. Rather than by using strict headings based on these criteria, their use throughout the chapter is fluid as there is no point in any piece of music when any drummer is “just playing rhythm” and then “just using voicing” and so on. These elements are ever-present throughout the entirety of each musical performance and have thus been invoked when necessary.

Each piece in the repertoire selected for analysis in this chapter shares broadly similar characteristics of style throughout. The form in all of the pieces examined in this thesis is centred on a mode of Head-Solos-Head. By this I mean that the piece begins and ends with the “head”, which is a statement of a melodic theme or subject that is composed prior to the performance and stated identically throughout each unique performance. The melodic theme or subject adheres to the harmonic information inherent in the chord changes, often referred to simply as “changes”, which are a cycling series of harmonic movements in one or more keys with rapid modulation. One series of changes is a “chorus”. Generally, the style reflects a repetition of

choruses during a series of which the head is played either once and / or twice in the first and last choruses of the piece. The many choruses in between heads are reserved for improvised “formulaic” (Dean 1992, 5 - 8) solos performed one at a time by alternating instrumentalists in the ensemble. Each soloist plays over one or more choruses in a solo during the following pieces. The overall form of the drum solos follow a variety of different formats during these pieces as I will discuss below.

To begin, this chapter is important in outlining the music that Williams was exposed to in his adolescence. What changes significantly throughout the periodic development of the music is the interaction taking place between the musicians in the temporally local sense. Dynamically, as is made evident in ensuing chapters, the spectrum opens up with Williams as he interacts not only on a temporally local scale, but also according to the mental catalogue or internal models he formed of his predecessors’ tendencies during his development. To the degree to which the interaction is seen to be limited, it can be said that the role of the drums is more prescribed by the “tradition” of a relative heteronomy than it is in a more openly interactive environment such as a collective autonomy in which the ideal is of collective and spontaneous improvisation.

Beginning with *Mayreh*, we begin to hear the relative heteronomy amongst rhythm section players, particularly amongst drummers and bass players, contributing accompaniment to the sound of one band member’s solo at a time in the hard bop style. As discussed earlier, by relative heteronomy I refer to the ensemble role played by each of the instruments meaning that each instrumentalist is circumscribed to

performing an instrumentally hierarchical role mandated by *tradition* on their instrument in a way that defines the style of the music of the particular time and place. In 1954 and in the wake of the original bebop music of the 1940s, the music was still explicitly dominated by the harmony-centric acrobatics of a front-line soloist, indicating the soloist's supremacy in the idiom and often relegating the drummer's creativity to the role of a mere slave-like plebeian, hence my use of the term "relative heteronomy". This subordination was however handled by Blakey and the others of the time with compositionally restrictive aplomb as is indicated below.

By the time we have looked at the music and attitudes of Max Roach closer to 1960, as well as at the innovative ideas brought to the fray by Ornette Coleman and company, a certain "collective autonomy" begins to be heard in the recorded output of rhythm section players. In aligning with the subject of this thesis, the drummer's role is notably liberated from the shackles of the strict time-keeping it was circumscribed to throughout the 1940s and 1950s and afforded more of an artistic quality as a unique and original voice for individual expression.

### **Art Blakey on *Mayreh***

After considering Blakey's thoughts on music, drumming and life in relation to Williams in Chapter Two, I present a detailed musicological analysis of Blakey's drumming on *Mayreh* and I will point out how Blakey exhibited the possession of the quality of feel as it has so far come to be understood in this thesis.

### **Formal Structure, Head and Arrangement**

With an explosive crash on the cymbal and bass drum that picks up distortion on the recording, Blakey begins a roll on his snare drum that crescendos tremendously for several seconds before launching into the time feel he plays throughout *Mayreh* and with which he sets the general mood and feeling of the jazz music produced in this tempo range between the mid-1950s and early 1960s.

“Mayreh” is a Horace Silver composition appearing on the live 1954 release of Art Blakey’s entitled *A Night At Birdland, Vol. 1* (Blakey 2001). The piece is named in an attempt of Silver’s to capture the Southern accent of alto saxophonist, Lou Donaldson when he pronounces the name, “Mary” and is pronounced as such (Blumenthal 2001). The personnel comprises a pick-up band of Donaldson, Clifford Brown (trumpet), Horace Silver (piano) and bassist Curly Russell joining Blakey on drums for what would be Blue Note’s first long-playing release (Cook 2003, 63-64).

*Mayreh* features the head-solos-head form with a brief introduction and a brief coda.

The tempo sits at approximately 286 bpm and the meter is  $\frac{4}{4}$ . The form for the head and for the solos is made up of two sixteen-bar sections, A and B. Following the head, a series of three-chorus solos are performed by Brown, Donaldson and Silver on trumpet, alto saxophone and piano respectively. These solos are followed by Blakey’s one-chorus drum solo before the band plays the final head out, ending with a short coda and pause.

Blakey's performance on *Mayreh* is a powerhouse statement of having firm conviction of and fervent belief in the inherently uplifting value of being occupied fully what one is doing as a musician. His accompaniment throughout is a text-book example illustrating the immense depth and refinement of musical understanding, empathy, support, trust, rapport and entrainment that can build up only as the direct result of performing music *in situ* with the same personnel night after night before a dedicated live audience. And, although this particular line-up was not a regularly performing ensemble, there was great rapport that had developed between each of the individuals as they were all "Blue Note regulars" (Cook 2003, 63). This musical rapport culminates in the way that Blakey is able to make the drumset sound in relation to the things going on around him.

After Blakey's opening roll and two bars of "time" on the drums, Horace Silver joins in on the piano with an accompaniment that heteronymously insists upon asserting the form and harmonic information of *Mayreh* in a way that is emblematic of the hard bop aesthetic that was coming into full development in 1954. Silver's piano playing astutely lays down the underlying mood and tone of the piece with propulsive and expedient accuracy. Silver's accompaniment is so unrelenting that it almost commands the quality with which the other members of the ensemble are to interact with each other, albeit in a somewhat suppressive, smothering manner despite the diatonically majestic nature of the tune and its associated harmonic movement. In the words of David Rosenthal, Silver's comping is "choppily percussive...a mixture of smoothness and roughness that [is] extraordinarily propulsive" (Rosenthal 1992, 29). Blakey

supplements Silver's piano with a dark and heavy ride cymbal and hi-hat pattern that drives indefatigably with intensity and reiteration for eight bars prior to the entrance of the remainder of the ensemble.

Clifford Brown and Lou Donaldson enter strongly in the front line with the theme of *Mayreh*, which begins with a syncopated two-note accent pattern on the "and" of beat one in the first bar of the form. The second, fourth and sixth bars then continue on with a developing melodic line that carry on through to the sixteenth bar of both sections. Blakey sets up the syncopated figure in the final bar of the introduction with four eighth-note stick shots on the snare drum beginning on beat three as adeptly as would a drummer setting up a syncopated figure in a full-sized big band. He then proceeds to accent the syncopated figure in the first bar of the head in unison with the horns by crashing loudly on the cymbal and bass drum. The syncopated figure is played in the first third and fifth bars of both the A and B sections. Blakey only plays set ups leading into the first, fourth and fifth repetitions of the figure, but accents all six occurrences of the figure itself with equal vivaciousness. We can begin to hear during the head in to *Mayreh* that Blakey tends to use the bass drum and crash cymbal for significant accents throughout the remainder of the piece.

### **Clifford Brown's Trumpet Solo**

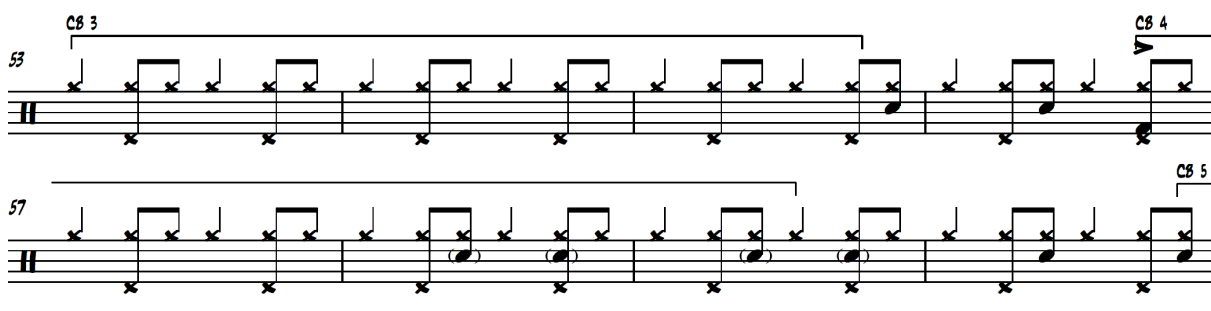
The head in to *Mayreh* ends after 42 bars when Clifford Brown plays a two-bar pick-up into his three chorus solo that lasts for one minute and twenty-five seconds between

0:42 and 2:07. Brown's style throughout the solo is typical of the hard bop style with the majority of his phrases being comprised largely of eighth-note-based lines with occasional triplet appoggiaturas and quarter-notes.

Brown displays a sense of phrasing that may have been inherited from working with pianist, arranger and composer Tadd Dameron. Dameron would instruct the soloists in his band to be careful of what they played when going from the first eight bars of their solo into the second eight because that's "where you can tell whether a man can really blow—when he starts playing that eighth or ninth bar and then when he comes out of the middle into the last eight. Those turnbacks mean so much" (Rosenthal 1992, 32). Dameron's instruction to his players seems to account for much of the musical acrobatics that can be heard in the playing of many bebop and hard bop soloists. So compulsively concerned with playing the "turnbacks" to prove that they could "really blow" were they that they were unable to leave much space for interaction with the rhythm section.

Brown does however play impeccably clear and distinct phrases on *Mayreh*. He plays seventeen phrases in total, punctuated and broken up by rests of several beats or more. Many of his phrases begin either on beat one of the first bar in a four or eight-bar section or they lead into beat one of those sections by several beats as a kind of anacrusis. Only in his first, eighth, ninth, eleventh and seventeenth phrases does Brown begin playing after beat one of the first bar in a four-bar phrase.

Blakey interjects with a subtle link played between the third and fourth phrases of Brown's first chorus as can be seen in Figure 13:



**Figure 13:** *Mayreh* (0:50 - 0:57).

The figure is played in the twelfth bar of Brown's first chorus. Brown already moved into beginning his fourth phrase on the fourth beat of the bar by the time Blakey completed his interjection on the bass drum.

Blakey's overall use of the drumset throughout Brown's solo on *Mayreh*, in comparison to the use by other drummers with other soloists, as will be seen later in the discourse, sounds relatively simple with respect to the interactive relationships between the elements of rhythm, phrasing, coordination, voicing and expression. I suggest that this relative simplicity is precisely the element responsible for Williams' analytical summation of Blakey's drumming as embodying "feel". By simplicity, it is meant that changes and motions taking place in Blakey's drumming with respect to the analytical criteria only occur in limited relationship to one another. That is to say that, a change in rhythm does not necessarily evoke a change in voicing also, and I do not mean that Blakey's drumming is simplistic. Blakey's drumming features a great deal of repetition



of four and eight bar blocks and his drumming can be described on a technical level as requiring great physical strength as well as sustained mental concentration and considerable restraint.

The way Blakey plays the ride cymbal with his right hand on *Mayreh* is with a remarkably steadfast consistency of rhythmic repetition that is also mirrored in the way he plays the hi-hat cymbals with his left foot. The pattern is so mesmerizingly repetitive that it is almost Minimalist in its development. It could be that in hearing Blakey's demonstration of unbroken ride cymbal playing that Williams first received a feeling like that of "being hypnotized" as he mentions in *Rhythm* magazine: "You get into this trance and then things start speaking to you. Your body starts speaking to you. Your hands and feet start telling you things that they can do" (Ferriter 1990, 37). The ride cymbal and left-foot hi-hat are the two voices of the drumset that Blakey primarily uses to paint a rhythmic pulse in the background of each solo. Blakey insists on the repetitive nature of the rhythms voiced on these two parts of the instrument with intensely confident accuracy and evenness of tone and velocity, both of which are respectively full and high. According to Max Roach, it was Blakey's influence that made the hi-hat more prevalent in the way it is used in Figure 13, shown above:

...We were using the hi-hat, but it wasn't as constant and dominant as when Blakey came to town. He was one of the great shuffle drummers, so when he played with the groups on 52<sup>nd</sup> St., the thing that made his time feeling so unique was that even though he might just be playing quarter notes, if you listened closely, you could hear that shuffle. It's amazing how everybody has a little something that you take and deal with, and I daresay it was Art who made the hi-hat such a strong point for drummers (Mattingly 1993, 27).

With only a few exceptions throughout *Mayreh*, Blakey's ride cymbal and hi-hat are played as shown below in Figure 14, excerpted from the second half of Brown's first chorus on *Mayreh*:

The figure consists of two musical staves. The top staff is labeled '57' and 'CS 4'. It shows a sequence of notes on a five-line staff, with 'x' marks below the notes indicating cymbal or hi-hat sounds. A horizontal line above the staff spans from the first measure to the fourth measure. The bottom staff is labeled '61' and 'CS 5'. It shows a similar sequence of notes and 'x' marks. A horizontal line above the staff spans from the first measure to the fourth measure. A box containing the number '8' is positioned at the beginning of the second staff.

**Figure 14:** *Mayreh* (0:54 - 1:01).

Figure 14 is representative of Blakey's accompaniment phrasing behind all three soloists on *Mayreh*. The snare drum is unobtrusive and provides added emphasis and syncopation to the unfaltering ride cymbal and hi-hat beat. These snare drum phrases are comprised of usually only several singular notes at a time. Certain rhythmic combinations of these notes form short phrases in Blakey's comping that go over the barline to create two-bar phrases, such as the succession of eighth-note rhythms 249 and 254 in Appendix Three.

Brown's last phrase in his first chorus begins in the fifth-last bar of the form and carries for eight bars over the top of the chorus to the fifth bar of his second chorus. Neither Brown nor Blakey makes any reference to the top of Brown's second chorus. Although Blakey interjects toward the end of the phrase on the bell of his crash cymbal, the

interjection seems to have no bearing on Brown's phrasing at this point as shown in

Figure 15:



Figure 15: *Mayreh* (1:07 - 1:16).

The only note-length Brown plays that is greater than an eighth-note is a half-note in his tenth phrase on beat four of bar 92 so that it carries over onto beat one of bar 93. This half-note falls exactly at the mid-way point of Brown's solo. This note is framed squarely by two interjections on Blakey's bass drum as shown in Figure 16:



Figure 16: *Mayreh* (1:22 - 1:30).

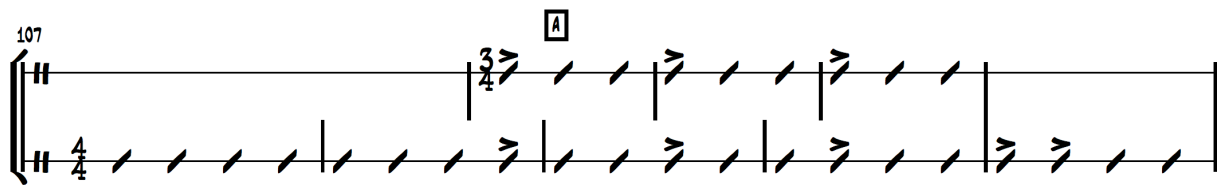
The breaks Brown leaves between phrases are typically the length of one bar or less with the space between the tenth and eleventh phrases lasting for seven entire beats.

Brown's eleventh phrase is also his shortest at three beats long whilst his twelfth is the longest at ten bars, three and a half beats. As Brown's phrases are longer in the second and third choruses, evidenced in that there are seven phrases in the first chorus and only five each in the second and third choruses it is not surprising to find Blakey interjecting with larger gestures than in Brown's first chorus in which he played linking gestures. Blakey interjects leading from the second chorus into the third. He plays a four-bar phrase beginning on the second-last bar of Brown's second chorus and resolves on beat two of the third bar of Brown's third chorus. This occurs during Brown's twelfth phrase, his longest in the solo.



**Figure 17:** *Mayreh* (1:38 - 1:42).

Here is the first reference to Blakey's use of polymetric superimposition. Beginning on beat four of bar 108, Blakey outlines the superimposition of  $\frac{3}{4}$ , making an incomplete polyrhythmic cycle of 4:3, that ends on beat one of bar 111. This superimposition is achieved by accenting the meter of  $\frac{3}{4}$  heavily on the bass drum and a two-part analysis is shown in Figure 18:



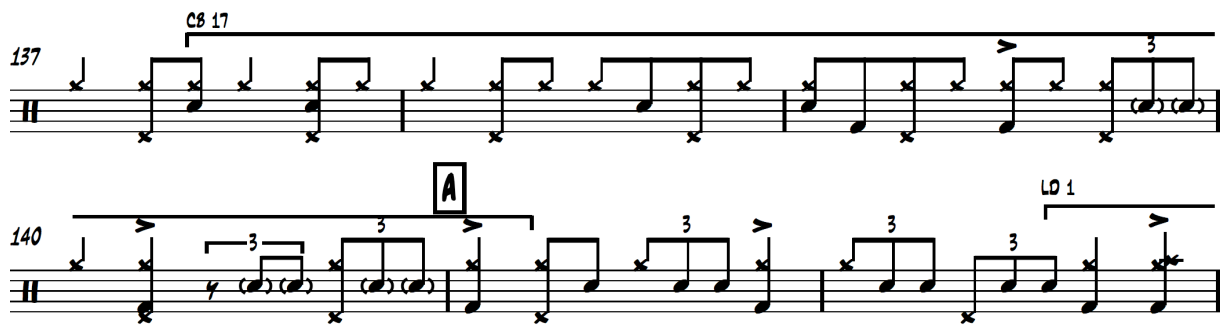
**Figure 18:** Two-Part Polymetric Superimposition in *Mayreh* (1:38 - 1:42).

Brown's longest phrases tend to appear in or leading into the second half of the form as well as beginning toward the end of a chorus and carrying on into the next chorus as already mentioned about the transition from the first to the second chorus, demonstrating what he had learned from Dameron.

His turns in melodic direction during a phrase sound as though they are constructed to imply as much of a sense of syncopation as he does when he begins and ends phrases on off-beats.

### **Lou Donaldson's Alto Saxophone Solo**

If Clifford Brown leaves little to no room for interaction with the rhythm section during his solo on *Mayreh*, Lou Donaldson leaves even less space. Blakey's interjection at the end of Brown's solo leads into Donaldson's solo with tremendous force generated in a number of ways as shown here in Figure 19:



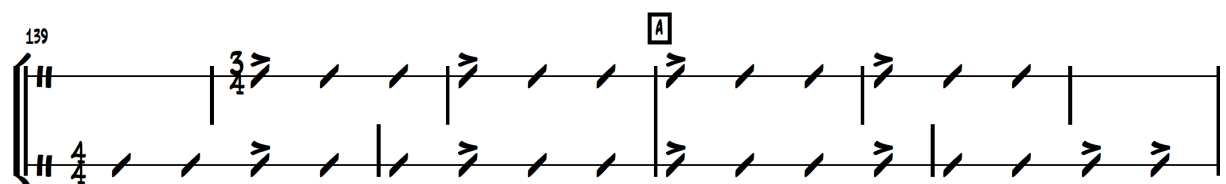
**Figure 19:** *Mayreh* (2:03 - 2:08).

Here is Blakey's second use of polymetric superimposition, although out of phase.

Beginning on beat three of bar 139, Blakey performs one complete cycle of  $\frac{3}{4}$  time

over  $\frac{4}{4}$  time. Again, Blakey brings the bass drum in to exaggerate the intent behind his

motifs and ends the figure on beat four of bar two in the form. See Figure 20:



**Figure 20:** Two-Part Polymetric Superimposition in *Mayreh* (2:04 - 2:08).

With a bright and enchanting tone on his alto saxophone, Donaldson's phrases are

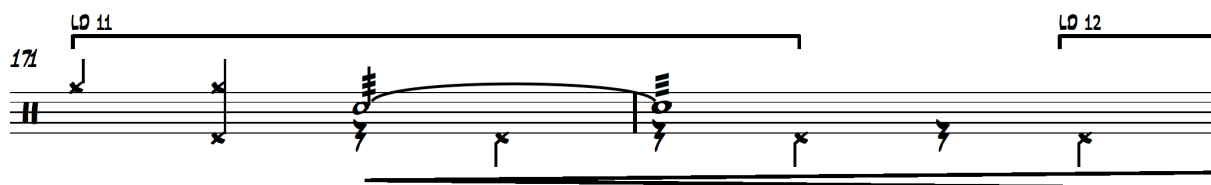
generally shorter than Brown's. He tends not to phrase over the major formal sections,

but rather contains his phrasing within each section. This is especially evident at the

end of Donaldson's first chorus when Blakey performs a two-bar press roll similar to the

roll he began the piece with. Unlike in his introductory roll on the snare, Blakey

neither begins nor ends this one with a crash on the cymbal. These are the only two bars in the entire piece, with the exception of his drum solo, in which Blakey doesn't play the ride cymbal. See Figure 21:



**Figure 21:** *Mayreh* (2:33 - 2:34).

The following two choruses of Donaldson's alto solo form a clear example of the fiery propulsion evident in Blakey's playing of the ride cymbal that I came to know once I began playing along with this recording for performance practice. The intensity of sound and consistency of rhythm emanating from Blakey's ride cymbal is of such high concentration that my right hand would become fatigued and wear out more easily and quickly than it did when playing along with the other drummers at similar tempi and in a similar style. This indicates that Blakey must have had a certain high degree of "hand strength" as a drummer. This formidable hand strength is also palpable in his soloing style, which is discussed later and is another characteristic Williams attributes to Blakey's drumming (Underwood 1979, 54).

Blakey interjects at the top of Donaldson's third chorus with an accent pattern on the bass drum and on the bell of his left-side cymbal that superimposes a  $\frac{3}{4}$  meter, resulting in a 4:3<sub>o</sub> polyrhythmic ratio. This third occurrence almost cycles twice completely.

With a strong accent on beat four of the sixth bar the complete second figure is cut short. This may be due to the classic bebop quote Donaldson plays at the time, which Blakey responds to in the eighth bar of the third chorus as shown in Figure 22. Once again in this excerpt, as in the case of Brown, Donaldson moves on before Blakey is offered the opportunity to play a complete phrase in response to the horn line:

The image shows two staves of musical notation. The top staff is labeled '208' and contains a sequence of notes with stems pointing down, marked with 'x' below them. Above the staff, there are two large brackets labeled 'LD 20' and 'LD 21', each spanning a four-measure phrase. The bottom staff is labeled '209' and contains a similar sequence of notes with stems pointing down, also marked with 'x' below them. Above this staff, there are two large brackets labeled 'LD 22' and 'LD 23', each spanning a four-measure phrase. The notation includes various rhythmic values and accents.

**Figure 22:** *Mayreh* (3:02 - 3:09).

Below is a two-part analysis of the superimposition:

The image shows two staves of musical notation. The top staff is labeled '205' and has a '3/4' time signature. It contains a sequence of notes with stems pointing up, marked with '>' below them. The bottom staff is labeled '206' and has a '4/4' time signature. It contains a sequence of notes with stems pointing up, marked with '>' below them. The notation includes various rhythmic values and accents.

**Figure 23:** Two-Part Polymetric Superimposition in *Mayreh* (3:02 - 3:07).

As stated earlier, Horace Silver's piano accompaniment is incessantly busy in the head and throughout both Brown's and Donaldson's solos. His comping seems not to have as much rhythmic bearing or influence on the soloists' phrasing, direction nor motivic development as it does provide a clear outline of the rapidly changing harmony. In this sense there is an autonomy that Silver displays with respect to interacting with the



soloist whilst seeming heteronomously obliged to state the harmonic rhythm of the piece without desisting from constant activity. His solo lines are more like that of a horn player's though, in that they occur in the horn register of his right hand whilst he provides his own busy accompaniment by outlining the chordal movement for himself with his left hand in a lower register.

### Horace Silver's Piano Solo

Donaldson completes his solo in the first bar of Horace Silver's first of three choruses on the piano. Blakey responds very clearly by placing a loud crash accent on the cymbal and bass drum on beat one of the second bar, and Silver continues on from the "and" of beat four. This and similar such figures throughout this thesis show Monson's description of the drum fill to be inaccurate as I stated earlier (1996, 60).



**Figure 24:** *Mayreh* (3:27 - 3:33).

Blakey's drumming is more subdued during Silver's solo than when accompanying the horn soloists. His snare drum activity is minimised as are his links and interjections. Silver's phraseology is similar to Brown's in that he begins many of his phrases prior to beat one of each four bar section in the form. The lines in his first chorus continue mainly in four-bar lots, ending early in the fourth bar, allowing a rest of one or two

beats before beginning the next phrase. Blakey leaves most of these rests for Silver's left-hand comping to fill.

Silver's solo becomes more interactive just prior to the beginning of his third chorus when Blakey interjects by beginning a figure on beats two and four on the bell of his crash cymbal, supplemented with his bass drum, serving as a kind of brief pedal point. This line continues on for six bars ending before the fifth bar of Silver's third chorus. Silver follows with another classic bebop quote immediately after Blakey's interjection and Blakey ends the quote with the bass drum on beat four of bar 306 and again, a little louder on beat one of the following bar.

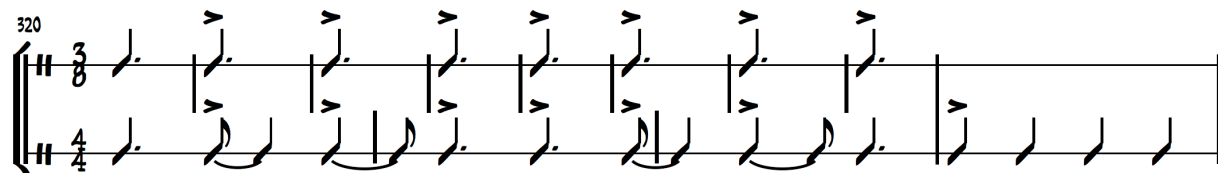
**Figure 25:** *Mayreh* (4:22 - 4:31).

The piano solo remains more interactive from that point when Silver leaves a rest of almost two complete bars beginning on beat four of bar 314. Blakey forms a link between Silver's two phrases beginning on the "and" of two of bar 316 with his bass drum. This figure continues to beat three of bar 317 but Silver had already begun his next line on the "and" of four in bar 316.



**Figure 26:** *Mayreh* (4:33 - 4:51).

Blakey's bass drum figure in bars 320 - 323 features a superimposition of a  $\frac{3}{8}$  meter is a statement of the 2:3 polyrhythmic ratio. Blakey performs an entire sequence of 2:3 beginning on the "and" of beat two in bar 320 and continues on to its completion with the last note sounding on beat one of bar 323. It does appear that Blakey's performance of such a figure poses some coordinational difficulty for him as it is one of only few incidences throughout *Mayreh* that Blakey's ride cymbal and hi-hat patterns are varied. Figure 27 shows a two-part analysis:



**Figure 27:** Two-Part Polymetric Superimposition in *Mayreh* (4:40 - 4:43).

## Art Blakey's Drum Solo

Blakey begins his drum solo on *Mayreh* at 4:50 and continues for one whole chorus.

Apart from the drum roll played during Lou Donaldson's alto solo, this is the first time Blakey plays any part of the drumset other than the ride cymbal beat with his right hand.

The solo is focussed around a constant barrage of triplets voiced primarily on the snare drum with an accent placed on the floor tom on beat three of the second bar. The triplets add intensity to the feel as it is the first episode of continual triplet use for any length of time that has occurred throughout the entire piece. The first sixteen bars represent one entire phrase that is itself made up of phrases that become shorter with each repetition through a kind of motivic diminution.

The image displays four staves of musical notation for a drum solo. Each staff begins with a measure number: 333, 337, 341, and 345. The notation consists of rhythmic patterns on a single staff, primarily using eighth notes and triplets. Above the notes, there are '3' symbols indicating triplets, and arrows pointing to specific notes indicating accents. The patterns are complex and rhythmic, typical of a drum solo score. The first staff (333) starts with a boxed 'A' above the first measure. The notation continues across four staves, showing a progression of rhythmic figures.

**Figure 28:** *Mayreh* (4:50 - 5:03).

Blakey repeats the figure played in the first four bars but with a slight variation in the rhythmic placement of the bass drum note that ends each phrase in the fourth bar. The

figure is repeated again in the ninth bar but halved in length. This half-length motif is repeated again in the eleventh bar. The figure becomes three quarter-notes long by the time it is repeated in the thirteenth bar and played twice. Blakey completes the first half of his chorus by accenting a continuous stream of eighth-notes for the remaining two bars on the snare drum. Blakey plays an almost exact replica of this figure as the introduction to Bill Hardman's *Theory of Art* (Blakey 1997), indicating that this figure was a regular part of his soloing vocabulary and that he used centonization as discussed earlier.

Blakey steadily maintains a repetitive figure on beats two and four with his left foot on the hi-hat throughout his solo as he does throughout the duration of his accompaniment passages on *Mayreh*. He introduces his bass drum on all four beats of the bar in the fifteenth bar of his solo, which he continues to do until the end of the solo. These first sixteen bars of Blakey's solo emphasise the suggestion made earlier that Blakey possessed a high degree of hand strength. Judging by the slight variations of tone emitted by the snare drum as heard note by note at both regular speed and when slowed down using The Amazing Slow Downer whilst transcribing, it sounds as though Blakey may be using a single stroke roll between his right and left hands to execute the phrases in these sixteen bars. A roll containing a Paradiddle-diddle may be easier for a drummer to perform, however it would perhaps sound with a diminished strength compared to the more aggressive, fiery sound Blakey generates in this passage.

Blakey introduces his mounted tom in the second half of his solo for the first time in the piece at 5:03. He plays it strongly on the first and third beats of the bar, alternating with the floor tom and snare drum, while continuing to fill out the second and third eighth-note triplets on the snare drum for the next five and a half bars. By doing this, Blakey performs Eighth-Note Rhythm 227 in Appendix Three  $\frac{4}{4}$   $\text{♩} \cdot \text{♩} \cdot \text{♩}$ . (outlining a repetitive accent at half-note intervals) by using a combination accents with a voicing pattern of SD-SD-MT-SD-FT-MT-FT-MT-FT-MT through bars 349 to 353. Again, he finishes off the eight-bar phrase with accented eighth-notes on the snare drum.



**Figure 29:** *Mayreh* (5:03 - 5:10).

Blakey closes out his solo by playing eight bars based around a superimposed polymeric accent pattern in  $\frac{3}{4}$  as shown below in Figure 30. The accent pattern is based around Eighth-Note Rhythm 50 in Appendix Two  $\frac{3}{4}$   $\text{♩} \cdot \text{♩} \cdot \text{♩}$  (outlining a repetitive dotted-quarter-note rhythm) and is performed with a voicing pattern of FT-SD-MT-SD-FT-SD-MT-SD-SD-SD with an ordering of hands that I imagine has his right hand performing all the accents, beginning on beat three of bar 357 and continuing until beat one of bar 361. Blakey fills out the length of beat three in Eighth-Note


Rhythm 50 by playing triplets on the snare drum. He then continues with another string of consecutive eighth-notes on the snare drum with one final dotted-quarter-note phrase beginning on the “and” of beat four in the fourth last bar with accents on the snare and toms and ending on beat two of the last bar of his solo. See Figure 30.



**Figure 30:** *Mayreh* (5:10 - 5:17).

Bars 361 to 364 in Figure 30 reveal that Blakey achieves syncopation through the use of expressive dynamics in one way, and through voicing and motion in another. By using only the one voice of the snare drum and alternating strokes between his right

and left hands, Blakey is able to perform Eighth-Note Rhythm 1  $\frac{4}{4}$   in bar

361 and Eighth-Note Rhythm 190  $\frac{4}{4}$   in bar 362 (see Appendix Three)

through the use of accents. Blakey then achieves syncopation in bar 363 by changing voices in a constant stream of eighth-notes. Blakey plays Eight-Note Rhythm 243

$\frac{4}{4}$   (see Appendix Three) by using the mounted tom and the floor tom in

succession amidst a constant stream of eighth-notes in bar 363 before he uses accents

on the snare drum voice again to play Eighth-Note Rhythm 239  $\frac{4}{4}$   (see

Appendix Three) in bar 364, closing his solo. These four bars are a sequence of Eighth-Note Rhythms 1-190-243-239, achieved through the use of accents on a single voice in bars 361, 362 and 364 and through voicing and motion in bar 363.

### **Summary**

Throughout the course of his accompaniment passages on *Mayreh*, Blakey is heard to indefatigably reiterate the conventional jazz ride cymbal pattern coupled with the left foot hi-hat on beats two and four with qualitatively unfaltering precision. His interjections between various soloists' phrases are short, occurring minimally but are high in velocity. Outside of his interjections, Blakey tends to play with a continuous undercurrent of single grace notes on the snare drum that accentuate the ride cymbal part. He intersperses accented snare drum notes only on occasion. At significant formal junctures, Blakey tends on *Mayreh* to play single accents on the bass drum, often featuring the polymetric superimposition of a  $\frac{3}{4}$  meter by accenting every third quarter-note for several bars giving the ratio of 4:3. He rarely actually accentuates beat one at the top of the form, disproving Monson's notion of what a drum fill characteristically consists of (Monson 1996, 59 - 60). Blakey's left hand is seldom heard to be moving around the drumset. Instances where he plays on a sound source other than the snare drum are his accents on semi-open hi-hats during the head; the figure on the cowbell at 3:08; and his interjection using the bell of his left-side cymbal at the beginning of Lou Donaldson's third chorus (again accenting every third quarter-note).



Whilst Blakey clearly demonstrates great capacity in the realms of technique and creativity, overall there is an unambiguous simplicity and conviction behind Blakey's drumming on *Mayreh* that, when corroborated with Blakey's own sentiments regarding the transcendental mood that he believes musicians are to generate on stage "to wash away the dust of everyday life" (Rosenthal 1986) lends itself to aptly being designated as embodying the notion of feel that Williams later sought to incorporate into his own drumming. "Feel", then, may be defined in the present context as drumming that utilises a consistently minimal amount of aural and structural resolution in order that a clear and logical affinity for the continuity and predictability within a piece remain intact. In other words, there is a relative simplicity in the stratified hierarchy of simple rules that pertain to the concurrent relationship between the performative elements of composite rhythm, ordering of limbs, voicing and expression within the overall sound of Blakey's motifs on the drumset in correspondence with the phraseology of the soloist over time that tends to define Blakey's performance as being one with great feel.

A thorough analysis of Blakey's drumming on *Mayreh* has been made to indicate Blakey's improvisational tendencies to interact with soloists over a certain form at a certain tempo. Upon listening to other pieces recorded by Blakey in a similar style but in a different period with different musicians, it becomes evident that the study of one piece alone cannot encapsulate all of his tendencies as he tends to play slightly differently in these alternate settings. A complete study of Blakey's drumming alone would come closer to mapping more of his improvisational tendencies, however the object of the current study is to make broad reference to the manner in which Williams'

improvisational tendencies are informed by Blakey, Roach, Jones and Haynes' drumming of the 1950s.

Next, I look at Roach's drumming in the piece *Powell's Prances* and show how Roach utilised compositional technique to generate musical figures on the drums with more melodic motility than is heard in Blakey's drumming in *Mayreh*, and in doing so I also show why Blakey's drumming can be held to be more of a figurative representation of Williams' notion of feel than Roach's drumming.

### **Max Roach's Drumming on *Powell's Prances***

Here I analyse Roach's drumming on *Powell's Prances* and uncover those aspects of his performance that reveal him to have been the one representing Williams' ideal of technique on the drumset. I compare aspects of Roach's performance to those described above in the analysis of Blakey's drumming and find that they are similar in many ways whilst being differentiated in other distinctive ways.

### **Formal Structure, Head and Arrangement**

In Max Roach's performance on *Powell's Prances* can be heard a drummer whose approach is altogether different to that of Art Blakey's on *Mayreh*, despite the similarity in style and personnel between the two pieces. Roach's sound is much brighter than Blakey's, especially in his choice of cymbals, as well as in his tuning and voicing of the drumset. Although it would appear that both Blakey and Roach used similarly

proportioned drum sizes, during *Mayreh* Blakey is heard on drums that sound as though they are “tuned down” to achieve a kind of growling sonority, whilst Roach is more easily identified with an almost “choked” sound achieved by cranking the tuning screws much more tightly than it sounds Blakey cranks his.

“Powell’s Prances” is a twenty-four bar minor blues performed by Clifford Brown (trumpet), Sonny Rollins (tenor saxophone), Richie Powell (piano), George Morrow (bass) and Max Roach (drums). It appears on *At Basin Street* (Brown and Roach 2002), a collaborative studio album by Roach and Brown, recorded January and February 1956. The piece is in  $\frac{4}{4}$  and is played at a tempo of approximately 300 bpm with an up swing groove. Three two-chorus solos follow the head in with the first being from Brown followed by Rollins and then Powell. Roach plays the final solo on the piece with one chorus of drums prior to the head out, which is extended with a coda section.

Following a two-bar introduction from Roach on the drums, the head of *Powell’s Prances* features two broadly different modes of feel. These are “playing in four” and using “stop time” accents. The first eight bars features a melody comprised largely of eighth-notes that floats over the top of a driving  $\frac{4}{4}$  feel in the bass and drum parts.

Roach plays straight-ahead time for seven bars before resting in the second half of the eighth bar to prepare for the “stop time” figures in the second lot of eight bars of the melody. “Stop time” figures are a common feature of the hard bop style and

incorporate a kind of question and answer phrasing between the horn players and the rhythm section. In the case of *Powell's Prances*, the horns state a brief melodic motif ("question"), that the rhythm section "answers" with one-note syncopated unison accents on either beat two, the "and" of beat one or on beat one. For these accents, Roach uses a stick shot for a staccato effect. To lead into the third section of the head, the rhythm section's final stop time accent is sustained before the melody carries on in the horns. The last eight bars of the head in are a reprise of the first eight bars. During the final two bars of the head in, Roach plays a snare roll with a crescendo leading into Clifford Brown's trumpet solo. The sound of Roach's roll is more stiff than Blakey's roll. It sounds decisively jagged and grainy in the sense that the roll can be heard transferring from hand to hand, whereas Blakey's roll sounds as though it is derived from the performance of tightly woven multiple-bounce strokes replicating the sound of evenly tearing a large, thick sheet of paper.

### **Clifford Brown's Trumpet Solo**

Brown appears as the first soloist on *Powell's Prances* as he did on *Mayreh* with Blakey, however, he shows himself to be quite a different soloist on *Powell's Prances*. Brown's solo is much shorter than the solo he plays on *Mayreh* as the chorus is eight bars shorter and he only plays two instead of three choruses, leaving less opportunity to develop his ideas on *Powell's Prances*. Brown does however play with the same fleeting fluidity and impeccably accurate and somewhat staccato articulation of the eighth-notes as is heard on *Mayreh*, but his phrases are placed somewhat differently.

He tends more toward ending his phrases in the third of every four bars, leaving longer gaps before beginning his next phrase, sometimes toward the end of the fourth bar and at other times playing shorter motifs that begin in the first, second and sometimes third bar of a four bar phrase.


Brown begins his solo on beat three in the final bar of the head and continues with his first phrase into the sixth bar of the form, ending on beat two, shortly followed by a short phrase that seems to bring the first one to a close. This is one of his longer phrases in *Powell's Prances*. Immediately following these two phrases acting as one, Roach interjects with a linking passage on the snare as shown below:

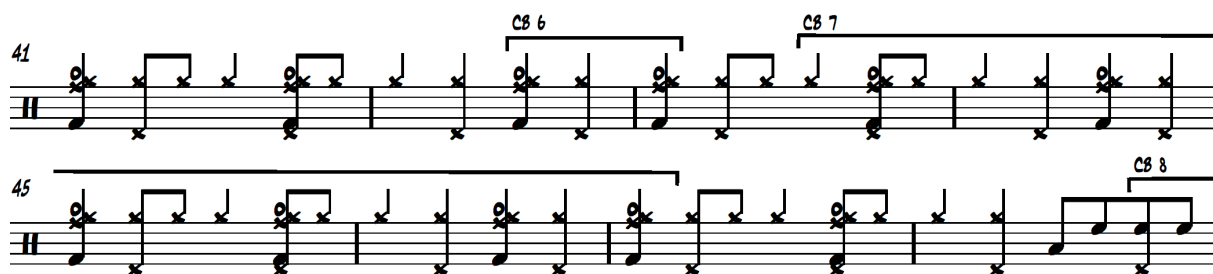


**Figure 31:** *Powell's Prances* (0:20 - 0:30).

Roach's snare figure in bar 32 is played somewhat authoritatively as accents and is contained within one bar. It is a figure of broken quarter-notes expressing the superimposition of two dotted eighth-notes followed by two eighth-notes or  $\frac{3}{8} + \frac{3}{8} + \frac{2}{8}$  to make up a complete bar of  $\frac{4}{4}$  with the first eighth-note in each group being silent. This figure corresponds with Eighth-Note Rhythm 85  $\frac{4}{4}$   $\text{♩} \text{♩} \text{♩} \text{♩}$  (see Appendix Three),

which is the “negative” of the rumba or Charleston figure (Eighth-Note Rhythm 174) and will be seen to be developed more extensively in the study of Roy Haynes’ drumming later in this chapter.

Beginning at 0:34, Roach plays a half-time Charleston accent pattern on the bass drum and semi-open hi-hats with his left hand  $\frac{1}{4}$   that repeats four times before he concludes with four eighth-notes on the tom toms that leads into Brown’s second chorus.



**Figure 32:** *Powell's Prances* (0:34 - 0:40).

Roach enters Brown’s second chorus without any accent to conclude the tom tom figure that ended the previous chorus. Brown enters on beat four immediately before the second chorus with a rhythmic development of just one note for several beats. Roach’s snare accompaniment is more pronounced in Brown’s second chorus, punctuating with a greater frequency of notes performed at a slightly louder dynamic level than in the first chorus.



**Figure 33:** *Powell's Prances* (0:46 - 0:59).

The figure above begins with an accent on the snare and cymbal on beat one of the ninth bar in Brown's second chorus after which Roach can be heard increasing the busyness of his snare accompaniment as the end of the chorus and of the solo approaches. The rhythms performed sound similar to Roach's "negative Charleston" figure discussed at the opening of Brown's first chorus. Roach's of the "negative Charleston" rhythm in conjunction with the figures used here indicates that more rhythmic and coordinational complexity lies behind Roach's snare drum accompaniment at this tempo. Whereas Blakey uses primarily single notes in his in his snare drum accompaniment, Roach tends to play sequences of two consecutive notes, creating a higher order of coordination between the hands during this piece.

### **Sonny Rollins' Tenor Saxophone Solo**

After Roach highlights the change of solos with an accent on the snare and cymbal similar to the accent he played toward the end of Brown's second chorus, Rollins

begins his tenor saxophone solo with a brief two-bar statement beginning on the “and” of beat one in the first bar. All of the other phrases Rollins plays during his solo on *Powell’s Prances* begin on the beat, mainly on beats one and three, giving the solo a stilted, boxed-in quality that is compounded with his use of quarter-notes toward the end of several lines that end primarily on beat one or three. It would make sense to say that Rollins’ solo actually begins on beat one of the chorus, however it cannot be determined one way or another if he begins playing before the “and” of beat one due to the sonic nature of Roach’s accent as well as the sound of Brown ending his solo on beat one, which dominates and occults the tenor sonority. Roach reduces the frequency and dynamics of his snare accompaniment to a minimum during Rollins’ first eight bars and doesn’t interject until the end of the eighth bar, which he does lightly.

Roach’s first interjection behind Rollin’s solo on *Powell’s Prances* follows what is to be one of Rollins’ longest phrases in the solo that lasts for just over six bars in length. The interjection is a press roll leading into the final eight bars of Rollins’ first chorus that sounds almost identical to Blakey’s roll except for Roach’s more grainy execution as already mentioned. Roach also ends this roll with a single hit on the snare on the “and” of beat four in the second bar that is followed with a bass drum accent on beat one of the following bar. See Figure 34:



**Figure 34:** *Powell's Prances* (1:10 - 1:20).

Roach then concludes Rollins' first solo chorus with unison snare and cymbal accents emphasising mainly beats one and three of the last two bars of the chorus, ending with another accent on beat one of Rollins' second chorus at bar 97 in Figure 34.

As with the second chorus of Brown's solo, Roach is much more vigorous with his snare drum accompaniment behind Rollins' second chorus on *Powell's Prances*, particularly in final fourteen bars.

**Figure 35:** *Powell's Prances* (1:29 - 1:37).

In Figure 35, Roach constructs his way toward the climactic end of Rollins' solo by playing a  $\frac{3}{8} + \frac{3}{8} + \frac{2}{8}$  figure in bar 111 that is almost identical to the "negative Charleston"

figure from early in Brown's solo as discussed above except that the ride cymbal pattern retains its consistency here. Following in bar 113, Roach performs a polymetric superimposition of  $\frac{3}{4}$  over the  $\frac{4}{4}$  time, resulting in a 4:3 polyrhythmic ratio. This he does by accenting every third quarter-note on the snare drum from beat one of Rollins' final eight bars and continuing for a complete cycle before playing a repetitive, syncopated eighth-note rhythm on the snare in the last three bars of Rollins' solo.

### Richie Powell's Piano Solo

Richie Powell begins his piano solo at 1:36 of *Powell's Prances* and continues over two choruses until 2:14. Roach immediately softens his drumming in volume and timbre by performing at a *piano* dynamic and playing with the tip of the stick on the bell of his ride cymbal. Worthy of particular note at this point in the piece is Roach's comping on the snare drum. Roach plays an extremely light "backbeat" on beats two and four between bars 126 and 135 whilst Powell develops the short motif he began his solo with. The tonal quality of this combination of snare and cymbal is discussed in greater depth in the analysis of Roy Haynes' drumming later in this chapter.

The image shows two staves of drum notation. The top staff is labeled '126' and the bottom staff is labeled '131'. The notation consists of rhythmic patterns for snare and cymbal. Above the staves, there are labels 'RP 3', 'RP 4', and 'RP 5' with brackets indicating specific rhythmic motifs. Below the staves, there are labels 'RP 6', 'RP 7', and 'RP 8' with brackets indicating other rhythmic motifs. The notation includes various rhythmic patterns such as eighth notes, quarter notes, and rests, with 'x' marks indicating snare hits and 'o' marks indicating cymbal hits.

Figure 36: *Powell's Prances* (1:40 - 1:48).

At no point during any of the pieces studied in this thesis are any of the drummers heard to be “feathering” the bass drum during accompaniment passages. The issue of feathering the bass drum is often contentious in jazz drumset performance studies as there are reasons for and against this practice mixed with mythologies from both points of view. Roach talks about the feathering of the bass drum:

We played the bass drum, but the engineers would cover it up because it would cause distortion due to the technology at the time. There were never any mic’s near our feet; they would have one mic’ above the drumset, and that was all.

It was funny to me that when I would hear a recording, I didn’t hear the bass drum, because in those days the bass drum was always prevalent. You could not get a job unless the bandleader could hear that 4/4 on the bass drum. I remember standing in front of Chick Webb’s drumset. His bass drum was so strong and constant I could hear it in my stomach: BOOM, BOOM, BOOM, BOOM constantly. Young drummers would stand there and say, ‘Wow! Can you feel that?’ Then on 52<sup>nd</sup> St., we learned how to play the bass drum softly. It was always there, underneath the bass fiddle.

But you never heard it on the recordings....I’ve heard people say that, historically I introduced the technique of *not* playing the bass drum and concentrating on the ride cymbal, which was not the case (Mattingly 1993, 25-26).

Roach posits that Blakey also used the bass drum in this manner. An important note about Chick Webb and his bass drum though is that during the 1930s, Webb was playing in the Savoy Ballroom, a dance venue the size of an uptown New York City block with imaginably rowdy patrons. It was in the Savoy that the vigorous Lindy Hop dance move was popularised (Ward 2000, 217-221). Photos of Webb from this time portray him as using a 28” bass drum, a size capable of producing a much fuller and louder sonority than the 18” or 20” bass drums used by the 1950s hard boppers. By focussing his time feel loudly on such a large drum, Webb was presumably answering

to an acoustical need to match the textural density of the large swing orchestra whilst simultaneously generating a sonic presence powerful enough to create a spirited atmosphere conducive for hordes of people to dance the Lindy Hop in a large space. By 1949, according to Roach, dancing was prohibited due to the imposition of a war tax at the time and big bands were superseded by small groups that now relied more heavily on instrumental virtuosity to sustain the interest of the crowds (Mattingly 1993, 25). The textural necessity for sustaining a heavily throbbing time feel on the bass drum was no longer present, compelling drummers like Kenny Clarke to inculcate the ride cymbal as the primary time-keeping component of the drumset in jazz music from the early 1940s to the present day.

### **Max Roach's Drum Solo**

Max Roach's drum solo on *Powell's Prances* indicates a complex interaction between rhythm, coordination and voicing that defines an audibly evident technique on the drumset in the sense that Williams may have meant.

The first sixteen bars of Roach's solo, beginning at 2:14 are monodic in texture, revealing a different approach to Blakey's in that Roach was able to include three limbs in a sequential fashion to create more subtle, melodic figures than Blakey's steamroller, full-speed-ahead barrage. Roach begins with a motif lasting six eighth-notes and followed by a quarter-note rest. The first and last notes, beat one and the "and" of beat three are played on the bass drum with the middle four notes played firstly on the floor

tom. Roach uses this figure by repetition for six bars, voicing the middle four notes on a different sound source on each successive repetition. Both of Roach's hands play these four notes in succession on the same drum during the first four occurrences of the figure, from floor tom to mounted tom back to the floor tom and finally playing the fourth instance on the snare drum. The fifth and sixth repetitions of the motif are a little different in that Roach splits his two hands between three different sound sources. Each hand plays successively on two different drums in the fifth repetition, which is duplicated in the following bar. The right hand moves from the floor tom to the snare and the left hand from the snare to the mounted tom. These six bars illustrate one of Roach's primary contributions to solo drumset performance in that by simply changing the voicing of a figure and introducing *motion* to both left and right hands between notes (comparable to "changing position" on piano), a simple six-note motif can be developed in a multiplicity of inventive ways as shown here in Figure 37:



**Figure 37:** *Powell's Prances* (2:14 - 2:22).

Bars 175 and 176 feature the introduction of a second motif that is a four-note descending figure from snare to mounted tom to floor tom and finally to bass drum.

The right hand moves from the snare to the floor tom in this figure. Two further grace notes on the snare addend this figure before Roach repeats it, this time beginning on beat four rather than on beat one, thus displacing the figure. In bar 177, Roach repeats the figure he played in bar 173 and develops it further by elongating it with a two-note attachment on the snare to the second figure he introduced in bar 175. Roach develops the six-note figure even further in bar 177 by extending it with two notes on the snare and then adjoining with the figure from bars 175 and 176, which is also extended by one more repetition.



**Figure 38:** *Powell's Prances* (2:22 - 2:25).

In Figure 38, Roach introduces a new motif made up of eight eighth-notes in bar 181, beginning on the floor tom on beat one with the bass drum sounding on the “and” of beat one, followed by the snare and then mounted tom before another note sounds on the bass drum on beat three. The bar is completed by three notes on the snare with an accent on beat four. Roach repeats this motif in bar 182 and then re-introduces the motif, which he develops here in a slightly different manner than previously. It is voiced similarly to the occurrence in bar 173 (see Figure 37), however in this instance, instead of changing the voicing as he did in 173, and instead of adding to the motif with two extra notes on the snare, as in bar 177, Roach develops the motif by omitting the final bass drum stroke, making it a five-note phrase. This five-note phrase is

repeated immediately with a slight variation in its voicing in that instead of the fourth note being on the snare, it is voiced on the floor tom, making a ten-note motif. The two bars are completed by one note on the bass drum on beat two followed by five consecutive notes on the snare drum.

The following 24 bars are performed with a different textural density than the previous 16 in that Roach performs a single melodic line with only his hands on the snare, mounted and floor toms using a combination of single strokes, double strokes and paradiddle stickings to accommodate the melodic contour of the line. This melody is underpinned by a repetitive bass drum ostinato on the four quarter-notes of each bar that is similar to Blakey's ostinato in *Mayreh* except that Roach omits the hi-hat for the entirety of his solo in *Powell's Prances*. The bass drum does not enter into the melodicism as it does in the first 16 bars of the solo.



**Figure 39:** *Powell's Prances* (2:25 - 2:31).

Bar 185 of Figure 39 features a figure consisting of four notes on the mounted tom followed by four notes on the snare. Roach plays the figure eight times in total with a slight variation made in each successive bar. The first four notes of the motif that, in

the first instance are played on the mounted tom are then played on the floor tom in every second bar whilst, instead of playing four notes on the snare in the second half of each bar, Roach plays the tom that is sounded in the first half of the bar on the “and” of beat three in the third, fifth, seventh and eighth repetitions of the figure, indicating that the sticking used throughout this eight-bar passage is a paradiddle sticking.



**Figure 40:** *Powell's Prances* (2:31 - 2:37).

The following three bars from 2:31 shown in Figure 40 feature a hand-to-hand sticking inside a three quarter-note figure that repeats three times over the  $\frac{4}{4}$  meter. Roach begins the figure with an accented single stroke on the snare drum with his right hand whilst proceeding to play either sixteenth-note double strokes or multiple bounce strokes on following two eighth-notes with each hand successively before playing another accent on the snare, this time with his left hand, followed by an accented note on the floor tom and completing the figure with another buzzed stroke on the snare with his left hand. Because of the tempo of the piece and the fidelity of the recording, it is difficult to discern whether Roach executes the buzzed notes with a double stroke roll or with a multiple bounce roll. This six-note figure is repeated three times with the



floor tom note played on the mounted tom during the second occurrence. Roach then recapitulates the figure that began this polyphonic section of his solo by repeating it twice at bar 197 before playing a double-stroke figure between the mounted tom and the snare drum in bar 199 (see Figure 40).



**Figure 41:** *Powell's Prances* (2:37 - 2:42).

In Figure 41, Roach accompanies himself with a further eight bars of ostinato on the bass drum whilst soloing on the snare and two toms, but now, owing to the melodic contour throughout these eight bars, he is clearly using a single stroke sticking rather than the double strokes, multiple bounce strokes and paradiddles of the previous 16 bars. Each bar begins with a stroke on the floor tom that is followed immediately by a stroke on the mounted tom on the “and” of beat one. The only exception to this is that the figure in the first bar features a slightly different melodic contour with the second note being on the snare and the third note on the floor tom. Roach uses the ascending figure between the two toms on the first two eighth-notes of the bar in a way that resembles a form of rhythmic diminution as much as this technique can be utilised on the drumset, an instrument on which the player has little to no control over the sustain of the voices. The onset of the figure is on beat one of each bar from bar 201 and the

remainder of the bar is filled out by eighth-notes on the snare drum, giving a sense of the length of a whole-note. In bars 203 and 205, Roach seemingly doubles the pace of the figure by repeating it on beat three as well as on beat one, giving the temporal sense of half-notes (see Figure 41). He utilises the technique further still in bars 207 and 208 by beginning the two-note figure on beats one and two, effectively accentuating the quarter-note while rounding out the bar with four more eighth-notes on the snare drum. When listening to this passage at full speed, it can sometimes appear that Roach speeds up and that he actually plays the mounted tom on beat one and not the floor tom.



**Figure 42:** *Powell's Prances* (2:42 - 2:49).

In Figure 42 shown above, Roach plays the final eight bars of his solo by reverting to a simple harmonic density shared amongst the snare, toms and bass drum similar to the density with which he began the solo, ceasing with the bass drum ostinato. The accented quarter-notes he plays between the snare and bass drum in bar 209 offer a startling contrast in density from the previous 24 bars. Bar 211 features the recapitulation of the figure played at bar 183 before the descending four-note figure from bar 175 is abstracted and played twice with a quarter-note rest in between,

creating the superimposition of a figure in  $\frac{3}{4}$  that gives way to a series of accented eighth-notes on the snare drum before the Roach concludes his solo with a triumphant crash on beat three of bar 216 with his snare, bass drum and ride cymbal. Roach's alternation between melodic motility (bars 209, 211-213) and melodic stasis (bars 210 and 215) creates interest and intensity here, achieving a syncopated feeling during stasis by playing accents on the snare.

### **Variations in Other Pieces Performed by Max Roach**

Several variations on, and other examples of Roach's technique are evident on other recordings from this period. During his drum solo "Milestones" featured on *Booker Little 4 & Max Roach* (Little 1958, 3:49 - 4:51), Roach is accompanied by the double bass. During this instance of accompanied drum solo, Roach appears to be solving the problem of the previous necessity to perform his own ostinati on the bass drum and / or hi-hat with his feet. As a result, Roach performs much more open and melodic phrases here. He is also much freer with his rhythmic placement of his left-foot hi-hat pattern throughout, seeming to avoid playing on beats two and four altogether.

On "It's You or No One" from his *Deeds, Not Words* album of 1958 (Roach 1987) Roach performs a figure that it seems Williams adapted for his own use later on. In between Booker Little's first and second solo choruses at 2:21, Roach plays the following:



**Figure 43:** *It's You Or No One* (2:21 - 2:23).

At 1:37 on “So What” from Davis’ *The Complete Concert 1964* (Davis 1992a), Williams plays the following figure between the first and second A sections of Davis’ second solo chorus which bears a striking similarity to Roach’s figure shown above except that Williams plays the figure more aggressively by taking his hand off the ride cymbal in addition to filling in the eighth-note gaps with his bass drum:



**Figure 44:** *So What* (1:37 - 1:39).

There are several recurring themes throughout Roach’s entire body of solo work from this period. The motifs described in my analysis of *Powell’s Prances* appear in various instances throughout Roach’s recorded work. One such work is in his solo on Gillespie’s “Salt Peanuts” as it appears on *The Quintet’s Jazz at Massey Hall* (1989), recorded in 1953 while touring Canada, three years before *Powell’s Prances* was recorded in New York. As in *Powell’s Prances*, Roach performs two distinctly different kinds of harmonic density in his *Salt Peanuts* solo. In the first instance, the majority of the solo is performed over an ostinato played by the feet, with the bass drum feathering on all four beats of the bar and the hi-hat on beats two and four, creating a complex harmonic density similar to Blakey’s phraseology. The only exception during the

sixteen bar passage between bars 97 and 112. It is the passage between bars 97 and 112 that are relevant here.



**Figure 45:** *Salt Peanuts* (6:57 - 7:08).

In this passage, similarly to what appears in *Powell's Prances* as described above, the bass drum becomes a part of the melodic contour during the passage and the hi-hat is not played at all. Notably, the entire 16-bar passage is comprised of the same rhythmic motifs that are voiced in *Powell's Prances*, but they are compiled in altered configurations. Roach's motivic reconfigurations that occur over numerous different recordings resemble an improvisational form of centonization, described earlier as "the technique of constructing improvisations from a 'patchwork' of phrases" (Brown 1997, 165).

## Summary

While not as fiery as Blakey in his statement of the time feel throughout *Powell's Prances*, Roach proves that his drumming is not devoid of feel by way of playing almost identical and conventional figures as Blakey and by being almost identically sensitive to the dynamics of the ensemble through a variety of interactions. He does however tend to surpass Blakey in the way he develops his rhythmic motifs when soloing, using motifs of differing length and alternating between them in dynamic ways. In the solo described above, Roach combines the performative elements of rhythm, ordering of limbs and voicing with a more complex interaction that results in greater and more varied and intricate movement around the drumset to develop his rhythmic motifs. It is this greater complexity in nonlinear functioning that I propose Williams refers to when he says that, to him, Roach plays very melodically with a lot of technique rather than that he plays with great speed or with a high linear density of notes as is often thought to be the case when citing the term "technique".

Blakey states that it's important to play from the heart and to know your instrument. The above analyses demonstrate that Blakey played from his heart and that Roach knew his instrument. Roach said that the next step beyond the development of technique is in the development of *ideas*. I will now examine how Philly Joe Jones creatively used several of Blakey and Roach's musical ideas in combination thus cultivating his own original ideas on *Locomotion* with John Coltrane, and how he began to slowly advance toward the achievement of collective autonomy in his ensemble performance.

### **Philly Joe Jones on *Locomotion***

As I discovered Philly Joe Jones to have been significantly influenced by Blakey and Roach both socially and musically in the chapters above, I now analyse his drumming as being representative of a second generation of bebop drummers and that he represented the personification of creativity in Williams' drumset ideology. In particular, I point to various figures in Jones' performance that highlight his creative combination of rudimental and polymetric ideas using an analytical schema that shows some of these figures as persisting in adapted form in Williams' music beyond 1969.

### **Formal Structure, Head and Arrangement**

*Locomotion* was recorded by John Coltrane on 15 September 1957 and appeared on his Blue Note Records album, *Blue Train* (1985). It features an AABA form in which each of the A sections are based on a twelve-bar blues form with a composed melody, whilst the B section features eight bars of improvisation by Coltrane inserted between the second and third A sections. *Locomotion* is performed by a sextet featuring Coltrane on tenor saxophone with trumpeter Lee Morgan, trombonist Curtis Fuller, pianist Kenny Drew, bassist Paul Chambers and Philly Joe Jones on the drums. Following an eight-bar introduction on the drums, the head is played once only and is followed by five solos. The first three solos are performed by the front-line horn players in the order of Coltrane, Fuller and Morgan. Whereas Coltrane's solo begins in the last four bars of the head, both Fuller and Morgan's solos begin with eight-bars of an unaccompanied solo break before continuing on for two choruses. Drew and Jones take the latter two solos,

each spanning only one chorus without an eight-bar solo break before the final head out is played, which is followed by a brief coda that acts as a kind of cadenza for Coltrane.



**Figure 46:** *Locomotion* (0:00 - 0:07).

Figure 46 shows Jones playing eight bars of solo drums at the start of *Locomotion*. These eight bars resemble what might be a confluence of Blakey and Roach's styles, sharing a similar logic and sensibility as discussed above. The figures in bars five and six are discovered to have been performed with an execution that proves difficult to notate in any rhythmically conventional way owing to microscopic fluctuations in note length and the onset of the sound of each note. Whilst what I have notated is not entirely accurate upon a slow listening, the overall feeling of these two bars in real time is faithfully represented as far as is practical as I determined the discrepancies to be so microscopically negligible that an accurate documentation would unnecessarily over-complicate the matter. Brownell (1994, 165-68) also discusses this transcriptional problem in his thesis and resolved his problem by choosing to transcribe audio-visual material rather than using purely aural material as I have chosen to do throughout this thesis. It is gathered that Jones uses a variety of sticking patterns in these two bars that



are difficult to decipher, resulting in a unique aural experience for the listener, making Jones' drumming more idiosyncratically identifiable and original.

Jones' introductory figure immediately allows the listener to hear the quality of his drum sound, which is of a different timbre to both Blakey and Roach's sounds. Most photos of Jones from throughout his entire career capture him seated at a drumset with larger sizes than Blakey or Roach are generally depicted as playing. It seems that Jones preferred to play on a 13" x 9" mounted tom with a 16" x 16" floor tom and a 20" x 14" or 22" x 14" bass drum. The extreme tightness of each drum is evident in that he achieves a certain kind of high pitch. In particular the floor tom sound on *Locomotion* has a significantly choked quality. These drums would have an unusually responsive "bounce" to them, almost like that of a snare drum due to the tension required on the drum heads to achieve the pitch heard from these sizes. Other evidence of the larger diameters of Jones' drums is audible in the "woofiness" of his bass drum. Whereas Blakey and Roach achieved a certain "punch" from their smaller diameter bass drums of 18", the tone of Jones' bass drum has less attack whilst occupying a greater degree of the tonal spectrum, which is generally the case on such larger drums, no matter how brightly they are tuned. Like Blakey, Jones uses rivets in his ride cymbal for an aurally vivid "sizzle" effect.

The rhythmic feel in the head of *Locomotion* is that it is “in four” and, despite the tradition of the hi-hats normally being reserved for time feels that are “in two”<sup>33</sup>, Jones uses the hi-hat cymbals to propel the time feel during the majority of the head with minimal commentary on the snare or bass drum. This use of the hi-hat cymbals was made popular by Jonathan “Papa” Jo Jones in the 1930s and was the prominent way of keeping time on the drums before Kenny Clarke moved the beat onto the “top” or “ride” cymbal. Technically, to play the hi-hats in the manner applied by Jones in *Locomotion* requires the right hand and left foot to be coordinated in such a seamless way as to operate and affect the sonic qualities of the top and bottom cymbals as they function in mutual concord with one another to such a great extent that all elements cooperate as one undivided unit. Even though the notation marks the hi-hat cymbals as being either open (o) or closed (+), the cymbals are always in contact in what Jones plays here. The designation of “open” simply means that the pressure applied with the left foot when the pedal is depressed is released somewhat, but not to the extent that the cymbals are completely separated. Conversely, when the “+” symbol is used to denote a closing of the hi-hat cymbals, the actual effect is to increase the amount of pressure with the left foot in order to bring the cymbals closer together. There is no audible “chick” sound in this manner of hi-hat playing as there is when the hi-hat is played with the left foot on beats two and four underneath a ride cymbal pattern. In this sense, the hi-hat pedal effectively functions as a sustain pedal when used in conjunction with the cymbals being struck by one or two sticks at the same time. Apart

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<sup>33</sup> See Holgate (2009) for a detailed analysis of the role of the bass player when playing “in two” as described in his study of bassist Eddie Gomez.

from muffling a drum or “choking” a cymbal with one’s hand, the left foot on the hi-hat pedal is the only part of the drumset over which the drummer has some mechanical control over the sustain and note-length of the instrument. To designate this method of playing jazz hi-hats—striking the cymbals in coordination with the use of the hi-hat pedal—I use the term “playing with a soft foot” as the foot need move only a fraction of an inch to affect an extreme difference in the quality of sound generated by the two cymbals. Most of the embellishments in Jones’ accompaniment during the head of *Locomotion* are performed on the hi-hats themselves by playing a single open note on beat four amidst the regular timekeeping pattern, as in bars 17 and 19 shown in Figure 47.



**Figure 47:** *Locomotion* (0:24 - 0:28).

Jones moves to the ride cymbal three bars before the B section at bar 30 and then performs a figure that makes him readily identifiable to those familiar with his work, which is shown in bars 28 - 29 and 32 - 33 in Figure 48.



**Figure 48:** *Locomotion* (0:23 - 0:30).

Jones will usually play this figure in the first bar of any given four bar phrase. He tends to play an accent on the ride cymbal in unison with the bass drum on either beat four or the “and” of beat four in the bar preceding the next four bar section. In the first bar of the new section he plays an accent on open hi-hats with his left hand in unison with the bass drum. Jones keeps the time feel steady with his right hand on the ride cymbal and he closes the hi-hats as usual on beat two in the second bar of the four-bar section. Jones uses this figure only sparingly throughout *Locomotion*, reserving it for significant demarcations of form, such as at the beginning of Fuller’s and Morgan’s solos, when entering the B section in Fuller’s first chorus and in Morgan’s second chorus. A variation on this figure is heard in the first measure of Coltrane’s solo when Jones plays an accented open hi-hat figure in unison with the bass drum on beat two of the bar instead of beat four.

## John Coltrane's Tenor Saxophone Solo

That Coltrane is one of the most accomplished soloists in the history of jazz is almost commonplace. Of Coltrane, Jones is quoted in *Downbeat* as saying, "All the stars in the constellation couldn't say enough about Trane—the most beautiful, brilliant musician I've ever had the privilege of ever being around—sheer genius and dedicated musician" (Davis 1976, 21). Coltrane's phrase lengths are typically long and in all cases are not shorter than one and a half bars, or six beats long. Most of his phrases are three to five bars in length. His two longest phrases are at the end of his first chorus and at the beginning of his second chorus, both phrases being approximately eight bars in length. Notably, Coltrane begins most of his phrases in *Locomotion* in the third bar of a four-bar phrase while tending to end most of his phrases in either the second or third bar of a four-bar phrase, meaning that Coltrane plays *through* most of the significant structural points in *Locomotion* in a way that would make Tadd Dameron happy. The only two exceptions occur in his first chorus when entering the second A section and the B section. At the second A he begins his phrase on beat two of first bar after a five beat rest, and at the B section he begins exactly on beat one after a one-bar rest. Jones takes the opportunity to make an interjection during Coltrane's one-bar rest leading into the first bridge of the tenor solo as is shown below.

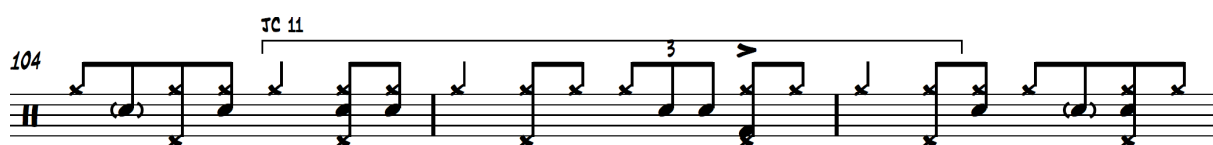


**Figure 49:** *Locomotion* (1:04 - 1:09).

In Figure 49 shown above, Jones interjects with an accented five-note figure on the snare drum in bar 76 that fits perfectly between Coltrane's fifth and sixth phrases. It is one of only a few interjections Jones plays throughout the entire duration of *Locomotion*.

Throughout the accompaniment he provides for each of the soloists on *Locomotion*, Jones' ride cymbal playing elicits a certain sense of *buoyancy* that is smooth-sounding and characteristically distinct from Blakey's heaviness and Roach's pointedness. Despite this difference, Jones' cymbal playing features the same resolute consistency and adhesiveness within the quality of the overall ensemble sound that Blakey and Roach elicit with their cymbal work.

Beginning in bar 104, Coltrane performs a line of continuous eighth-note triplets not heard in the rhythm of any front-line solos discussed so far in this thesis. The line extends just short of two bars and Jones is heard to play the second two triplets of beat three on the snare drum before an accent on the bass drum on beat four as shown in Figure 50:



**Figure 50:** *Locomotion* (1:32 - 1:35).

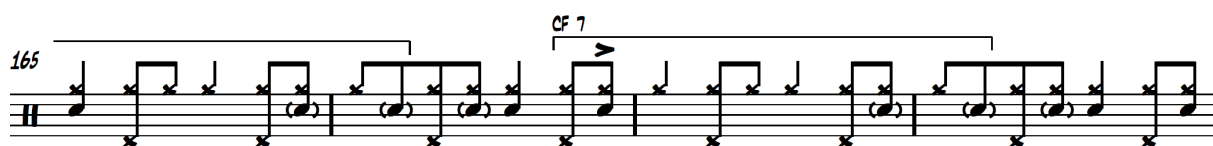
This figure is characteristically recognisable as being a regular feature of Jones rhythmic drumset vocabulary and appears in several other places throughout the remainder of *Locomotion*, most notably scattered throughout Curtis Fuller's solo chorus.

### **Curtis Fuller's Trombone Solo**

In addition to the occasional accenting of beat four on the bass drum being particularly evident during Fuller's trombone solo, Jones' snare drum accompaniment audibly adds a greater sense of propulsion and forward motion to the music than is previously heard on *Mayreh* and *Powell's Prances*. Jones' articulation is crisp and staccato and provides a prominent and persistently thrusting quality to the overall drumset accompaniment from bar to bar without detracting from the primary driving force heard in his ride cymbal playing. The reason for this sonic clarity on the snare drum could be due to the fact that recording technology had improved by 1957 with the utilisation of superior magnetic tape to that used on recordings prior to 1956 (Anderson 2007, 35). As Jones assessed himself to be a forceful and sometimes loud drummer in general, it could be that he is striking the snare with a slightly greater velocity on *Locomotion*. He believed that certain pieces could only be made effective if he were to play loud on them, but that these pieces would only be well-received by an audience if the drums were *musical* as well as loud. Jones also stated that the audience wouldn't accept the performance if the drums were loud and *un-musical* (Gleason 1994, 41). In any case, Jones audibly plays more notes more frequently on the snare drum and these notes are consistently performed at a slightly higher dynamic level than can be heard on *Mayreh*

or *Powell's Prances*. This increase in the number of notes and the velocity of these notes may account partially for Williams' designation of the term "creativity" to Jones' drumming in that Williams said Jones played "with a lot of animation" and that he "played things that you wouldn't expect to see a drummer play" (Williams 1985, 19:54 - 20:03).

Jones avoids playing any of the more boldly interjectional figures at significant formal junctures during *Locomotion* such as the dotted half-note and half-time Charleston figures heard on the Blakey and Roach pieces. He avoids making any overt reference to the form at all during *Locomotion* and this is particularly evident during Fuller's trombone solo, which he coasts through with unobtrusive animation. One reason for this is that Fuller's phrasing fits so squarely within two and four bar lots that begin primarily within the first or third bar of any given four bar phrase and end in either the second or fourth bar, possibly relieving Jones of any perceived need to outline the form for the soloist. Jones does however engage with vamp-like accompaniment with pianist Kenny Drew during the second A section of Fuller's solo. Drew and Jones play the same rhythmic figure as is shown below in Figure 51:



**Figure 51:** *Locomotion* (2:26 - 2:34).



Of particular note however is Jones' performance of three consecutive eighth-notes in a row on the snare during his accompaniment on *Locomotion*. Notably in bars 66, 76, 120, 131, 174, 180, 184, 204, 208, 212, 228, 246, 257, 272 and 356 in the transcription (see Appendix Seven). This is a further extension of Roach and Blakey's techniques described earlier in this chapter whereas Blakey would tend to play single eighth-note accents at a time, and Roach would play sometimes two in a row, Jones plays three eighth-notes in a row on the snare as Figure 52 demonstrates. This excerpt is taken from the first B section of Fuller's trombone solo:



**Figure 52:** *Locomotion* (2:34 - 2:42).

Figure 52 shows Jones' accompanimental creativity as it includes two occurrences of Jones' three-note comping pattern in bars 174 and 180 as well as a triplet figure in 177 and the customary hi-hat figure I described earlier in bar 173.

### Lee Morgan's Trumpet Solo

With a spirited brilliance and powerfully rhythmic drive in his opening trumpet line, Lee Morgan restores the mood of *Locomotion* to the same climactic excitement that Coltrane ended his solo with prior to Fuller's tidy trombone solo. Sustaining this

intensity by way of unusually long phrases more akin more to Coltrane's than to Fuller's, Morgan captures the listener's attention unshakably for the ensuing one and a half minutes of his trumpet solo.

Rhythmically, Jones maintains a consistent mode of drumset accompaniment throughout the course of Morgan's solo as he does during Coltrane and Fuller's solos (see Figures 49 - 52 above), with the only effective difference being audible in the way he plays his snare drum. The snare line is more active and present in the overall ensemble blend. The snare blends in a way that adds excitement to Morgan's solo on *Locomotion* and adds a hint of the first real signs of a *collective autonomy* as I describe it throughout the course of this thesis. By way of the mutual trust generated in the rapport that is requisite to engaging in collective autonomy during "formulaic" jazz improvisation (Dean 1992, 7), the strength of Jones' complete drumset accompaniment merges with Morgan's inventions on *Locomotion* to present more of a unified ensemble sound than one of subservience that can be imagined Kenny Clarke was relegated to when the instrumental roles in the ensemble were more hierarchically tipped in the favour of melodic and harmonic dominance during the 1940s, i.e., in a relative heteronomy. Although the resultant sound of Jones' syncopated rhythmic counterpoint with Morgan is coherently playful on this occasion, one can imagine that Jones is, in a sense, out to do battle with Morgan in an effort to fight for and win the right for the drummer's freedom of rhythmic expression in the jazz ensemble.

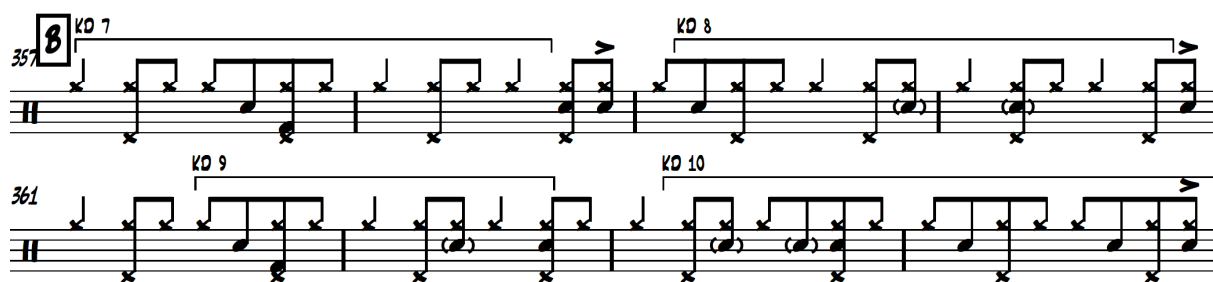
## Kenny Drew's Piano Solo

Jones contributes a similar accompaniment behind Kenny Drew's piano solo, albeit at a slightly lower volume than in Morgan's solo. The drumming is not however as soft as Roach's is behind Powell's solo in *Powell's Prances*, nor does the timbre change. Instead, Jones continues to ride on the body of the cymbal whereas Roach chose to play on the bell of the cymbal during the piano solo. Jones' syncopated interjections favour the playing of single note accents on the "and" of beat one in some bars and on the "and" of beat three during other bars during Drew's piano solo on *Locomotion* reminiscent of Blakey's accompaniment. These are indicated below in the second A section of Drew's piano chorus.

The image shows three staves of musical notation for Kenny Drew's piano solo on *Locomotion*. The first staff starts at measure 345 and is marked with a box containing the letter 'A'. The second staff starts at measure 349 and is marked with 'KD 4'. The third staff starts at measure 353 and is marked with 'KD 5' and 'KD 6'. The notation includes piano keys, stems, and various rhythmic markings such as 'x' and '(.)' to indicate drum interjections. Brackets above the staves group measures into two-bar sections.

**Figure 53:** *Locomotion* (5:05 - 5:19).

Interestingly, as with each of the other melodic soloists on *Locomotion*, including Coltrane, the solos are phrased in very strict two bar sections during the B section of the piece giving Jones a space of several beats in which he can predictably outline each of the two bar with anticipations on the "and" of four as in Drew's B section, shown in Figure 54.



**Figure 54:** *Locomotion* (5:19 - 5:26).

### Philly Joe Jones' Drum Solo

Jones' drum solo on *Locomotion* is a masterly synthesis of his own innovations and unique traits with the work of Blakey and Roach as described earlier in this chapter. Jones opens in a mode that generally maintains a reiterative hi-hat on beats two and four for the first twelve bars, except when he plays the hi-hat in unison with the bass drum on the "and" of beat one in bars 379 and 380. The only other variation to Jones' left-foot hi-hat part during these twelve bars is a sonic variation caused by "splashing" the cymbals with the foot on beat four of bar 378. By "splashing" I mean that Jones brings his left foot down swiftly on the pedal, causing the cymbals to come into contact with one another as they normally would except that instead of creating the usual "closed" or "chick" sound, Jones releases his foot immediately, generating a sound that is akin to the "crashing" of a pair of hand-held marching band cymbals. Jones uses this technique of splashing the hi-hat several times during his solo on *Locomotion*. Over the top of his hi-hat accompaniment, Jones plays a line beginning on the snare drum in the first two bars that sounds smooth enough to have been executed with perhaps just one hand rather than by using hand-to-hand single strokes. He then plays a syncopated

figure for two bars that integrates his hands and feet before playing a polymetric superimposition of Eighth-Note Rhythm 34 (see Appendix Two) in  $\frac{3}{4}$  incorporating flams and yielding a 2:3 polyrhythmic resolution.



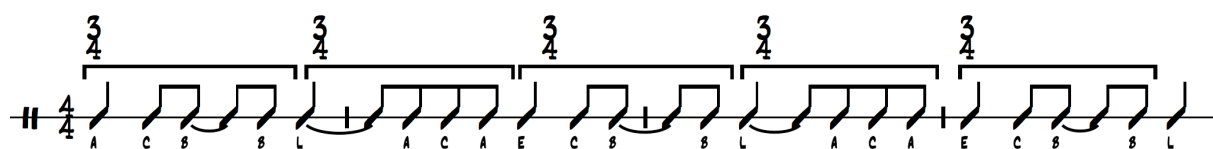
**Figure 55:** *Locomotion* (5:40 - 5:43).

A two-part analysis of Figure 55 is shown below wherein Eighth-Note Rhythm 34 is seen in the upper part and Eighth-Note Rhythm 240 is in the lower (see Appendices Two and Three):



**Figure 56:** Two-Part Analysis of *Locomotion* (5:40 - 5:43).

The composite rhythm shown in Figure 57 below also indicates how Jones groups and orders his limbs to perform Figure 55 (see One-Part Systems in Appendix One):



**Figure 57:** Grouping and Ordering of Limbs in *Locomotion* (5:40 - 5:43).

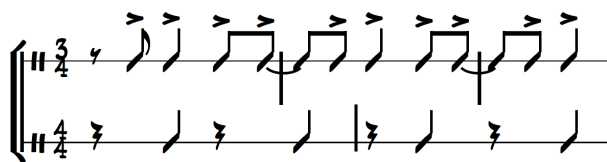
The grouping and ordering of limbs I have used here were derived by a logical consideration of the way in which I believe this rhythm can be voiced on the four-piece drumset in the way Jones voices it on *Locomotion*. Jones utilises melodic motility with his hands by alternately moving his hands between the snare and toms with each new superimposed measure of  $\frac{3}{4}$ .

In the subsequent two bars, Jones plays the following figure:



**Figure 58:** *Locomotion* (5:43 - 5:44).

The accent pattern in Figure 59 shows that Jones superimposes another  $\frac{3}{4}$  rhythm (see Eighth-Note Rhythm 21 in Appendix Two) over  $\frac{4}{4}$ , once again with his hi-hat stating the regular quarter-note rhythm on beats two and four in  $\frac{4}{4}$  as shown in Figure 59 below:



**Figure 59:** Two-Part Analysis of *Locomotion* (5:43 - 5:44).

Transposed into  $\frac{4}{4}$ , the accent pattern of Eighth-Note Rhythm 21 from Appendix Two as it appears above in Figure 59 forms a combination of Eighth-Note Rhythms 55 and 82 in Appendix Three as shown below:



**Figure 60:** Accent Pattern of Figure 59 Transposed into  $\frac{4}{4}$  with Ordering of Limbs.

By voicing his right hand on the floor tom in the B-A ordering shown in Figure 60, Jones creates a melodic contour that alternates between the snare and floor tom between each note.

Williams can be heard to have adaptively modeled this figure in a variety of different ways throughout the remainder of his career. One such notable example is in *12 + 12* (The Great Jazz Trio 2000), recorded in 1977. In *12 + 12*, Williams has taken Figure 58 and adapted it in several ways whilst maintaining the ordering in his hands of B to A (see Appendix One). Firstly, he changed the quality of the rhythm by applying a more rapid and continuous rhythmic density at the rate of ninth-notes (or triplets within triplets). Secondly, and in a way that is similar to the way in which he adapted Roach's rhythm above (see Figures 43 and 44), Williams filled in the eighth-note rests in the original figure with a bass drum note. See Figure 61:



**Figure 61:** 12 + 12 (6:50 - 6:56).

Further ways in which Williams has adapted Jones' figure is by creating melodic motility by voicing each hand on different drums and by moving between drums between recursions of the rhythm as shown in the first two bars of Figure 61 above.

Jones does not play repetitive quarter-notes on his bass drum at any point during his solo on *Locomotion* as Blakey and Roach do at various points in their solos. Rather, Jones exclusively incorporates the bass drum as an extra voice in the melodic contour as Roach did in the opening of his solo on *Powell's Prances*. Jones plays his bass drum almost solely on the off-beat eighth-notes adding syncopation and a sense of forward motion to his solo. This could also be attributable to the ways in which Williams adapted Figures 43 and 58 later in his own career as described above. In this way, Jones drumming resembles aspects of Roach's drumming during the sections in which Roach played with simple harmonic density. At other points during Jones' solo he performs several bars worth of triplets on the snare drum, achieving rhythmic variety by using accents on the one voice in melodic stasis. This mode of performance resembles large sections of Blakey's solo in *Mayreh* as analysed above.



## Summary

By analysing Jones' drumming as it is heard on Coltrane's *Locomotion* I was able to discern an amalgamation and extension of Blakey and Roach's performance styles in the context of up-tempo swing music in  $\frac{4}{4}$ . In this sense, I interpret Jones as figuratively representing the personification of creativity as described earlier. Jones' ensemble playing on *Locomotion* is largely unobtrusive in that he avoids many of the large accents that stood out in both Blakey and Roach's drumming. The exception to Jones' unobtrusiveness is heard in his accompaniment of Morgan's trumpet solo during which his accompaniment generates a similar drumset timbre to Roach's in that Roach tended to use the snare drum for interjections also, whereas Blakey tended to use the bass drum. Jones' ride cymbal playing is much smoother than Roach's, giving it a buoyant quality that invokes the feeling of Blakey's ride cymbal approach. In creatively extending the range of the drumset, Jones is heard to make more frequent reference to the hi-hat cymbals, using his left foot on the pedal to achieve notes of controlled length. I also noted him as playing three consecutive eighth-notes on the snare drum during his accompaniment passages. Jones' ride cymbal rhythm on *Locomotion* however is as unvarying as Blakey and Roach's, forming the centrepiece of his timekeeping role in a band that still seems to operate under bebop's relative heteronomy. There is however a greater sense of freedom in the ensemble as the overall sense of phrasing is looser in the A sections. The harmonic complexity presented in the B sections however seemed to dictate that soloists square up their phrasing into neat two-bar packages during each recurrence of the B section.

As well as alternating between passages of melodic motility reminiscent of Roach, and melodic stasis reminiscent of Blakey in his solo, Jones also alternated between a coordinational density of harmonic simplicity akin to Roach's and, when adding the hi-hat on beats two and four, one of slight harmonic complexity similar to Blakey's constant use of the bass drum undertone. He incorporated the creative use of rudiments in polymetrically superimposed instances of a  $\frac{3}{4}$  meter throughout

*Locomotion*, particularly during his solo. I was also able to show how Williams took one of Jones' figures or "building blocks" and adapted it later in his career by changing the rhythm and voicing components independently of the fundamental ordering of limbs.

I will now supplement my analysis of "The Big Three" with a study of the drumming of Roy Haynes as it is an important link between the drumming of the mid-to-late 1950s and the early-to-mid 1960s.

### **Roy Haynes on Reaching Fourth**

The reasons for including the analysis of a piece that Roy Haynes played drums on from late 1962 are obvious in the analysis itself. Haynes' drumming serves as a crucial link between two generations of drummers: one generation including Blakey and Roach; the other including Jones. Haynes seemed to have witnessed both generations and, whilst Williams does not ascribe any notion of his drumset ideology to the

character of Haynes' drumming, by late 1962 Haynes had developed an approach to playing up-tempo swing music that represented a significant break with the tradition described in the foregoing analyses of Blakey, Roach and Jones. In this section, I will show how Haynes takes the polymetric superimposition described in the foregoing analyses and significantly alters the ways these figures are voiced on the drumset. In doing so, I observe a freshness of approach to jazz drumset performance in an interactive ensemble that reflects a degree of entrainment between Haynes and pianist McCoy Tyner.

### **Formal Structure, Head and Arrangement**

*Reaching Fourth* (Tyner 1998) is the title track of an album recorded by the McCoy Tyner Trio, which includes Tyner on piano, Henry Grimes on bass and Haynes on drums. Whilst it is highly likely that Williams would not have heard *Reaching Fourth* due to it being recorded in November 1962 and subsequently released in 1963, the piece cumulatively represents Haynes' drumming until that point in time. Haynes' performance on this piece represents an important break with the drumming of Blakey, Roach and Jones as studied above, linking to Williams' aesthetic, which would be captured for the first time in the following February.

With the tempo at approximately 272 bpm, *Reaching Fourth* is a modal piece that begins with a five bar introduction in which Haynes plays quarter-notes on semi-open hi-hats with his sticks in unison with the quarter-note figure played on the piano and

bass for the first three bars. These three bars are followed by a two-bar drum break in which Haynes plays a syncopated figure using stick shots<sup>34</sup> on the snare drum. These five bars are followed by an eight-bar head that is played in a question-and-answer stop-time fashion in which Tyner and Grimes play both the question and answer figures whilst Haynes plays only the answer figures on snare and semi-open hi-hat, a sonic combination not heard in the pieces previously studied here.

The piece then goes into the solo form, which is different from the head in that it is comprised of five eight-bar sections, grouped as AABBA. For his solo Tyner takes four choruses over this form and is then followed by a one-chorus bass solo in which Grimes plays with a bow in the *arco* style. Haynes then plays a drum solo for one chorus. Tyner and Grimes accompany him during the B sections. Following his drum solo, Haynes trades eight-bar phrases with Tyner three times over the A section tonality, making a total of six lots of eight-bars before they play the head out.

The head out of *Reaching Fourth* is played with the two sections in reverse order to the head in. The eight-bar stop-time section precedes the five bar phrase that the piece opened with.

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<sup>34</sup> A stick shot is achieved by depressing the left stick into the drum head and striking that stick with the other stick, producing a short, sharp, staccato note. Mostly performed on the snare drum, these can also be performed on any surface. See bar 412 in Philly Joe Jones' solo in *Locomotion* for a stick shot on the mounted tom.

### **McCoy Tyner's Piano Solo**

McCoy Tyner plays with a touch that is extremely fluid throughout his solo on *Reaching Fourth*, adeptly basing his melodic and harmonic intervals around the fourth, not evidenced in the playing of those studied in preceding pieces, hence his pun in the title of the piece. Tyner's melodic phrasing is rigidly based around two, four and eight bar groupings. Most of his longer phrases begin in the first bar of a four or eight bar section and many of those begin on beat three of that bar and end by the fourth beat of the fourth or eighth bar of that section. On paper it appears that Tyner's phrasing is squarely oriented, however, upon listening, the accompanying rhythms he plays with his left hand on the piano within those phrases employ a great deal of syncopation based on dotted quarter and eighth-note rhythms that concord with Haynes' drumming as will be seen.

During the A sections, Grimes plays a walking bass line and in the B sections he opts for a pedal point line, lending to the piece a sense of "opening up" and "floating", a sense taken advantage of by Haynes, especially as it affects his use of the hi-hat pedal. Generally, Haynes maintains similar behaviour in his drumset accompaniment to that of Blakey, Roach and Jones but with cymbal work that sounds with a distinctively crisp, pressing and urgent drive. It sounds as though Haynes' touch is much lighter than Blakey's on *Mayreh*, drawing a more transparent wash from his cymbal rather than the ever-present tone heard in the others' cymbal work. Like Blakey and Jones, Haynes' cymbal on this session is fitted with rivets for a sustained sizzle sound, but Haynes' sound is perhaps a little more sibilant in character than the cymbals in the other works

discussed here. Haynes' touch draws out an articulate, staccato quality from the snare drum with a very clear presence on *Reaching Fourth* that could be attributed to the drum's head and snare wires being tuned reasonably tightly and being struck lightly and consistently in the exact centre. Despite the crispness and clarity of presence in his snare drum figures, the sound of Haynes' snare drum is not overbearing in relation to the overall sonic quality of the piece. Haynes does however play his snare drum with an expressively dynamic quality that is similarly exhibited by each of the drummers studied in this thesis.

As the utilisation of dynamics on the snare drum during passages of accompaniment is a technique rarely discussed in jazz drumset performance literature it is worthy of elaboration here. Although the majority of jazz drumset method books published in excessive plenitude contain instruction for practicing a rich variety of syncopated rhythms on the snare drum in coordination with maintaining a regular jazz ride cymbal beat, many of the examples published fail to provide an appropriate context within which these rhythms are to be performed and lack sufficient detail concerning the dynamics and placement of the figures. So far, I have examined examples of Blakey, Roach, Jones and Haynes' drumming from the 1950s and early 1960s that feature a flow of snare drum notes played at a *pianissimo* dynamic range that are largely in rhythmic unison with the ride cymbal. I have notated these sounds with a regular note head contained in parentheses in my transcriptions (♩). Although parentheses are used to denote this sound as it appears on the recordings, the role of the sound is far from

parenthetical in its overall contextual place within the music. Parentheses are convenient symbols for use in the transcription of softer dynamics occurring on only one voice of the entire drumset when the entire drumset is notated on a singular staff. There is no known singular term for this style of playing the snare drum in a jazz context within the broader concept of accompanimental ensemble playing except for the broad and haphazard use of terms such as “comping” and “ghost notes”. It is however closely related to the notion of “tipping”; a practice rarely discussed in jazz drumset performance literature. Theodore Brown touches briefly on the subject of tipping in his doctoral dissertation of 1976 when he discusses Kenny Clarke’s drumming (pp 470-471). Brown describes tipping as a conceptual hurdle that swing drummers from the 1930s had to overcome if they wanted to play in the then-modern bebop style from the early 1940s. Brown does not describe the exact nature of the hurdle he referred to as being “conceptual”, rather, he simply goes on to quote Martin Williams who said that Jo Jones displayed “‘a momentum, a kind of discreet urgency in his cymbal sound’ [when playing the hi-hat]” before also quoting Roy Haynes as saying that Clarke “‘would be playing single beats, but you’d get a continuity. You still got the feeling of ding-ding-a-ding’” (Brown 1976, p 470, underlining in original). Haynes distinctively “tips” during a significant number of passages comprising his accompaniment in *Reaching Fourth* and I suggest that the aural sound of “tipping” is resultant from the combination of heavily articulated ride cymbal notes and pianissimo snare drum notes. There is nothing “conceptual” about these notes at all: they are very audibly present, although very soft in volume relative to the rest of the drumset. A clear

example of Haynes' touch in affecting a sense of tipping can be seen in Figure 62

below:

**Figure 62:** *Reaching Fourth* (0:43 - 0:49).

Remembering Roach's earlier remark that the bass drum was always covered during recording sessions, making it difficult to hear on recordings, curiously enough, the photograph of the McCoy Tyner Trio printed in the liner notes of *Reaching Fourth*, taken during the recording session for the album shows there are two microphones set up over the drums and Haynes' bass drum is *not* covered up. Evidently, by late 1962 recording technology was sufficiently advanced enough so that drummers were able to go into the recording studio and to record their music no differently than they would if there were playing acoustically in a club. No matter how I adjusted the equalizer settings available to me during my analysis, I could *not* hear any evidence of Haynes "feathering" the bass drum on all four beats as is mythologically stated to be the normal practice amongst jazz drummers. When the drummers in this study *do* in fact play the bass drum on all four beats, it is in their solos and is audibly quite present, rendering it even more starkly absent during the accompaniment passages.



Rhythmically, the first most obvious difference in Haynes' drumming when compared to Blakey, Roach and Jones is that his ride cymbal figures are "broken". By saying broken, I mean that Haynes' ride cymbal figures are far from repetitive and he does not always play the conventional figure that is constantly reiterated in the others' drumming. He tends to alternate between playing the conventional figure in many instances and four quarter-notes in a bar without the conventional "skip" on the "and" of beats two and four in other instances. Figure 63 shows Haynes' accompaniment of Tyner's first solo phrase in *Reaching Fourth* and is a typical example of Haynes' approach during the A sections of the piece. It shows Haynes playing a simple quarter-note figure on the cymbal in bars 14 and 18, whilst in bar 20 he plays quarter-notes on beats one and two mixed with the conventional figure on beats three and four. Each of the other bars feature the conventional ride cymbal figure.



**Figure 63:** *Reaching Fourth* (0:11 - 0:17).

In addition to playing three consecutive eighth-notes on the snare in a similar manner to Jones in bars 19 and 21 in Figure 63, bars 17 and 21 also highlight Haynes' use of the snare drum to obtain still another sound. Haynes applies a *multiple bounce* stroke on the "and" of beat four as an alternative to single stroke accents, regular, un-accented

notes, “tipping” or “ghost” notes and stick shots. This broadens the timbre and expressive quality of the instrument significantly in that with a multiple bounce stroke, Haynes is able to achieve a sense of a sustained note during his accompaniment thus broadening the sonic palette of expression on the snare drum. These notes are still indicated with parentheses and so they are at the softer end of the dynamic spectrum. Haynes plays multiple bounce strokes in a variety of different places throughout *Reaching Fourth*. For example, he plays on the “and” of beat four in either the second or sixth bar of the A section phrases, such as in bar 91 (1:12), bar 107 (1:25) and bar 143 (1:54). Haynes applies these strokes during, and sometimes right in the middle of the duration of Tyner’s phrases and aren’t used to signify the beginning or ending of any significant formal elements. The feeling is that Haynes uses the multiple bounce stroke for intensification in unexpected areas of the form as well as in expected areas, such as those shown above in Figure 63. Other unexpected occurrences are in bar 43 and bar 51 when Haynes plays the stroke on the “and” of beat three in Figure 64:

The image shows a musical score for snare drum, specifically measures 42, 46, and 50. The notation is on a single staff with a treble clef and a common time signature. Measure 42 shows a series of eighth notes with 'x' marks above them, indicating multiple bounce strokes. Dynamic markings 'MT 6', 'MP 7', and 'MT 8' are placed below the staff. Measure 46 is marked with a box containing the letter 'A' and shows similar notation with 'x' marks and dynamic markings 'MT 9' and 'MT 8'. Measure 50 continues the pattern with 'x' marks and dynamic markings. The score is presented in three systems, with measure numbers 42, 46, and 50 at the beginning of each system.

**Figure 64:** *Reaching Fourth* (0:33 - 0:42).

The five stroke ruff beginning on beat three of bar 45 in Figure 64 is also characteristic of Haynes' drumming and affords him the opportunity of getting off the ride cymbal momentarily. Haynes plays similar such figures in bar 73 (0:57) and bar 85 (1:08).

He uses the sound of multiple bounce strokes in an interesting superimposed phrasing of  $\frac{3}{4}$  that coincides with Tyner's 37<sup>th</sup> melodic piano phrase in bars 139 - 141 as shown below in Figure 65:



**Figure 65:** *Reaching Fourth* (1:50 - 1:53).

Figure 65 shows a syncopated pattern beginning on the "and" of beat two in bar 139 as Haynes plays a multiple bounce stroke and repeats the gesture every third beat until the "and" of beat four in bar 140. This is shown in the two-part analysis of Figure 66 below:



**Figure 66:** Two-Part Analysis of *Reaching Fourth* (1:50 - 1:53).

Of particular interest in *Reaching Fourth* is Haynes' drumming in the B sections of Tyner's piano solo, which, as I mentioned earlier feature the use of a floating pedal

point in the bass. In the first B section, Haynes breaks up his ride cymbal rhythm distinctly from the conventional pattern when he plays a four-note figure that repeats at the rate of dotted-half-notes as seen in the Figure 67 below, taken from the second half of the first B section of Tyner's solo:



**Figure 67:** *Reaching Fourth* (0:27 - 0:30).

Nothing of the original meter of  $\frac{4}{4}$  is audibly referenced in Haynes' superimposition of the  $\frac{3}{4}$  meter in Figure 67, and yet the  $\frac{4}{4}$  meter remains intact throughout. Beginning on beat two of bar 34, Haynes splashes his hi-hats on every third quarter-note whilst he plays an eighth-note and quarter note figure on his cymbal and snare. The first cymbal / snare figure on beat two of bar 34 however features a note lasting the length of one dotted quarter-note.

Haynes clearly demonstrates a variety of ways of superimposing the  $\frac{3}{4}$  meter over  $\frac{4}{4}$  in subsequent B sections during Tyner's piano solo in *Reaching Fourth* as can be seen in the following figure:



**Figure 68:** *Reaching Fourth* (1:05 - 1:08).

Here, Haynes delays the figure he played with his hands on the cymbal and snare shown in Figure 67 by one eighth-note, causing a continuous flow of eighth-notes. Haynes points to a possible reason for breaking up the hi-hat part as it is in these examples as being because,

I never really liked that strict 2 and 4 anyhow. I've done it a lot of times on record dates, because the artist I was playing with needed that or wanted that. In fact, I don't like to do it steady because maybe I can't! [laughs] Even on some of Eric Dolphy's first dates, I played the 2 and 4 on the hi-hat a lot, and I don't know why I did it. (Potter 1986, 21)

The sense of syncopation and the  $\frac{3}{4}$  meter in the composite stream of continuous and unbroken eighth-notes is made evident in Haynes' use of grouping and ordering of limbs and voicing rather than by playing broken rhythms. Again, there is no audible reference to the  $\frac{4}{4}$  meter although it remains intact throughout the figure.



**Figure 69:** *Reaching Fourth* (1:37 - 1:40).

Figure 69 shows an example of Haynes taking his right hand from the ride cymbal and applying it to the snare drum during ensemble accompaniment passages. This is something he does in several instances throughout the course of *Reaching Fourth*. One such other example can be seen in the example of what sounds similar to the five-stroke ruff in bar 45 of Figure 64 as mentioned. Instead of using a five-stroke ruff as he did in Figure 64, Haynes plays a four-stroke ruff which sounds is similar to a series of non-alternating or “flat” flams and adds what would be the fifth note in a five-stroke ruff with his feet. In a similar figure played over bars 156 and 157, Haynes moves his right hand onto the floor tom for variety as in Figure 70:



**Figure 70:** *Reaching Fourth* (2:04 - 2:05).

The other example of Haynes taking his right hand from the ride cymbal and onto the snare in *Reaching Fourth* occurs in the figure beginning on the last eighth-note of bar 131.

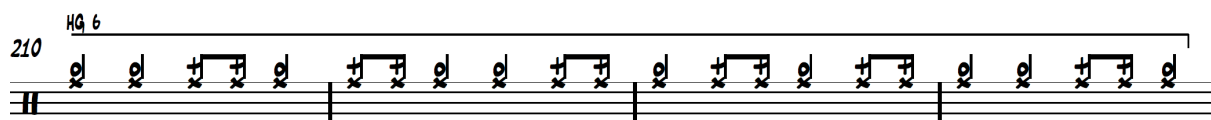


**Figure 71:** *Reaching Fourth* (1:43 - 1:47).

Here, Haynes performs almost an entire bar of eighth-notes on the snare drum alone before ending the figure with his bass drum and his right hand back on the cymbal again on beat four of bar 132, coinciding with the end of Tyner’s solo phrase.

### Henry Grimes’ Bass Solo

Henry Grimes’ plays a bowed bass solo for one chorus beginning at 2:18. Haynes opts to revert to a mode of play that is less interactive by paring down his performance and playing exclusively on the hi-hats. Perhaps the most interesting part of Haynes’ playing during Grimes’ bass solo is in the final four bars when he plays the following figure:



**Figure 72:** *Reaching Fourth* (2:46 - 2:49).

In Figure 72, Haynes varies his hi-hat part by phrasing with two consecutive quarter-notes on beat one of bar 210, beat two of bar 211 and on beat one of bar 213. This causes the “skip” to land on the “and” of beat three in bars 210 and 213, and on the “and” of beat one in bar 211.

### Roy Haynes’ Drum Solo

Following Grimes arco bass solo, Haynes sparks the trio into vigorous activity in the drum solo and trading section on *Reaching Fourth*. Already in the first eight bars of Haynes’ solo he is heard to use the hi-hat with his left foot in rhythmically novel ways

in conjunction with a variety of timbres drawn from his snare drum, including stick shots, multiple-bounce strokes and accented regular strokes. Haynes plays his left-foot hi-hat figures regularly and exclusively on the “and” of beats two and four in the following example, quite a different scenario from the rhythmic placement of left-foot hi-hat figures studied earlier in this chapter:



**Figure 73:** *Reaching Fourth* (2:37 - 2:43).

Haynes’ playing in Figure 73 is amongst the most rhythmically continuous within his solo on *Reaching Fourth*, achieving a sense of phrasing through a variation in voicing and ordering of limbs.

The following example shows Haynes employing broken rhythm to achieve syncopated phrases:



**Figure 74:** *Reaching Fourth* (3:08 - 3:14).



In Figure 74, Haynes repeats a two-bar rhythmically broken figure before playing two bars of continuous rhythm in bars 244 and 245. In the eight bars previous to the example shown in Figure 74, Haynes plays the same figure on the mounted tom prior to playing on the floor tom as shown here. Haynes is heard very lightly singing along during the passage between 3:08 and 3:14 shown in Figure 74.

Finally, in Figure 75, Haynes performs double strokes on his bass drum in between melodically motile double strokes on his snare (with a stick shot variation in bar 279) and toms in an unbroken consonant rhythm.



**Figure 75:** *Reaching Fourth* (3:38 - 3:42).

### Summary

The study of Haynes' drumming on *Reaching Fourth* is a special inclusion in this thesis in that it reveals a crucial link between the first generation of bop drummers and Williams. Haynes' drumming serves as a crucial link in the ways that he increases the degree of broken rhythm in both ensemble and solo contexts. Haynes also plays figures using his left foot on the hi-hat that are audibly different than the way Blakey, Roach and Jones played their left-foot hi-hat figures. As a result, the hi-hat sound assumes more of a melodic role in Haynes' drumming rather than simply serving a timekeeper as it is in the pieces studied earlier in this thesis. It is also important that

Haynes' ride cymbal rhythm is broken, especially when compared to the regularity of the previous drummers and that he began to play more double strokes on his bass drum. Each of these traits are shown to be further developed by Williams in the following chapters.

## **Conclusion**

In this chapter I studied four complete drumset performances by Blakey, Roach, Jones and Haynes, each in the context of up-tempo swing music in  $\frac{4}{4}$  as well as in both ensemble and solo modes of play. Significantly, these analyses provide a basis upon which I was able to gain a musicological sense of the figurative characterisations of feel, technique and creativity I interpret Williams to have ascribed to each of these drummers respectively.

In Blakey's drumming throughout *Mayreh*, I identified his tendency to constantly and unceasingly reiterate the conventional jazz ride cymbal pattern with his right hand and generate much propulsive intensity in the ensemble. His use of the range of the drumset is sparse throughout the ensemble passages except at the times that he contributes bold interjections at the top of a new form, or in answer to a statement made by the soloist. In these instances, Blakey tends to accentuate these interjections with the use of bass drum accents. At several points, Blakey is heard superimposing a  $\frac{3}{4}$  meter over the top of the  $\frac{4}{4}$  meter and performing these superimpositions over the

barline, rarely actually accentuating beat one at the top of the form. In light of the musical analysis, I interpret Williams' notion of "feel" to be characterised in Blakey's drumming by the constancy of his melodic stasis in that he does not move around the drumset in any complex way, rather, he achieves intensification of feel by interacting primarily in the world of *expression* in that his rhythmic variety is largely achieved by way of the placement of accents within unbroken continuities of rhythm. Blakey also relies on the layered use of his feet and hands at all times throughout *Mayreh*, indicating a hesitancy to adopt any simple harmonic densities in the grouping and ordering of his limbs on the drumset.

Roach applies a greater sense of melodic motility in his drumming on *Powell's Prances*, especially during his solo. The quality of sound Roach elicits from his cymbals in the ensemble sections of *Powell's Prances* generates more clanginess than the roaring fire in Blakey's cymbal. In addition to the motility of his melodicism, Roach demonstrates that he is comfortable playing broken rhythms on the drumset, in contrast to Blakey's rhythmic continuity. Roach also demonstrates that he is able to shift between extremes of simple harmonic density *and* complex harmonic density in the way he orders and groups the voicing of rhythm on the drumset. These observations of Roach's drumming lead me to conclude that when Williams describes Roach's melodic playing as embodying his concept of technique, he means that Roach is at ease in his ability to not only play over the entire range of the drumset, but to exercise motility in his voicing and motions. His sense of the passing of time is clear and accurate enough that he inserts rests, generating discontinuous rhythms. He also relies on a number of motifs

that surface in his drumming throughout his entire career. It is possible that Blakey in fact plays from more of a tactile approach to music in that his performance is continuous with an increased degree of touch affecting his sound, whereas Roach may approach music in more of an auditory sense in that he *hears* the relation of his rhythms over time rather than feels them and as such educes a crystalline rhythmic precision from the drumset in contrast to Blakey's guttural roar.

The analysis of Jones' drumming on *Locomotion* reveals a combination of the qualities described in Blakey and Roach's drumming, thus indicating that in his ability to combine aspects of Blakey and Roach's musicality, Jones plays creatively in that he is still able to differentiate his playing as having its own sound, despite the overwhelming evidence of deep influence exerted by Blakey and Roach. Jones' ensemble figures are shown to be relatively low-key, except that he draws out a throaty tone from his drumset that is more similar to Blakey's than to Roach's. His facile technique, acquired through in-depth study of snare drum rudiments combined with his innate sense of feel enables him to improvise using a creative variety of rhythms as heard most prevalently in his accompaniment of Morgan's trumpet solo and in his drum solo. In his solo he alternates between passages of simple harmonic density and passages of complex harmonic density and he does this more intermittently than Roach. Jones, like Blakey and Roach, also constructs many of his musical figures and ideas by superimposing  $\frac{3}{4}$  meter over  $\frac{4}{4}$  accompaniment, generating both 4:3♩ and 2:3♩ polyrhythmic ratios.

Jones' melodic motility combined with a novel use of rhythms in  $\frac{3}{4}$  led to the emergence of a greater range of creativity in rhythmic expression on the drumset.

Both Haynes' ensemble and solo playing are radically different during Tyner's *Reaching Fourth* than the ensemble and solo playing of Blakey, Roach and Jones. Haynes maintains perhaps the most dynamic balance of the two extremes. One of the most obvious features of his solo is his use of broken rhythms to achieve the effect of syncopation. In addition to the use of broken rhythms, Haynes is able to maintain a high degree of melodic motility between figures in that he repeats rhythmic figures but plays them on a different sound source upon repeat. Haynes is also impeccable in achieving dynamic contrast in the grouping and ordering of his limbs when performing rhythms and melodicisms on the drumset. He moves seamlessly between simple harmonic density to complex harmonic densities that are not heard in the drumming of Blakey, Roach and Jones. Whilst Jones succeeds in several passages of his solo to play without keeping any kind of regular or reiterative pulse-like pattern on any part of the drumset with any of his limbs, Haynes succeeds in all passages. Finally, Haynes achieves an almost constant variation in his use of expressive devices such as volume and timbre, particularly in the myriad sounds he coaxes from the snare drum, including stick shots and multiple-bounce strokes integrated amongst regular strokes and "tipping". All this he achieves with what sounds like relative ease in a volume register not in excess of *mf*.

In the following chapter, I will analyse the drumming of Tony Williams in order to outline the ways that he adaptively modeled the feel, technique and creativity of Blakey, Roach and Jones respectively and the sensibilities of Haynes in such a way as he was able to integrate his playing into the tradition of jazz drumset performance and still to differentiate his own originality from that same tradition.

## Chapter Five

### **Tony Williams' Adaptive Modeling of Feel, Technique and Creativity**

In Chapter Three I presented a broad stylistic overview of Williams' drumming as heard on his recorded musical output to February 1969. In Chapter Four I presented an in-depth musicological analysis of the drumming of Blakey, Roach, Jones and Haynes in order to distil musical figures and ideas that Williams absorbed and adaptively modeled in his subsequent drumming career. In doing so, I was able to formulate a notion for what Williams may have meant when he cited the qualities of feel, technique and creativity as combinatorially forming a complete ideology for playing the drumset in jazz music. Feel in this sense refers to the unambiguous simplicity and minimalist repetitiveness in the way Blakey used the drumset to interact with soloists over the form of the given piece of music. Technique refers to Roach's ability to utilise melodic motility in his composition-like development of themes in his improvisation, particularly in his soloing. Creativity refers to Jones' ability to extend and expand upon the feel and technique of Blakey and Roach in novel ways such as by utilising more intricate rhythms in the superimposition of polymeters and improvising with greater flare. The pieces analysed in Chapter Four fall into the up-tempo swing style of pieces that include a drum solo and embody a progression of ensemble interaction moving away from the relative heteronomy of the early bebop music and toward a collective autonomy as I have described. Especially in the case of Haynes, this movement is realised in the increased function and flexibility of the hi-hat cymbal with the left-foot pedal and a greater daring to accompany the soloist in a solo-like fashion.

The first known commercially available recording of Williams that contains a drum solo in the up-tempo swing style is Jackie McLean's *Vertigo*. In the context of knowledge gleaned from my analysis of the pieces studied in the previous chapter, my analysis of Williams' drumming on *Vertigo* makes clear the ways in which Williams combined, extended and expanded upon the qualities of feel, technique and creativity in improvisational interaction as I have described them here in such ways as to move toward an archetypal model for collective autonomy and the cultivation of originality in jazz drumset performance studies.

In Chapter Three I described the character of Williams' drumming of the 1960s to be multitudinous and developing in nonlinear ways reflecting the permutations in America's general state of consciousness at that time, especially regarding the beginning of the civil rights movement for African American people. This leads me to examine his 1964 performance on *Walkin'* (Davis 1992a) in addition to *Vertigo*. Following my analysis of *Walkin'*, I take a brief look at an innovative figure Williams' recorded in *Teo's Bag* (Davis 1991a) and examine the increasing of his expressive capacity on the drumset thus providing examples of emergent musical ideas in the development of jazz drumset performance studies.

### **Tony Williams on *Vertigo***

The first opportunity of discovering exactly what Williams gleaned from his drumming role models of the late 1950s and early 1960s in a piece containing ensemble and solo



passages is heard on *Vertigo* (McLean 2000a). *Vertigo* is the point from which the decisions Williams had already made about what to keep and what to discard of the musical figures and ideas expressed by his forbearers on the drumset becomes audibly clear for the first time. It was recorded approximately six weeks after he moved to New York City to live and work with McLean, thus representing Williams' professional recording debut. The album is scarcely discussed for its significant contributions to the unfolding of jazz music of the period and is deserving of a prominent place in jazz studies literature even if only for its discographical significance<sup>35</sup>. The album's underexposure could be explained by the fact that it wasn't released until 1981, some eighteen years after it was recorded (Cuscuna 2000a). On *Vertigo* is found an example of several ways in which Williams combined the qualities of feel, technique and creativity as described above, indicating his intent upon supporting the side of *collective autonomy* in the dialectical debate about the role of the drumset within the jazz ensemble as set out in this thesis.

### **Formal Structure, Head and Arrangement**

On *Vertigo* (McLean 2000a), recorded 11 February 1963, Williams joins on drums with McLean on alto saxophone, Donald Byrd on trumpet, Herbie Hancock on piano and Butch Warren on bass for the performance of a piece containing head and solo sections that are largely improvised in the style of Ornette Coleman as discussed earlier, rather than composed in the cycling "formulaic" way also discussed earlier. *Vertigo* is played

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<sup>35</sup> See Andrews 2009 for a video presentation containing a general overview of Williams' drumming characteristics on *Vertigo*.



Three). Williams performs this figure as well as several other variations purposively and liberally throughout the course of *Vertigo*. I say “recent” novelties as I acknowledge that Williams was not the first to play such figures on the ride cymbal. Jimmy Cobb is heard performing this rhythm and variations on his ride cymbal on *Mack The Knife* (Shorter 2001), recorded on 10 November 1959, and on *Grand Central* (Adderley 1999), recorded 2 February in the same year. On these two pieces, whilst slightly slower in tempo compared with *Vertigo*, Cobb plays figures such as Eighth-Note Rhythm 21 (shown above) intermittently throughout the entirety of both pieces. Williams plays these figures throughout the duration of *Vertigo* as can be seen in the transcription making up Appendix Nine.

Williams generates propulsion in his ride cymbal feel by incorporating all the elements described above as “tipping” in concert with “ghost” notes on his snare drum. A useful excerpt of Williams tipping in conjunction with the variations of the conventional cymbal rhythm from *Vertigo* is shown below in Figure 76:



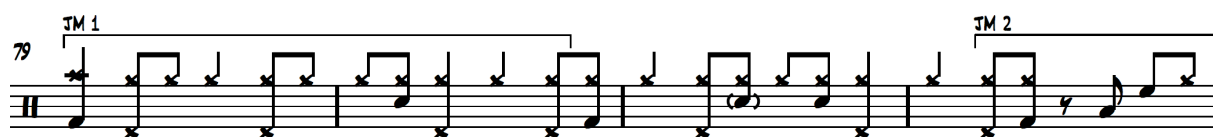
**Figure 76:** *Vertigo* (0:18 - 0:21).

### Jackie McLean’s Alto Saxophone Solo

McLean’s alto saxophone solo represents here as significant a departure from the conventions of bebop as is heard in the head, especially in regard to his phrasing.

Given that the solo sections are free in every regard except for the fixed metric pulse of  $\frac{4}{4}$ , McLean's phrasing does not conform to any rigid changing of harmony or key in any way that a bebop player normally would in their navigation around chord changes in varying rates of harmonic rhythm. Instead, he phrases freely over the lots of four bars I have notated the transcription in. There is no fixed place where it seems McLean tends to begin or end his phrases, although he rarely plays a phrase exceeding four bars in length. His longest two phrases are the final two phrases he plays.

Already in the first four bars of McLean's solo, Williams' shows connection to both Blakey and Roach's drumming through his use of voicing. Williams begins his accompaniment of McLean's solo with a loud crash on his left-side cymbal that has an attack and tone quality very much like the kinds of crashes Blakey plays on *Mayreh*. On the "and" of beat three and on beat four in the fourth bar of McLean's solo, Williams leaves the ride cymbal and plays two ascending notes on his tom toms similar to a figure used by Roach in *Powell's Prances*. See Figure 77:



**Figure 77:** *Vertigo* (1:05 - 1:08).

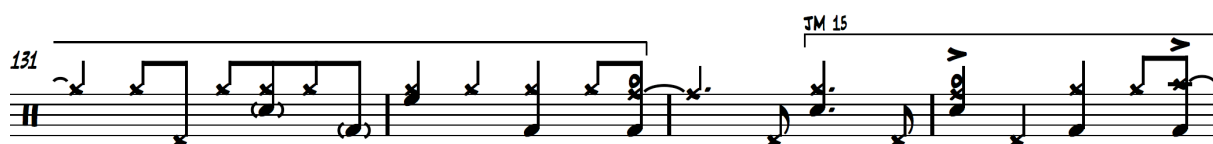
During McLean's eighth line Williams is heard using his bass drum liberally during his accompaniment figures, playing figures similar to Blakey's snare accompaniment and including a double stroke in 110 of the figure shown below, with a sound similar to

Haynes' sound on *Reaching Fourth*. Williams still however maintains constant activity on the snare drum throughout to the extent that his snare and bass drums sound as though they are engaged in melodic dialogue with one another.



**Figure 78:** *Vertigo* (1:29 - 1:32).

The following eight bars feature Hancock and Williams utilising vamp-like accompaniment in which one answers the other in two bar phrases. In the vamp-like accompaniment shared between Jones and Drew in *Locomotion*, the two played figures in unison with one another and from 1:43 to 1:52 this is how Hancock and Williams' vamp plays out until ending with the following:



**Figure 79:** *Vertigo* (1:43 - 1:52).

In Figure 79 Williams uses his mounted tom for the second time during the piece and introduces an original voicing to the music studied in this thesis. On the “and” of beat four in bar 132 he plays an open hi-hat note similar to the kind of note Jones demonstrated at the end of four bar sections in *Locomotion*, but in addition to this, Williams plays an additional, staccato open hi-hat note on beat one of bar 134 in

unison with the snare drum before ending his phrase and the vamp-like accompaniment section with a cymbal and bass drum crash on the “and” of beat four.

In Figure 80, shown below, Williams utilises techniques of expression and rhythm at once towards the end of McLean’s eight-bar 26<sup>th</sup> phrase:

The image shows a musical transcription for snare drum on a grand staff. The first line contains measures 175 to 178. Measure 175 starts with a double bar line and a '175' measure number. It features a series of quarter notes with 'x' marks below them, followed by two triplet markings over groups of three notes. The second line contains measures 179 to 180. Measure 179 starts with a double bar line and a '179' measure number, continuing the triplet pattern. Measure 180 is marked 'JM 27' and includes dynamic markings 'p' (piano) and 'f' (forte) at the end of the phrase.

**Figure 80:** *Vertigo* (2:25 - 2:31).

The dynamic markings in the transcription are used to indicate decrescendo and crescendo in the snare drum part only. These dynamics as well as the quarter-note triplets employed are the first of each used by any of the drummers studied herein.

At 2:40 in McLean’s solo, Williams begins superimposing a  $\frac{3}{4}$  meter for twelve measures. The superimposition begins on beat three in bar 193 of Figure 81 shown below:

**Figure 81:** *Vertigo* (2:40 - 2:52).

Bassist Butch Warren joins Williams in the superimposition of dotted quarter-notes at bar 201 of Figure 81, making the time feel precarious until Williams begins to assert the regular  $\frac{4}{4}$  meter again in bar 205. The multiple-bounce roll markings are intended for the snare drum only in Figure 81 and in Appendix Five as I interpret Williams' use of the multiple bounce snare strokes to be attributable to Haynes' use of them as described earlier in my analysis of *Reaching Fourth*.

### **Donald Byrd's Trumpet Solo**

Similarly to McLean, Byrd shows no definite schema for the placement of his phrases throughout *Vertigo*. His first three phrases fit squarely into four bar lots beginning in the first of every four bars, however the length of his phrases vary from one bar to four bars in length.

During Byrd's eleventh phrase, Williams, Hancock and Warren begin a vamp-like figure that actually draws the attention away from Byrd for a significant period of time.

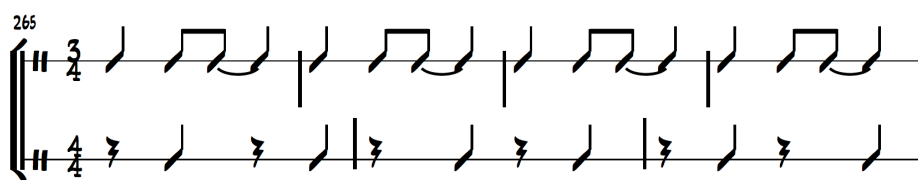
This vamp-like figure is shown below in Figure 82:

The figure displays five staves of musical notation, each representing a different measure of music. The staves are numbered 259, 263, 267, 271, and 275. The notation includes eighth notes, quarter notes, and rests. Some notes are marked with an 'x' below them, and some are marked with an 'x' and a dot. Brackets above the staves indicate groupings of notes, labeled 'DB 11', 'DB 12', 'DB 13', 'DB 14', and 'DB 15'. The music is written on a single staff with a treble clef and a key signature of one flat.

**Figure 82:** *Vertigo* (3:38 - 3:51).

Williams' superimposition of the  $\frac{3}{4}$  pulse in this example harkens back to Jones' solo figure in Figure 55. A two-part analysis of bars 265 - 267 from Figure 82 shows how Williams plays the same figure but that it is displaced by a dotted quarter-note (see Eighth-Note Rhythm 38 in Appendix Two), resulting in the rhythm sounding in reverse to the way Jones plays it. See Figure 83:





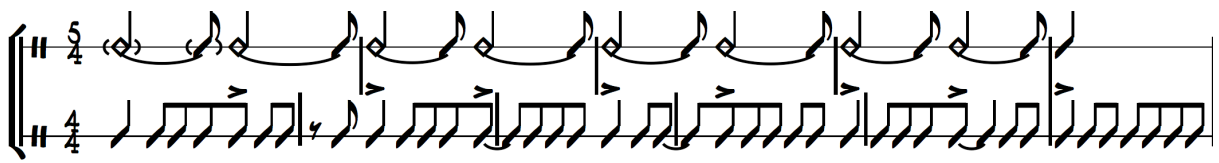
**Figure 83:** Two-Part Analysis of *Vertigo* (3:40 - 3:42)

In the following six-bar excerpt, Williams is heard superimposing a complete cycle of  $\frac{5}{4}$  over the regular meter of  $\frac{4}{4}$ :



**Figure 84:** *Vertigo* (4:05 - 4:10).

Although beat one is silent in bar 295 of Figure 84, it marks the beginning of the polymetric superimposition of  $\frac{5}{4}$  for the first time in this thesis. In conjunction with the polymetric superimposition of  $\frac{7}{4}$  as discussed in Chapter Three, this superimposition represents one of Williams' most significant achievements of an adaptive modeling of figures from the past, given the prevalence of the superimposition of  $\frac{3}{4}$  throughout the other pieces analysed here. Figure 85 shows a two-part analysis of this event:



**Figure 85:** Two-Part Analysis of *Vertigo* (4:05 - 4:10).

Figure 85 shows a two-part analysis of Williams' polymetric superimposition of  $\frac{5}{4}$  in *Vertigo*. The upper part shows a rhythmic schema in five that is divided into two. Every five eighth-notes in the lower part (with the exception of beat one in the first bar as discussed) is accented according to this schema. Williams effects these accents on his bass drum during the passage as is seen in Figure 84.

As Byrd winds his solo to a close, Williams is heard playing the hi-hat with his left foot on the "and" of all four beats continuously until the band moves into Hancock's piano solo, expanding on Haynes' extended use of the left-foot hi-hat and using Two-Point Cycle 1.6.10 (see Appendix One):



**Figure 86:** *Vertigo* (4:15 - 4:23).

## Herbie Hancock's Piano Solo

Hancock plays extremely long, fluid phrases during his piano solo on *Vertigo* and Williams begins his accompaniment here in the *mp* volume range in a quasi "two-feel".

Williams moves in and out of two different modes of playing the hi-hat with his left foot during Hancock's solo as does Haynes on *Reaching Fourth*. One such mode is that of using the hi-hat with the left-foot in a way that corresponds with the conventional use as described in Blakey, Roach and Jones' drumming in Chapter Four. In this mode the hi-hat is played primarily on beats two and four of the bar. The second mode of play corresponds to the superimposition of polymeters in which it is the hi-hat that outlines the superimposed meter, whereas Blakey is described as playing figures in the meter of  $\frac{3}{4}$  meter by using his bass drum for accents on beat one of every bar. Williams plays those same rhythms but transfers them to his left-foot on the hi-hat pedal as seen beginning in bar 354 and continuing to bar 366 in Figure 87.

Williams alternates the use of his feet in performing the polymetric superimposition during bars 362, 363 and 364 in this excerpt. Also shown in Figure 87, Williams superimposes two bars of  $\frac{5}{4}$  meter beginning beat three of bar 367 in the excerpt shown above. For four occurrences, Williams accents every second then every third quarter-note with his left-foot hi-hat here. It is interesting to note his extreme minimisation of the number of notes played on the ride cymbal throughout the entirety

of this excerpt in that he plays only quarter-notes throughout in a similar way that I described Haynes as sometimes playing fewer notes in his ride cymbal rhythm.

**Figure 87:** *Vertigo* (4:52 - 5:09).

A significant tie between Williams' and Jones' drumming is evidenced during the latter part of Hancock's piano solo when Williams performs a number of three consecutive eighth-note phrases on his snare drum, which is a figure Jones performs frequently during *Locomotion* as described above. See Figure 88:

The image shows two staves of musical notation for a drum solo. The top staff begins at measure 405 and contains a triplet of eighth notes marked 'HH 23'. The bottom staff begins at measure 409 and contains a triplet of eighth notes marked 'HH 24'. A crescendo hairpin and the dynamic marking 'ff' are located in the bottom staff.

**Figure 88:** *Vertigo* (5:35 - 5:42).

Figure 88 also ties Williams' drumming to Blakey's drumming with the use of a press roll with crescendo in bar 410. The use of such a roll is characteristic of Blakey's drumming as described earlier in his drumming on *Mayreh*.

### **Tony Williams' Drum Solo**

Williams begins his drum solo on *Vertigo* with half-time statements indicated by the use of quarter-note triplet figures, occasionally playing eighth-note runs. This is all accomplished with a simple harmonic density in the way he orders and groups his limbs to perform these rhythms. The rhythms themselves are broken in the style of Roach, Haynes and portions of Jones' rhythms. Williams shifts quickly between figures of vastly different conceptual structure with relative ease.

Williams demonstrates the first break with any fixed metric flow in all the solos analysed so far in this thesis. See Figure 89:



**Figure 89:** *Vertigo* (6:54 - 6:59).

The excerpt above shows a high degree of metric and rhythmic freedom in Williams' solo at this point, performed in what sounds like a true spirit of freely expressed improvisation. I have notated the polyrhythmic ratios according to Vai's (1983) recommendations in order to indicate relative changes in speed as I explained in the Introduction. The apparent polyrhythm of 5:6 ♩ on the upper staff of Figure 89 can be read as being five in the regular time of six quarter-notes. These quarter-note lengths are further subdivided into sixteenth-notes. A truncated and slower version of the same figure is indicated on the lower staff within the 3:2 ♩ bracket. Whilst the figure is shorter than the 5:6 figure, it is played at a slower rate.

Following this, Williams moves into the longest string of continuous, unbroken rhythm performed in a simple harmonic density alternately utilising all four limbs that has thus far been heard in the present study. This rhythmic string audibly demonstrates a combination and extension of the types of figures played by Blakey and Roach in the previous chapter. Blakey is invoked here in the unbroken nature of the rhythm whilst

Roach is heard to be an influence in that the string demonstrates a high degree of melodic motility performed with a complex ordering of limbs utilising double strokes on the bass drum similar to Haynes' use of double strokes. An excerpt is shown below in Figure 90:



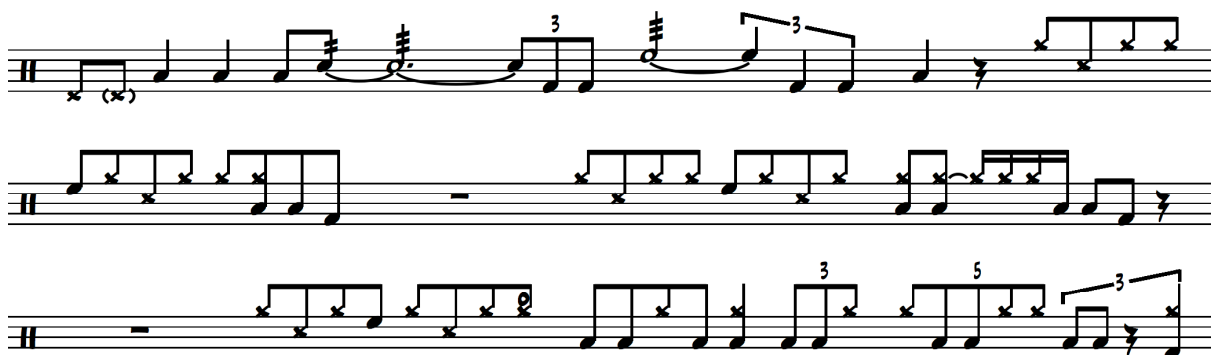
**Figure 90:** *Vertigo* (6:59 - 7:08).

Williams' long string of eighth-notes, peppered with quarter-note triplets continues to an abrupt halt on the third system. What follows is the stark contrast of broken phrases as shown in Figure 91 in which the inverted triangular note-head indicates a "dead stroke" on the mounted tom. A dead stroke is similar to a multiple bounce stroke except that the stick is pressed tightly into the head with enough pressure as to eliminate rebound, generating an extremely staccato "buzz" sound with the tone and resonance of the tom still sounding:



**Figure 91:** *Vertigo* (7:08 - 7:15).

Williams then ends his highly dynamic solo on *Vertigo* with the use of a quasi-Latin figure performed in simple harmonic density using the bell of the ride cymbal, cross stick on the snare, tom toms and bass drum:



**Figure 92:** *Vertigo* (7:15 - 7:25).

### Summary

Performing in a comparatively avant garde setting, Williams' drumming on *Vertigo* provides great insight into his modeling and adaptation of the musical ideas he learned from the previous generation of drummer, thus forming an original synthesis of feel, creativity and technique in his performance. Much of Williams' basic musical vocabulary is derived from the conventional figures described in the drumming of Blakey, Roach, Jones and Haynes in Chapter Four. Williams however presented original ideas in several respects. Firstly, and with the same "tipping" approach as Haynes throughout his ensemble passages, Williams plays "broken" and varied rhythms on his ride cymbal.



With the soloists not limited to performing over a fixed form for improvisation, Williams, Hancock and Warren can be heard contributing vamp-like ensemble figures that occasionally steal the listener's attention away from the front line soloist's construction at the time, moving toward a collective autonomy in the ensemble. Williams is heard to make novel rhythmic use of his left foot on the hi-hat cymbals by suggesting the polymetric superimposition of  $\frac{5}{4}$  and  $\frac{3}{4}$  meters in place of where Blakey would characteristically have played the bass drum.

In his drum solo, Williams is heard moving in and out of different modes of performance including the use of quarter-note triplets (giving a half-time feeling), free time, a long string of eighth-notes performed with a simple harmonic density, and quasi-Latin, extending the conventions employed by Blakey and Roach. He then plays not only broken rhythms, but broken phrases in that he performs a motif and then leaves a period of time before even repeating that figure or moving on to another. In this sense, Williams is heard playing emergent figures modeled largely upon Jones and Haynes' use of the hi-hat with his left foot.

Williams' use of the hi-hat is fairly regular throughout *Vertigo* as discussed above. I now move on to present an analysis of *Walkin'* in order to show that Williams adopted a completely different way of using the hi-hat than he used in *Vertigo* and also in a way that differs significantly from the ways in which Blakey, Roach, Jones and Haynes use the hi-hat in their music.

### **Tony Williams on *Walkin'***

I analyse this version of *Walkin'* (Davis 1992b), recorded 12 February 1964 for several reasons. Firstly, to explore the ways in which Williams began to approach a postmodern frame of mind (see Introduction) by paring down his use of the drumset as a precursor to the novel ways in which he began reintroducing elements as explained later in my brief examination of *Teo's Bag*. Secondly, to further examine his free style of soloing that was previously introduced in *Vertigo*. Thirdly, to demonstrate the high level of entrained musical interaction between Williams and Davis. Fourthly, to indicate the direct emotional effect that the civil rights movement had on this band on this particular night. I begin by addressing the latter.

The famous "1964 concert" during which *Walkin'* was recorded in New York's Philharmonic Hall was scheduled as a benefit concert for a registration drive being conducted by the Student Nonviolent Coordinating Committee (SNCC), the Congress of Racial Equality (CORE) and the National Association for the Advancement of Coloured People (NAACP). Davis had developed a preference for live recordings around this time, commenting that studio recordings sounded "boring" to him and so Columbia had arranged to record the concert (Davis and Troupe 1989, 265-266). This recording is well-known for its high-energy performances. Davis explains why the performance was so aggressive:

We just blew the top off that place that night. It was a motherfucker the way everybody played—and I mean everybody. A lot of the tunes we played were done up-tempo and the time never did fall, not even once....We had been off for a while as a band, each doing other things. Plus it was a benefit and some guys didn't like the fact that they weren't getting paid....The discussion went

back and forth. Everyone decided that they were going to do it, but only this one time. When we came out to play, everybody was madder than a motherfucker with each other and so I think that anger created a fire, a tension that got into everybody's playing, and maybe that's one of the reasons everybody played with such intensity. (Davis and Troupe 1989, 266)

Although (in support of my discussion of the *nested* and *fractal* nature of jazz performance in Chapter One) I present no conclusive empirical evidence showing the precise degree of impact these affairs can have on the development of musical structures, the following analysis may be used to show how sociocultural and political affairs can have a direct emotional effect on musical performances.

The interaction between Davis and Williams on *Walkin'* is one of the strongest examples of synergy and entrainment in jazz ensemble interaction discussed in this thesis. As many of the recordings Williams played along with in his youth were by Davis, not only did he assimilate the playing style of the drummers on those recordings, but he was also able to "catalogue" Davis' improvisational tendencies. Based on Wallace Roney's testimony presented earlier in this thesis that Williams was able to recall passages, including each of the different instrumental parts, from entire songs by singing them, I argue that one of Williams' most powerful attributes in the field of learning is his ability to absorb, retain and recall aural information in great detail when relevant to do so and that using the body as an active learning tool in praxis is paramount to this process.

During the period in which Williams was practicing by playing along with Davis recordings in his youth he could not possibly have known that he would later be revered around the world for his subsequent work with Davis. Williams nonetheless developed a high level of cognitive aural and muscle memory by playing along with Davis' records. The time spent doing this no doubt is a significant factor behind the high level of musical interaction upon which he musically entrained to Davis as is particularly evident in this version of *Walkin'*, invoking the statement made by metaphysician Ernest Holmes: "We only know as much as we can prove by actual demonstration" (Holmes 1938, 51).

Firstly, Davis stated that:

...just hearing that little motherfucker made me excited all over again....trumpet players love to play with great drummers and I could definitely hear right away that this was going to be one of the baddest motherfuckers who had ever played a set of drums. Tony was my first choice....(Davis and Troupe 1989, 262)

That Williams made Davis feel "excited all over again" shows the nonlinear nature of the influence of learning in a complex adaptive system as I discussed in Chapter One; that new learning feeds back into the system in immeasurable ways. Williams' entrainment with Davis' recordings ultimately informed Davis himself of new ways of playing and interacting in his own band.

Reporting on Williams' first tour with the band, Davis recalls:

Tony just blew everyone away because no one had heard of him....He just lit a big fire under everyone in the group. He made me play so much that I forgot about the pain in my joints which had been bothering me a lot. I was beginning


to realise that Tony and this group could play anything they wanted to. Tony was always the center that group's sound revolved around. He was something else, man.

He was the one who started me to playing 'Milestones' again in public, because he loved it so. Not long after he came into the band he said that he thought the album *Milestones* was 'the definitive jazz album of all time' and that it had 'the spirit in it of everyone who plays jazz.'...Then he told me that the first music he 'fell in love with' was my music. Tony played to the sound, and he played real hip, slick shit to the sounds he heard. He changed the way he played every night and played different tempos for every sound every night. Man, to play with Tony Williams you had to be real alert and pay attention to everything he did, or he'd lose you in a second, and you'd just be out of tempo and time and sound real bad....

...a lot of people were saying that Tony was going to be the greatest drummer who ever lived. And I'll tell you this: he had the potential, and nobody ever played as well with me as Tony did. (Davis and Troupe 1989, 264)

### **Miles Davis' Trumpet Solo**

*Walkin'* is in the up-tempo swing style and begins at the tempo 308 bpm. The first moment of intense interaction between Davis and Williams on *Walkin'* occurs as Davis begins his seventh phrase at 0:33. This phrase is a loud and high trill that he extends into the beginning of the next chorus, which is, by now, his fourth. See Figure 93.

Williams takes charge by generating superimposed metric excitement in bar 52 as he plays Eighth-Note Rhythm  (Eighth-Note Rhythm 20 in Appendix Two),

voicing beats one and two on the cymbal with beat three in unison with cymbal and bass drum, and the "and" of beat three on the cymbal and mounted tom.

The image displays six staves of musical notation for the piece 'Walkin''. The notation is written on a grand staff (treble and bass clefs) with a key signature of one flat and a 4/4 time signature. The notation includes various rhythmic patterns, primarily eighth and sixteenth notes, often with accents or slurs. Specific markings are present: 'MD3' in a box above the first staff, 'MD 7' above the second staff, 'MD4' in a box above the third staff, 'MD 8' above the fourth staff, and 'MD 9' above the fifth staff. Bar numbers 49, 53, 61, and 65 are indicated at the start of their respective staves. The notation is dense and rhythmic, characteristic of a drum set score.

**Figure 93:** *Walkin'* (0:32 - 0:51).

Figure 93 is also useful in pointing out that Williams uses his hi-hat only for an interjective figure in bars 63 and 64. In pointing this out, this is Williams' predominant method of voicing the hi-hat throughout the entirety of *Walkin'* as can be seen in Appendix Ten. He does not use the hi-hats in the conventional way I pointed out Blakey, Roach and Jones used above. Instead he seems to extend Haynes' less regular use of the pedal in an extreme sense. Williams' reasons for this are explained in the round table discussion cited in Chapter Three (Down Beat 1964). Also of interest are bars 67 and 68 in Figure 93 in that they contain the same continuous stream of eighth-

notes described in Figure 86, except that he voices the “and” notes on the bass drum in Figure 93 instead of on the hi-hat as he does in Figure 86.

Davis’ method for inducing Williams to interact is shown below in Figure 94, revealing Davis’ technique of leaving significant space between his phrases in which Williams comments. This kind of phrasing deviates radically from the kind of phrasing analysed above, particularly from Brown, Donaldson and Silver’s phrasing in *Mayreh*. Davis’ phrasing here perhaps best exemplifies the notion of interaction in a collective autonomy, highlighting Williams’ interaction with Davis at the end of Davis’ seventh and eighth choruses:

The image displays a musical score for a drum set, consisting of six staves of music. The notation includes various rhythmic patterns, rests, and dynamic markings. Key annotations include:

- MD7:** A boxed label at the beginning of the first staff.
- MD 16:** A label above the second staff, indicating a measure.
- MD8:** A boxed label at the beginning of the fourth staff.
- MD 17:** A label above the fourth staff, indicating a measure.
- MD 18:** A label above the fifth staff, indicating a measure.
- MD 13:** A label above the sixth staff, indicating a measure.

The music is written on a single-line staff with a double bar line at the beginning. The notation includes quarter notes, eighth notes, and rests, with 'x' marks above notes indicating specific drum sounds. Dynamic markings like '>' are used throughout the score.

**Figure 94:** *Walkin'* (1:08 - 1:23).

In his 29<sup>th</sup> phrase, Davis gives way to a drum solo after the eighth bar of his twelfth chorus on *Walkin'* by way of playing a figure that is his standard cue for the drummer to begin soloing. By this time in the piece, the tempo has escalated to 344 bpm. The figure is shown in bar 160 of Figure 95 below:



**Figure 95:** *Walkin'* (1:53 - 1:55).

By using such a figure as that shown above, Williams is enabled to play an open solo in a rubato fashion. One of the conventions evident in this band is the use of the same rhythmic figure on the snare drum to cue the band back in to tempo following the free nature of the drum solo. This is evidenced on each version of *Walkin'* performed in this period.

### **Tony Williams' Drum Solo**

Williams' drum solo on *Walkin'* is the most expressive of all solos examined in this thesis as I show here. Upon first listening to the solo it is apparently rubato in its rhythmic and formal construction. It bears no resemblance to the blues form nor at points does it contain any rhythms or meters exactly resembling the tempo. Instead it is constructed out of expressive phrases that resemble the soloing styles of Roach and Haynes as examined in Chapter Four in that it involves the use of broken phrases and single harmonic density giving a fairly equal role to all four limbs and including the hi-



hat in particular. Also apparent is Williams' passion for the avant garde. As I said in Chapter Three, this concert was recorded within weeks of the recording of Eric Dolphy's avant garde *Out To Lunch* and it is clear in both cases that the conventional informs the avant garde and vice versa in Williams' ideology.

The only reference to the original meter is shown below in Figure 96. This excerpt features the rhythmic development of the eighth-note and dotted eighth-note rhythm introduced on the first line. Williams alters the number of notes in each subsequent string of eighth-notes. For example, beginning with the accented snare note in the first line, Williams plays seven eighth-notes followed by four dotted quarter-notes. On the second line he plays only five eighth-notes followed by another lot of four dotted quarter-notes before finally truncating the final string of eighth-notes to four in total. Following the subsequent four dotted quarter-notes, Williams moves seamlessly into the mode of rubato, introduced here with polyrhythmic ratios on the third system of Figure 96:



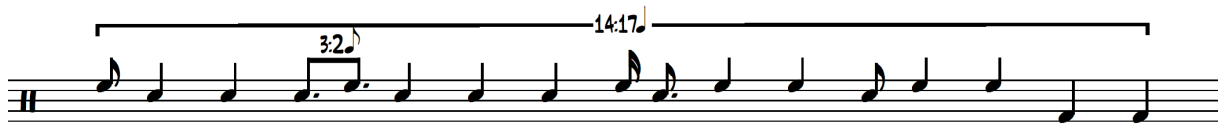
**Figure 96:** *Walkin'* (2:01 - 2:08).

In Figure 97 below, I use the 22:25<sup>♩</sup> ratio to notate Williams' change of speed in his development of the figure shown in the first staff of the example. When taken into relative consideration of the original tempo, Williams plays twenty two notes in the time it would ordinarily have taken to perform twenty-five eighth-notes. In other words, if twenty-five eighth notes take three bars plus one eighth-note to complete, Williams plays these twenty-two notes evenly over the period of time taken up by three bars and one eighth-note. This makes the figure sound slightly slower than the preceding figures:

**Figure 97:** *Walkin'* (2:10 - 2:19).

The rhythms in this figure are performed freely and in a rubato manner and I have used these markings to give an approximate indication of the change of pace between notes in this figure and others.

A similarly complex temporal ratio is used in the following example:



**Figure 98:** *Walkin'* (2:52 - 2:55).

It is unclear as to whether or not Williams is creating the superimposition of meters between the voices of his mounted tom and snare in the example shown above. I made many attempts at visually representing this figure before finally determining to represent it as one line showing approximate representation of the relative time elapsing between the onset of each note in relation to the original tempo. I express the rhythm in Figure 98 by saying that Williams plays fourteen quarter-notes in the time it normally takes to play seventeen quarter-notes. It is just slightly slower overall than playing eighth-note septuplets over two bars of  $\frac{4}{4}$ .

### **George Coleman's Tenor Saxophone Solo**

Davis recalls that "when Tony got mad at someone he wouldn't play behind them when they soloed" (Davis and Troupe 1989, 280). Gauging by Davis' further recollection that Williams did not like George Coleman's playing in preference of the playing of Rivers or Ornette Coleman (268, 277, 279), one can imagine that instead of not playing behind Coleman on this particular night, Williams was possibly trying to play Coleman *off* the stage with the voracity of his ride cymbal playing on *Walkin'*. Coleman plays a total of nineteen choruses on *Walkin'* and by the time of his thirteenth,

Williams has pared his drumming down to the use of a bare minimum of voices and a minimal number of notes on his ride cymbal. Despite the slender nature of his voicing, the timbre generated by his touch coaxes enough ferocity to cater for the diminution of the number of voices realised in the elimination of the conventional hi-hat on beats two and four as shown in Figure 99:

The image shows three staves of musical notation for a ride cymbal. The first staff starts with a boxed label 'GC13' and a right-pointing arrow. It contains a sequence of notes with stems and 'x' marks, with a bracket labeled 'GC48' above it. The second staff starts with the measure number '312' and continues the sequence. The third staff starts with the measure number '316' and continues the sequence, with a bracket labeled 'GC49' above it. The notation is minimalist, focusing on the placement of notes and stems on a five-line staff.

**Figure 99:** *Walkin'* (5:08 - 5:13).

### **Herbie Hancock's Piano Solo**

As the tempo on *Walkin'* is by now soaring at around 380 bpm, Williams' drumming is understandably minimal. The hi-hat is withdrawn altogether in Figure 100:

**Figure 100:** *Walkin'* (6:40 - 6:48).

Hancock's eighth chorus on *Walkin'* is accompanied by Williams superimposing a  $\frac{5}{4}$  meter over the regular  $\frac{4}{4}$  with using multiple bounce strokes on the snare drum similar to those Haynes uses in *Reaching Fourth* and this is shown below in Figure 101:

**Figure 101:** *Walkin'* (6:56 - 7:04).

The superimposition begins in bar 480 in Figure 101 and lasts for four bars wherein Williams plays a multiple bounce stroke on the first of every five quarter-notes followed

by a regular stroke on the fourth of every five quarter-notes. This is another example of Williams' adaptive modeling of older ideas as it seems his superimposition of  $\frac{5}{4}$  is an extension of the practice of superimposing  $\frac{3}{4}$  in bebop and hard bop music.

### **Summary**

I argue that the high level of musical interaction that taking place between Davis and Williams throughout *Walkin'* represents evidence of musical entrainment that had been developing in Williams since the days of his childhood study of Davis' music.

I explained the relative pace of the rubato or arrhythmic phrases played during Williams' solo on *Walkin'* as well as showing that by early 1964 he had begun paring down his use of the hi-hat by omitting it as a reiterative voice in his ensemble playing, opting rather to use it as an expressive component of the overall drumset. The results of his recombination of the drumset components in early 1968 are described below in a brief study of *Teo's Bag*, the final up-tempo swing piece Williams would record with Davis before leaving Davis' band.

### **Tony Williams on *Teo's Bag***

I present a brief glimpse at *Teo's Bag* (Davis 1998b) as a special case in order to highlight the recorded origin of one of Williams' most well-known contributions to



heightened expression in jazz drumming. Of all the up-tempo swing pieces I listened to during the course of this research, I noticed *Teo's Bag* as being the first piece in the entire catalogue of up-tempo swing pieces during which Williams plays four consecutive quarter-notes with his left foot on the hi-hat pedal. This technique alone is possibly the single-most popular contribution he made in his career and it is a practice that significantly increased the expressive ability with which jazz drummers could approach the drumset. The amount of freedom this technique afforded Williams during his performance marks two significant points. Firstly, that this was the final piece in a swing style he was to record with Davis (recorded 16 January 1968). Secondly, it is a piece that defies complete transcription in that Williams' aggressiveness and drive causes uncertainty as to precisely where the meter is at all times in relation to the other members' performance. This is not to say that Williams plays "out of time" necessarily as much as that the piece is best considered as a synergistic whole expression of the achievement of collective autonomy in interactive collaboration in a jazz ensemble. Remarkably, just as *Vertigo* was not released until 1980 despite having been recorded in early 1963 and containing Williams' first recorded up-tempo swing piece from this period, *Teo's Bag*, the first recorded instance of Williams "playing all four beats on the hi-hat", was subsequently not released until 1979, eleven years after it was recorded.

Figure 102 shows a brief statement played by Williams at 5:24 - 5:26. This figure is perhaps the first recorded instance of a figure that would develop later in Williams'

career as being evolved from the polymeric superimposition of  $\frac{3}{4}$  over  $\frac{4}{4}$ . It is also based on Brownell's "three-grouping" seed (1994).

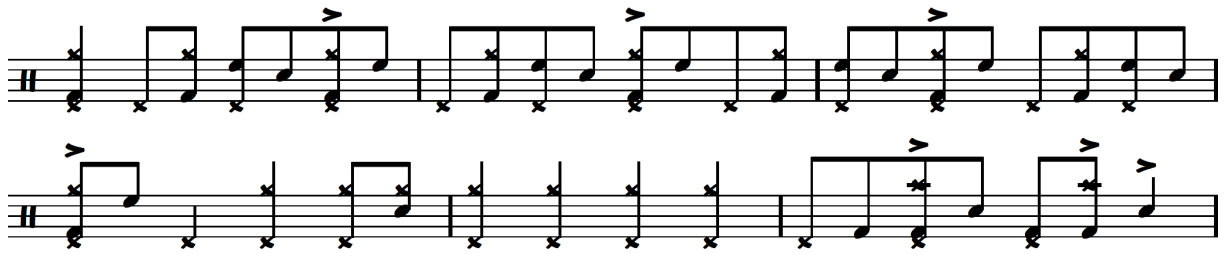


**Figure 102:** *Teo's Bag* (5:24 - 5:26).

In Figure 102, the pulse of the  $\frac{4}{4}$  meter is kept intact on the hi-hat. Williams plays a figure in which his left hand plays two consecutive eighth-notes beginning on beat one of the second measure, the first on the mounted tom and the second on the snare drum. These two notes are preceded with an eighth-note lead in on the bass drum and accented ride cymbal. The figure repeats three times over two bars. Williams takes this figure with him all the way through his career, keeping the grouping and ordering of limbs, as well as the drumset voicing intact. He does however change the rhythm. Instead of playing  $\frac{3}{4}$   (Eighth-Note Rhythm 24 in Appendix Three) Williams plays the same ordering, grouping and voicing of limbs over  $\frac{3}{4}$   (Eighth-Note Rhythm 3 in Appendix Two) beginning with the mounted tom on beat three of the first bar in the excerpt from *The Wrath (Structured Burnout)* (Marsalis 1987, 3:56-4:01).

See Figure 103:





**Figure 103:** *The Wrath (Structured Burnout)* (3:56 - 4:01).

This second incarnation of the figure that originated in *Teo's Bag* represents perhaps one of the most expressive examples of drumset playing in an ensemble context in this thesis so far. I say it is the most expressive in that it describes polyrhythmic superimposition of triple over duple meters; it contains a novel grouping and ordering of limbs; and it involves rapid melodic motility in the left hand as it traverses the mounted tom and snare drum. The examples in Figure 102 and Figure 103 are made possible by keeping an underpinning quarter-note hi-hat rhythm going underneath as Williams does here.

Other appearances of this figure throughout Williams' career are heard on *Moments Notice* (Tyner 1977, 2:08); *So What* (Hancock, et al. 1992, 6:35), and *Gone Tomorrow* (Arcana 1997, 6:34).

## Conclusion

I have shown a number of key developments in the expressive capacity of the drumset made possible by William's performance on *Vertigo*, *Walkin'* and *Teo's Bag*. My

analysis of *Vertigo* provides insight into Williams' modeling and adaptation of the musical ideas he learned from Blakey, Roach, Jones and Haynes. This was demonstrated by his use of the "tipping" technique each of the earlier drummers performed with as well as through the polymeric superimposition of rhythmic figures in  $\frac{3}{4}$  and  $\frac{5}{4}$ . I showed Williams as using multiple bounce strokes and playing three consecutive eighth-notes in his snare drum accompaniment similar to the used by Haynes and Jones respectively. I identified Williams, Hancock and Warren as using dominating vamp-like ensemble figures in their ensemble accompaniment of Byrd's solo. This ensemble vamp contains a similar rhythmic schema as shown earlier in Jones' drum solo. I observed Williams moving between various rhythmic and organisational schema during his solo, such as quarter-note triplets, free time, a long string of eighth-notes performed with a simple harmonic density, and quasi-Latin.

In concluding my analysis of *Walkin'* I argue that the high level of musical interaction between Davis and Williams is an emergent characteristic of the social and musical entrainment Williams had been developing since his childhood days of playing along with many of Davis' recordings. I showed that Williams had pared down the voicing of his drumset to exclude the conventional left-foot hi-hat figure on beats two and four and that he reintroduced it as an expressive and colouristic rhythmic device. In my brief analysis of *Teo's Bag* I identified a figure resultant from Williams' introduction of the hi-hat playing on all four beats of the bar as the main audible pulse generator and show that greater freedom of expression is afforded on the drumset in that he was then

enabled to play figures away from the ride cymbal, giving voice to and providing greater range for various other drumset components.

## Chapter Six

### Conclusion

In posing the main arguments of this thesis, I showed how the jazz studies literature contains very little scholarly analysis of jazz drumset performance in general and even less on one of the most significantly original contributors to development in the field, drummer Tony Williams.

I began by showing how I constructed my analytical schema specifically for the study of jazz drumset performance in a way that would reveal how Williams developed his original voice by adapting, modeling and synthesising the qualities that he recognised as being feel, technique and creativity in Blakey, Roach and Jones' bebop drumming. The schema covered areas that allowed me to discuss the phrasing of musical figures that occurs in the interaction between the drummer and the soloist. Once key phrases were identified I broke several of them down according to the properties of 1) rhythm, 2) grouping and ordering of limbs on the drumset, 3) voicing and motion, and 4) expression. When abstracted, each of these four properties serve to highlight aspects of the other properties in such a way that changes can be made in the material of one property without affecting the material in other properties. These schema are supplemented by a catalogue of systems in Appendix One that serves as a tool for analysing the multitudinous ways in which any combination of one, two, three or four limbs can play between one, two, three or four discrete layers of rhythm. I discussed the theoretical limits of these systems and showed that they are useful in at least two

ways. Firstly, that they are useful in analysing the rhythms resultant from the polymetric superimposition of two or more meters in the music. Secondly, that the systems are useful for identifying ways in which Williams may have gone about developing his original voice by adapting and modeling the prior work of other drummers for his own use, thus suggesting a large number of ways in which figures identified in recorded performances can be adapted to facilitate the emergence of new figures on the drumset. The systems are especially useful for the development of omnidexterity as I describe it.

By describing the process of transcription and the properties of musical analysis I devised specifically for analysing recordings of improvised drumset performance as both an interactive ensemble instrument and as a non-interactive solo instrument, and through the utilisation of technology, I showed that I was able to overcome the notational difficulties associated with the a visual representation of arrhythmicity and rubato, temporal qualities both present in the two significant solos performed by Williams I later examined.

I then stated my critical position as being that of a scholar-performer in jazz drumset performance studies and indicated how this position would affect my bearing on the related jazz literature, which, in the context of this thesis covers 1) the sociocultural and political bearing on the experience of African Americans from the 1940s to the late 1960s, 2) analyses of jazz drumset improvisation, 3) analyses of Tony Williams' drumming, and 4) improvisation. After studying the relevant literature I was able to

gain an understanding of the extent to which racial discrimination against African American people was rife in America throughout this period and the effects this had on the origins of the modern thought that informed the onset of the bebop jazz style.

In Chapter One I showed that Williams was vociferous in elaborating on the learning processes he employed during his formative years, which included the regular and repeated playing along with numerous recordings as well as frequent and enthusiastic attendance at live performances. In doing so, Williams began to analyse and adaptively model the work of his predecessors with such voracious intent that, by the time he was fifteen or sixteen years old, he was able to identify the qualities of feel, technique and creativity in the drumming of Blakey, Roach and Jones respectively, and he exhibited traits of having an autotelic personality. These methods indicate a self-directed learner and, as such, I suggested that Williams began utilising heutagogical learning techniques from an early age and that he continued to do so throughout the remainder of his life. Once Williams recognised these qualities, he sought to combine them in his own work. I then showed that, as he set to work, Williams became quickly involved in the jazz community of America's east coast that had been interacting musically since 1941. After studying that community in the literature I came to be of the opinion that many of the individuals in that community, Williams included, showed signs that they learned largely by way of what I recognise as musical entrainment. Autotelicism and heutagogy are ideas that have been paid no scholarly attention in the jazz literature I studied during the process of writing this thesis and entrainment is shown to have been paid only little attention. I was able to interpret entrainment and

the musical interaction within various collectives of jazz musicians in the jazz community in the context of complex adaptive systems.

In Chapter Two I presented an overview of Williams' biography from early childhood as he grew up in Boston and then as he worked in Miles Davis' band from shortly after his move to New York City until the time that he left Davis in early 1969. As he met all of the other drummers studied here during his youth, I also presented biographical details on these drummers that are relevant to the formulation of Williams' drumset ideology.

In Chapter Three I presented a broad stylistic overview of Williams' output as documented in the recordings he made between February 1963 and February 1969, showing a change in consciousness from one of modernism as reflected in bebop to a postmodernist ideal as suggested by Dean (1992, xxiii-xxiv). I observed that in realising such a paradigm shift, the musical exploration of the expression of bebop and hard bop ideals had ended, opening up to the post bop aesthetic. The styles I identified Williams as slowly revealing this paradigm shift of musical consciousness towards a postmodernist, post bop aesthetic cover 1) swing pieces in four broad distinctions of tempi, 2) ballads, 3) pieces in triple time, 4) avant garde, multi-section and other pieces, 5) straight-eighth and Latin pieces, 6) sixteenth-note pieces, 7) pieces containing drum solos, 8) complex temporal events. My overview of these styles is supplemented by the tables in Appendix Four, each containing a complete list of corresponding pieces for each style.

I then proceeded in Chapter Four to present a detailed musical analysis of four complete up tempo musical works featuring drummers Blakey, Roach, Jones and Haynes recorded prior to February 1963 in order to establish the kind of modernist musical vocabulary Williams' learned as a result of studying each of these drummers. I also look at the ways in which these drummers tend to interact musically with the various members of the ensemble that performed each piece and identified various kinds of musical figures, described as the "internal models" and "building blocks" that Williams would subsequently use in the formulation of his drumset ideology.

This analysis was followed in Chapter Five where I presented analyses of Jackie McLean's *Vertigo*, Richard Carpenter's *Walkin'*, and Davis (Hancock)'s *Teo's Bag* as performed by Williams. These analyses were written in the interest of highlighting the musical ways in which Williams combined, extended and expanded upon the qualities of feel, technique and creativity in improvisational interaction as was revealed in the analyses of Blakey, Roach, Jones and Haynes' drumming in Chapter Four. These pieces fall into the broad stylistic category of those performed as up-tempo swing pieces that also contain a drum solo. In doing so, I identified areas of ensemble interaction that indicate a shift in thought from the chasing of modernist ideals in the earlier recorded pieces (relative heteronomy), to the realisation of postmodernist ideals that led to a collective autonomy, bringing about the stylistic onset of post bop, jazz-rock and fusion.



The primary goal of this thesis has been to define the qualities of feel, technique and creativity that Williams combined to form his drumset ideology, distinguishing his original musical identity on the instrument in his solo and ensemble based jazz improvisations. The purpose for achieving such a goal is to form a model for jazz drumset performance studies that cultivates originality using Williams' methodological example as an archetype for such purposes. After conducting a comprehensive study of Williams' formative years in the context the east coast American jazz community between 1941 and 1969, and analysing the work of his predecessors, I observed that each drummer studied displayed a high degree of each of these qualities and conclude that:

*Feel* is characterised by Blakey's love for "swingin'" and it is a realisation of his insistence that one should "play [music] from the heart". Musically, feel is represented in the ability to improvise musical figures in a variety of conventional and novel ensemble settings in such a way that integrates constant high-level affective and mutual musical interaction with other ensemble members whilst establishing and retaining a differentiated musical identity on the drumset, thus exhibiting *collective autonomy* amongst the ensemble members.

*Technique* requires drummers to see themselves as composers first, as Roach saw himself. Technique is realised in a drummer's skill in paying attention to an array of musical elements when improvising musical figures across the range of the drumset in

both ensemble and solo settings. Such technique utilises extremes of and dynamic gradations between various combinations of the elements of:

- volume (loud and soft);
- tempo (fast and slow);
- harmonic density (simple and complex);
- melodic motion (stasis and motility);
- rhythmic density (continuous and broken);
- pitch (high and low);
- timbre (conventional and extended); and
- duration (long and short).

*Creativity* is characterised in Philly Joe Jones' statement that he is happiest at the time that he newly plays something on the drums that he has never played before. It is realised in the ability to analyse and understand a large number musical figures and tendencies one hears in the prior work of other drummers in such a way that any number and / or combination of the elements described above—each combining in various ways to constitute musical figures—may be varied independently of each of the other elements in musical improvisation, thus resulting in the emergence of possibly *new* figures that are adaptively modeled on those past figures during improvisation.

In a combined musical sense, I conclude that Tony Williams' drumset ideology of feel, technique and creativity is realised in his ability to differentiate his drumming by

modeling a large number of musical figures from the past and adapting them in novel ways that extend, expand and complexify the interrelationships between a greater number of musical elements in performance contexts engendering enhanced qualities of integrated musical interaction between ensemble members whilst remaining relevant to the sociocultural and political climate of the time.

In more specific terms, Williams increased, deepened and broadened the expressive capacity of the drumset in the way he advanced beyond the modernist *relative heteronomy* of bebop that subordinated drummers to the role of accompaniment in favour of the melodic and harmonic dominance of the front line soloists. He enhanced the expressive nature of the drumset by subverting the role of accompanist, moving toward what I call a *collective autonomy* that is revealed in the new ways that jazz musicians interacted in an ensemble as a result of the postmodernist thought that brought about the onset of styles that were subsequently named post bop, jazz-rock and fusion. I argue that his passion in striving for continual improvement and development in these areas was fuelled by his possessing what I interpret to be an autotelic personality, by his utilisation of heutagogical learning techniques, and by his ability to entrain musically in the complex adaptive system that the New York jazz community figuratively represented from the early 1940s to the late 1960s. Toward the end of the 1960s, Williams heard that through the novel use of amplified instruments in jazz ensemble roles that were previously acoustic, the expressive nature of the drumset, particularly its attribute for achieving fullness of tone in higher volume settings, was

greatly increased and he moved in that direction as one of the foremost pioneers of these styles.

Generally speaking, my interpretation of the foregoing leads me to conclude in musical terms that in adaptively modeling the combined qualities of feel, technique and creativity on the drums, Williams strove to continually increase the originality in his musical improvisation by synergistically balancing an ever-broader and more complex palette of contrasting musical elements in order to express ideas of new and profound musical value on the drumset.

In a broader interpretation, I conclude by observing that the four drum solos by Williams' predecessors were performed with perceptively regular rhythm in a way that is able to be notated with relative transcriptional ease and that they adhere to the specific form of the piece within which they appear, thus indicating an underlying conformity to an aesthetic quality tacitly centred on the dictates of the European, harmony-centric model provided by Western Art Music. In the matter of accompaniment in these four pieces, in constructing each of their new unwritten concertos, each melodic "front line" soloist demanded a certain submissiveness and subordination from the members of the rhythm section, particularly the drummer who has no direct means whereby to contribute to nor to influence the harmonic motion of the piece—and therefore, affectively, no valid voice of expression in that model—hence the drummer's accompaniment is performed within the enslaving conventions of the relative heteronomy established in the bebop style.

Basic human rights ensure that, like anyone, the West Africans who were taken as slaves to the United States should have been entitled to preserve the integrity and dignity of their own unique culture, one that had evolved for millennia prior to enslavement. As Gioia informed us earlier, the cultural imperative that the musicians of West African traditions uphold is in the fact that “they are the historians of their society and must maintain the integrity of their precious musical heritage” (1997, 200), and yet, as Williams emphasises, the Africans’ drums were taken away and they were forbidden to engage in their own cultural heritage whilst the living energy in their black-skinned bodies was exploited in iniquitously and overwhelmingly exhausting manual labour at the service of those Americans with white skin. Interestingly enough, Africans who were taken to the Caribbean and to South America were permitted to keep their drums and consequently, Williams theorises, the music of those two areas developed around the drums, whilst North American music developed around the ordinance of Western Art Music (Ferriter 1990, 35-37) . With respect to those who were taken to North America and divested of their drums and cultural heritage, Williams strongly states his case—and seemingly even his mission—when he says,

...I really want people to know that I think drumming is really important. It’s a bit of defensiveness because I’m accused of playing loud, but that’s what the drums are. The volume and dynamics are part of the vocabulary of the drums. And that’s part of people’s fear, which goes back to the whole thing of slavery. When people were taken from Africa, their drums were also taken away, and the drum has been a very fearful instrument for a lot of people. (Mattingly 1984, 45)

More obscurely, he also declares:

Coleman Hawkins, Charlie Parker...even my father...I’m not going to let them just be in vain. I’m not going to let the black experience be in vain. (Cox 1970, 33)

In light of these statements, I conclude by saying that in freeing the sound of the drumset from the constraints of the Euro-centric regularity and harmonic formalism described in this thesis as relative heteronomy, and by increasing the expressive qualities of the drumset and forging ahead toward the realisation of a collective autonomy in jazz ensemble performance, Williams succeeded in giving a voice to those who suffered during enslavement; those who were culturally disenfranchised and involuntarily estranged from their family and cultural heritage; as well as those who continue to suffer from discrimination of all kinds—whose unique and original expressive human voice has been involuntarily snuffed by the ignorance of tyrants and by the tyranny of ignorance.

Furthermore, whilst my initial intent for the inclusion of transcriptions was primarily to serve in the interest of pure musical analysis, my argument has grown in a way that I feel it is of present and significant importance to document the virtuosic genius of interactive human bodily movements over time such as those that created the aural phenomena heard in the playback of the recorded music studied here, and to preserve such documentation in the broadest possible variety of different media and to disseminate the information derived from the analysis thereof as widely as possible in order that no such alienation can take place again between a person and the heritage they are entitled to identify with as one of the basic and fundamental human rights naturally inherited at birth.

I recommend that the findings from this work could be used to develop existing jazz drumset performance studies disciplines and to establish new ones, whether pedagogical, andragogical or heutagogical. Such disciplines would ensure that the style areas outlined in Chapter Three and Appendix Four as treated by a variety of drummers would be studied in detail utilising similar methodologies and concepts as those presented in my Introduction and in Chapter One. They would acknowledge the importance of the historical context of drumset performance, and seek to develop a drumset ideology that synthesises the qualities of feel, technique and creativity as described herein. These disciplines would endeavour to extend the rhythmic material in these styles similarly to the ways in which I showed Williams as extending such rhythmic practices herein, particularly in the domain of polymetric superimposition in order to serve as an archetype for the cultivation of originality in jazz drumset performance studies. The systems in Appendix One and the rhythms in Appendices Two and Three could be adequately used for such purposes.

Future study could also go in a number of other directions. Firstly, to further detail Williams' notion of feel, technique and creativity by conducting detailed analysis of the other styles listed Appendix Four as played by Williams and comparing these findings with that of Blakey, Roach, Jones and Haynes. Williams's drumming could also be studied in relation to any of the other drummers listed in the Introduction using similar methods as I have used here. Any number of other pieces listed in Appendix Four (including those in the up-tempo swing style, with or without a drum solo) could be used in comparison to any number of other recordings from any of the drummers listed

here. Secondly, the present work could be extended by referring to any of Williams' recordings made after February 1969 in order to trace his ongoing adaptive modeling of musical ideas from the 1950s. I have presented a discography of Williams' works from throughout his entire career in Appendix Eleven to aid with achieving this purpose. Thirdly, as I have not traced Williams' significant influence beyond 1969 or at any earlier time, I present a list of drummers who participated and some of whom continue to participate with many of the musicians discussed throughout this thesis, who are known as influential in their own right and who are also known to have studied Williams' drumming in depth. In alphabetical order, these drummers are:

Terry Bozzio, Will Calhoun, Dennis Chambers, Ndugu Chancler, Mike Clarke, Billy Cobham, Vinnie Colaiuta, Jack DeJohnette, Peter Erskine, Al Foster, Steve Gadd, Eric Gravatt, Omar Hakim, Billy Hart, Alphonse Mouzon, Narada Michael Walden and Lenny White.

Finally, further research in the field of jazz drumset performance studies and jazz studies in general could involve a closer look at how communities of jazz musicians operate as complex adaptive systems and to discover more about how an understanding of complex adaptive systems can further be used as a model for cultivating originality in jazz studies. I especially recommend further research of the autotelic personality and heuristics in relation to jazz musicians as well as recommending further research oriented toward developing an understanding of the ways in which the qualities of social and musical entrainment are essential in the



ongoing development of heightened collective autonomy and originality in the improvisation of jazz music.

## Appendix

### Appendix One: Systems for the Grouping and Ordering of Limbs on the Drumset

#### One-Part Systems

##### 1.1 One-Point Cycle – One Limb



##### 1.2 One-Point Cycle – Two Limbs



##### 1.3 One-Point Cycle – Three Limbs



##### 1.4 One-Point Cycle – Four Limbs



## 1.5 Two-Point Cycle – Two Limbs

12 numbered musical exercises for two limbs. Each exercise is shown on a five-line staff with a treble clef and a double bar line. The exercises are arranged in a 3x4 grid. The notes are as follows:

1: A, B	2: A, C	3: A, D	4: B, D
5: B, D	6: C, D	7: B, A	8: C, A
9: D, A	10: C, A	11: D, B	12: D, C

## 1.6 Two-Point Cycle – Three Limbs

24 numbered musical exercises for three limbs. Each exercise is shown on a five-line staff with a treble clef and a double bar line. The exercises are arranged in a 6x4 grid. The notes are as follows:

1: A, H	2: B, F	3: C, E	4: E, C
5: F, B	6: H, A	7: A, I	8: B, G
9: D, E	10: E, D	11: G, B	12: I, A
13: A, J	14: C, G	15: D, F	16: F, D
17: G, C	18: J, A	19: B, J	20: C, I
21: D, H	22: H, D	23: I, C	24: J, B

## 1.7 Two-Point Cycle – Four Limbs

14 numbered musical examples of two-point cycles on a four-limb staff. Each example consists of a four-line staff with a double bar line on the left. The notes are placed on the lines and spaces, with letters A through T indicating the pitch. The cycles are as follows:

- 1: A (line 1), N (space 1)
- 2: E (line 2), T (space 2)
- 3: F (line 3), I (space 3)
- 4: G (line 4), H (space 4)
- 5: K (line 1), D (space 1)
- 6: L (line 2), C (space 2)
- 7: M (line 3), B (space 3)
- 8: S (line 4), M (space 4)
- 9: C (line 1), L (space 1)
- 10: D (line 2), K (space 2)
- 11: H (line 3), G (space 3)
- 12: I (line 4), F (space 4)
- 13: T (line 1), E (space 1)
- 14: N (line 2), A (space 2)

## 1.8 Three-Point Cycle – Three Limbs

24 numbered musical examples of three-point cycles on a three-limb staff. Each example consists of a three-line staff with a double bar line on the left. The notes are placed on the lines and spaces, with letters A through D indicating the pitch. The cycles are as follows:

- 1: A (line 1), B (space 1), C (line 2)
- 2: A (line 1), C (space 1), B (line 2)
- 3: B (line 1), A (space 1), C (line 2)
- 4: B (line 1), C (space 1), A (line 2)
- 5: C (line 1), A (space 1), B (line 2)
- 6: C (line 1), B (space 1), A (line 2)
- 7: A (line 1), B (space 1), D (line 2)
- 8: A (line 1), D (space 1), B (line 2)
- 9: B (line 1), A (space 1), D (line 2)
- 10: B (line 1), D (space 1), A (line 2)
- 11: D (line 1), A (space 1), B (line 2)
- 12: D (line 1), B (space 1), A (line 2)
- 13: A (line 1), C (space 1), D (line 2)
- 14: A (line 1), D (space 1), C (line 2)
- 15: C (line 1), A (space 1), D (line 2)
- 16: C (line 1), D (space 1), A (line 2)
- 17: D (line 1), A (space 1), C (line 2)
- 18: D (line 1), C (space 1), A (line 2)
- 19: B (line 1), C (space 1), D (line 2)
- 20: B (line 1), D (space 1), C (line 2)
- 21: C (line 1), B (space 1), D (line 2)
- 22: C (line 1), D (space 1), B (line 2)
- 23: D (line 1), B (space 1), C (line 2)
- 24: D (line 1), C (space 1), B (line 2)

## 1.9 Three-Point Cycle – Four Limbs

The following table lists the notes and fingerings for each of the 36 diagrams in the exercise:

Diagram	Notes (RH, LH, RF, LF)	Fingerings
1	A, B, T	1, 2, 3
2	A, C, I	1, 2, 3
3	A, D, H	1, 2, 3
4	A, H, D	1, 2, 3
5	A, I, C	1, 2, 3
6	A, T, B	1, 2, 3
7	E, C, D	1, 2, 3
8	E, D, C	1, 2, 3
9	F, B, D	1, 2, 3
10	F, D, B	1, 2, 3
11	G, B, C	1, 2, 3
12	G, C, B	1, 2, 3
13	B, A, T	1, 2, 3
14	B, C, G	1, 2, 3
15	B, D, F	1, 2, 3
16	B, F, D	1, 2, 3
17	B, G, C	1, 2, 3
18	B, T, A	1, 2, 3
19	H, A, D	1, 2, 3
20	H, D, A	1, 2, 3
21	I, A, C	1, 2, 3
22	I, C, A	1, 2, 3
23	C, A, I	1, 2, 3
24	C, B, G	1, 2, 3
25	C, D, E	1, 2, 3
26	C, E, D	1, 2, 3
27	C, G, B	1, 2, 3
28	C, I, A	1, 2, 3
29	T, A, B	1, 2, 3
30	T, B, A	1, 2, 3
31	D, E, C	1, 2, 3
32	D, F, B	1, 2, 3
33	D, H, A	1, 2, 3
34	D, A, H	1, 2, 3
35	D, B, F	1, 2, 3
36	D, C, E	1, 2, 3

## 1.10 Four-Point Cycle – Four Limbs

<p>1</p>	<p>2</p>	<p>3</p>
<p>4</p>	<p>5</p>	<p>6</p>
<p>7</p>	<p>8</p>	<p>9</p>
<p>10</p>	<p>11</p>	<p>12</p>
<p>13</p>	<p>14</p>	<p>15</p>
<p>16</p>	<p>17</p>	<p>18</p>
<p>19</p>	<p>20</p>	<p>21</p>
<p>22</p>	<p>23</p>	<p>24</p>

## Two-Part Systems

### 2.1 One-Point Cycle – Two Limbs

Diagram illustrating the One-Point Cycle – Two Limbs system, showing 12 measures of music. Each measure is represented by a two-staff system (RH and LH). The notation shows a sequence of notes and rests across the two staves, with the right hand (RH) and left hand (LH) parts. The notes are placed on the lines and spaces of the staves, and the rests are indicated by vertical bars. The sequence of notes in the RH part is: G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6. The sequence of notes in the LH part is: G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5, D5. The notes in the LH part are consistently one octave below the notes in the RH part.

### 2.2 One-Point Cycle – Three Limbs

Diagram illustrating the One-Point Cycle – Three Limbs system, showing 24 measures of music. Each measure is represented by a three-staff system (RH, LH, and LF). The notation shows a sequence of notes and rests across the three staves, with the right hand (RH), left hand (LH), and left foot (LF) parts. The notes are placed on the lines and spaces of the staves, and the rests are indicated by vertical bars. The sequence of notes in the RH part is: G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6. The sequence of notes in the LH part is: G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5, D5. The sequence of notes in the LF part is: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4. The notes in the LH and LF parts are consistently one octave below the notes in the RH part.

### 2.3 One-Point Cycle – Four Limbs

The image displays 14 numbered musical diagrams, each representing a point in a cycle. Each diagram consists of two systems of four staves, labeled RH, LH, RF, and LF on the left. The notation is as follows:

- 1:** RH: two vertical lines; LH: two vertical lines; RF: two vertical lines; LF: two vertical lines and a quarter note on the second line.
- 2:** RH: two vertical lines; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines; LF: two vertical lines and a quarter note on the second line.
- 3:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 4:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines; LF: two vertical lines and a quarter note on the second line.
- 5:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 6:** RH: two vertical lines; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 7:** RH: two vertical lines; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 8:** RH: two vertical lines; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines; LF: two vertical lines and a quarter note on the second line.
- 9:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 10:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 11:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 12:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 13:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.
- 14:** RH: two vertical lines and a quarter note on the second line; LH: two vertical lines and a quarter note on the second line; RF: two vertical lines and a quarter note on the second line; LF: two vertical lines and a quarter note on the second line.



## 2.4 Two-Point Cycle – Three Limbs

The image displays 24 numbered musical diagrams, arranged in a 6x4 grid. Each diagram represents a step in a 'Two-Point Cycle – Three Limbs' exercise. The diagrams are organized as follows:

- Row 1:** Diagrams 1, 2, 3, 4
- Row 2:** Diagrams 5, 6, 7, 8
- Row 3:** Diagrams 9, 10, 11, 12
- Row 4:** Diagrams 13, 14, 15, 16
- Row 5:** Diagrams 17, 18, 19, 20
- Row 6:** Diagrams 21, 22, 23, 24

Each diagram consists of two staves. The top staff is labeled with 'RH', 'LH', and 'LF' on the left side. The bottom staff is also labeled with 'RH', 'LH', and 'LF' on the left side. The diagrams show various fingerings and positions for the right hand, left hand, and left foot, illustrating the progression of the cycle.



## 2.5 Two-Point Cycle – Four Limbs

The image displays a sequence of 32 numbered musical staves, arranged in an 8x4 grid. Each staff is labeled with a number from 1 to 32. To the left of each staff, the limb abbreviations are listed: RH, LH, RF, LF. The notation consists of notes on a five-line staff, with some notes beamed together. The sequence of notes across the staves represents a cycle of two points for each limb.

Staff	Notes (RH, LH, RF, LF)
1	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
2	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
3	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
4	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
5	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
6	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
7	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
8	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
9	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
10	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
11	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
12	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
13	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
14	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
15	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
16	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
17	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
18	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
19	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
20	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
21	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
22	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
23	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
24	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
25	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
26	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
27	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
28	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
29	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
30	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
31	(C4, G4), (C4, G4), (C4, G4), (C4, G4)
32	(C4, G4), (C4, G4), (C4, G4), (C4, G4)



## 2.6 Three-Point Cycle – Four Limbs

The diagram illustrates a sequence of 28 musical diagrams, numbered 1 through 28, arranged in a 7x4 grid. Each diagram shows two staves (RH and LH) with notes and rests. The sequence progresses from 1 to 28, showing a cycle of notes across four limbs.

Diagram 1: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 2: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 3: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 4: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 5: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 6: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 7: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 8: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 9: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 10: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 11: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 12: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 13: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 14: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 15: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 16: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 17: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 18: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 19: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 20: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 21: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 22: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 23: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 24: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 25: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 26: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 27: RH (rest), LH (rest), RF (rest), LF (rest).  
Diagram 28: RH (rest), LH (rest), RF (rest), LF (rest).



## Three-Part Systems

### 3.1 One-Point Cycle – Three Limbs

The image displays 24 numbered musical systems, arranged in a 4x6 grid. Each system consists of three staves labeled RH, LH, and LF. The notation shows a sequence of notes across the staves, with some notes appearing as double stems. The systems are numbered 1 through 24.

System	Staff 1 (RH)	Staff 2 (LH)	Staff 3 (LF)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

### 3.2 One-Point Cycle – Four Limbs

The image displays 30 numbered musical staves, arranged in five rows of six. Each staff represents a step in a cycle for four limbs. The notation is organized into three systems per staff, each consisting of a vertical line and two horizontal lines. The notation uses dots and beams to indicate the position of each limb. The cycle progresses from staff 1 to staff 30, showing a sequence of changes in the dot positions across the three systems.



31 32 33 34 35 36

The image shows six musical staves, numbered 31 through 36. Each staff is divided into three systems of notes. The notes are represented by vertical lines with stems and dots, indicating pitch and rhythm. The notation is consistent across all staves, suggesting a sequence of related musical phrases or exercises. Each system typically contains one or two notes, with some systems having a pair of notes. The overall structure is a 6x3 grid of musical notation.

### 3.3 Two-Point Cycle – Four Limbs

The image displays 25 musical diagrams, numbered 1 through 25, arranged in a 5x5 grid. Each diagram represents a step in a two-point cycle for four limbs. The diagrams are organized into five rows and five columns. Each diagram consists of three staves, labeled on the left as RH (Right Hand), LH (Left Hand), and LF (Left Foot). The notes and bar lines are as follows:

- Row 1:**
  - 1: RH (bar 1), LH (bar 1), LF (bar 1)
  - 2: RH (bar 1), LH (bar 1), LF (bar 1)
  - 3: RH (bar 1), LH (bar 1), LF (bar 1)
  - 4: RH (bar 1), LH (bar 1), LF (bar 1)
  - 5: RH (bar 1), LH (bar 1), LF (bar 1)
- Row 2:**
  - 6: RH (bar 1), LH (bar 1), LF (bar 1)
  - 7: RH (bar 1), LH (bar 1), LF (bar 1)
  - 8: RH (bar 1), LH (bar 1), LF (bar 1)
  - 9: RH (bar 1), LH (bar 1), LF (bar 1)
  - 10: RH (bar 1), LH (bar 1), LF (bar 1)
- Row 3:**
  - 11: RH (bar 1), LH (bar 1), LF (bar 1)
  - 12: RH (bar 1), LH (bar 1), LF (bar 1)
  - 13: RH (bar 1), LH (bar 1), LF (bar 1)
  - 14: RH (bar 1), LH (bar 1), LF (bar 1)
  - 15: RH (bar 1), LH (bar 1), LF (bar 1)
- Row 4:**
  - 16: RH (bar 1), LH (bar 1), LF (bar 1)
  - 17: RH (bar 1), LH (bar 1), LF (bar 1)
  - 18: RH (bar 1), LH (bar 1), LF (bar 1)
  - 19: RH (bar 1), LH (bar 1), LF (bar 1)
  - 20: RH (bar 1), LH (bar 1), LF (bar 1)
- Row 5:**
  - 21: RH (bar 1), LH (bar 1), LF (bar 1)
  - 22: RH (bar 1), LH (bar 1), LF (bar 1)
  - 23: RH (bar 1), LH (bar 1), LF (bar 1)
  - 24: RH (bar 1), LH (bar 1), LF (bar 1)
  - 25: RH (bar 1), LH (bar 1), LF (bar 1)

26 27 28 29 30

31 32 33 34 35

36 37 38 39 40

41 42 43 44 45

46 47 48 49 50

51 52 53 54 55

51: RH (G4), LH (F4), LF (E4)  
 52: RH (G4), LH (F4), LF (E4)  
 53: RH (G4), LH (F4), LF (E4)  
 54: RH (G4), LH (F4), LF (E4)  
 55: RH (G4), LH (F4), LF (E4)

56 57 58 59 60

56: RH (G4), LH (F4), LF (E4)  
 57: RH (G4), LH (F4), LF (E4)  
 58: RH (G4), LH (F4), LF (E4)  
 59: RH (G4), LH (F4), LF (E4)  
 60: RH (G4), LH (F4), LF (E4)

61 62 63 64 65

61: RH (G4), LH (F4), LF (E4)  
 62: RH (G4), LH (F4), LF (E4)  
 63: RH (G4), LH (F4), LF (E4)  
 64: RH (G4), LH (F4), LF (E4)  
 65: RH (G4), LH (F4), LF (E4)

66 67 68 69 70

66: RH (G4), LH (F4), LF (E4)  
 67: RH (G4), LH (F4), LF (E4)  
 68: RH (G4), LH (F4), LF (E4)  
 69: RH (G4), LH (F4), LF (E4)  
 70: RH (G4), LH (F4), LF (E4)

71 72

71: RH (G4), LH (F4), LF (E4)  
 72: RH (G4), LH (F4), LF (E4)

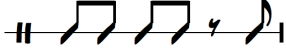
## Four-Part Systems

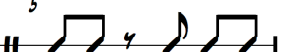
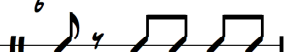
### 4.1 One-Point Cycle – Four Limbs

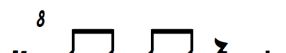
The diagram illustrates a one-point cycle with four limbs, consisting of 24 numbered staves (1-24). Each staff contains four parts: RH (Right Hand), LH (Left Hand), RF (Right Foot), and LF (Left Foot). The notes are arranged in a cycle across the staves, with each part moving in a specific direction (up or down) to reach the next note in the cycle.


Staff	RH	LH	RF	LF
1	4	3	2	1
2	5	4	3	2
3	6	5	4	3
4	7	6	5	4
5	8	7	6	5
6	9	8	7	6
7	10	9	8	7
8	11	10	9	8
9	12	11	10	9
10	13	12	11	10
11	14	13	12	11
12	15	14	13	12
13	16	15	14	13
14	17	16	15	14
15	18	17	16	15
16	19	18	17	16
17	20	19	18	17
18	21	20	19	18
19	22	21	20	19
20	23	22	21	20
21	24	23	22	21
22	1	24	23	22
23	2	1	24	23
24	3	2	1	24


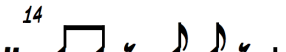
## Appendix Two: Eighth-Note Rhythms in $\frac{3}{4}$

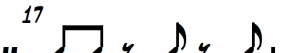
1  2  3 

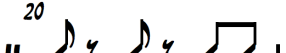
4  5  6 

7  8  9 

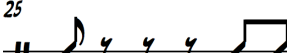
10  11  12 

13  14  15 

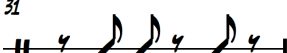
16  17  18 

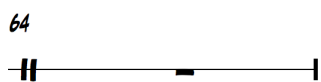
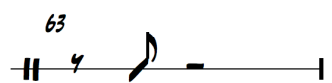
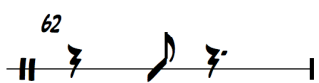
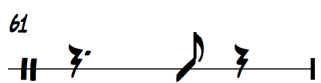
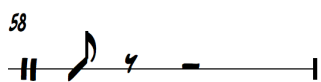
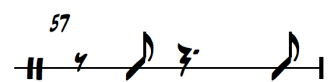
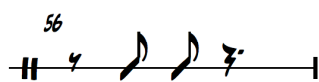
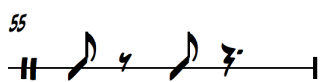
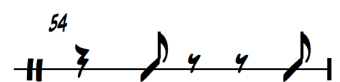
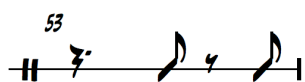
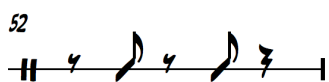
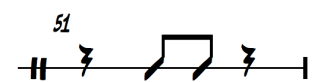
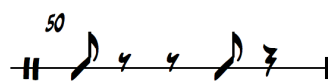
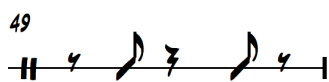
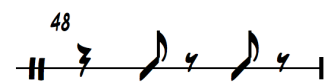
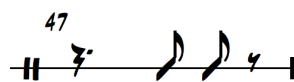
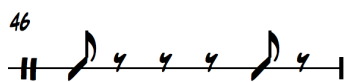
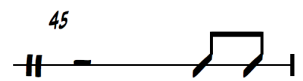
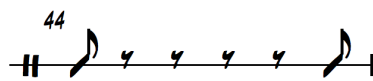
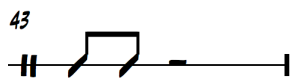
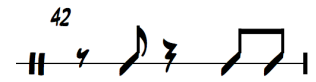
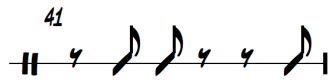
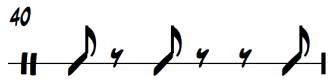
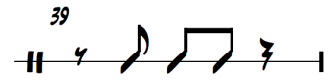
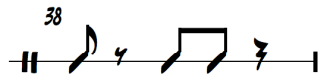
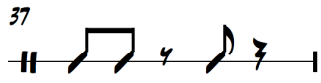
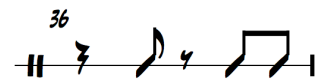
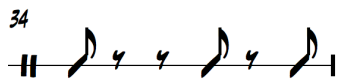
19  20  21 

22  23  24 


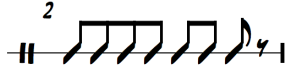
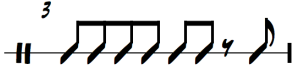
25  26  27 

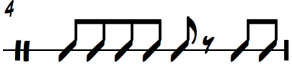
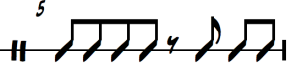
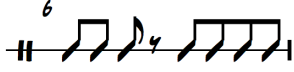
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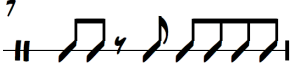

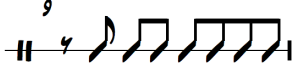
31  32  33 

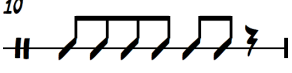
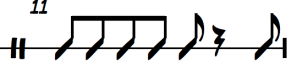



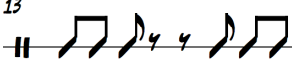
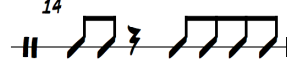
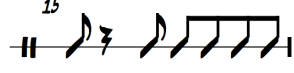
### Appendix Three: Eighth-Note Rhythms in $\frac{4}{4}$

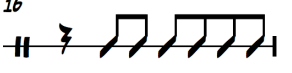
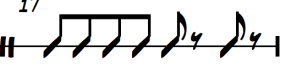
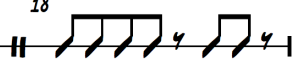
1  2  3 

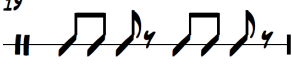
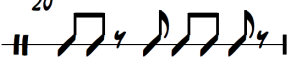
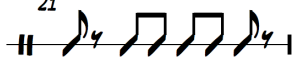
4  5  6 

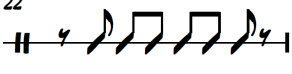
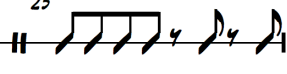
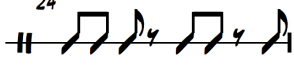
7  8  9 

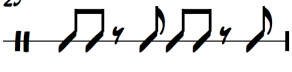
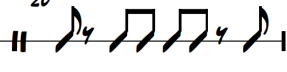
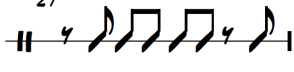
10  11  12 

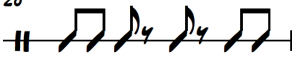
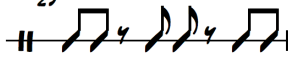
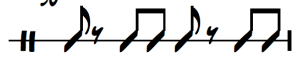
13  14  15 

16  17  18 

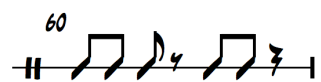
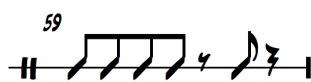
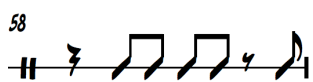
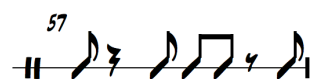
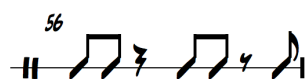
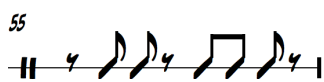
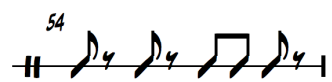
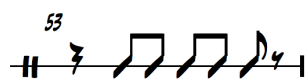
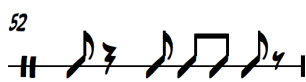
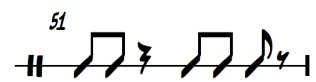
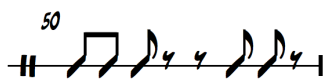
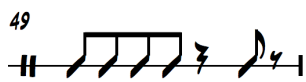
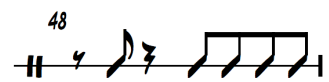
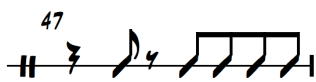
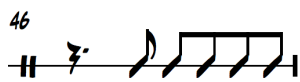
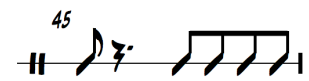
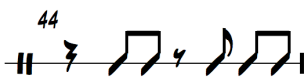
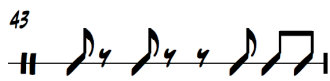
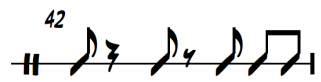
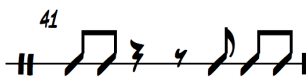
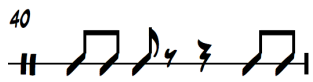
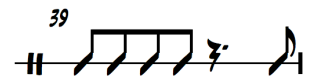
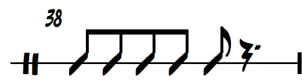
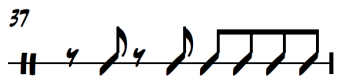
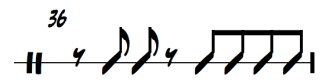
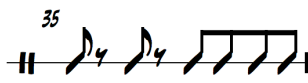
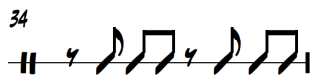
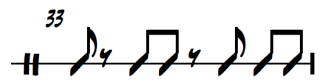
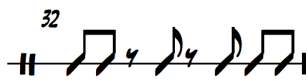
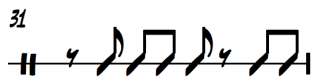
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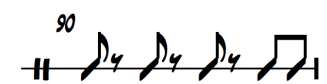
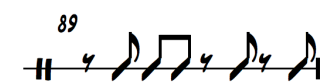
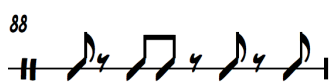
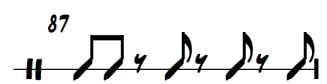
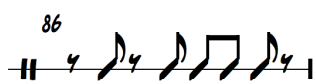
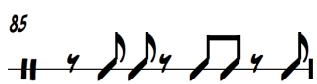
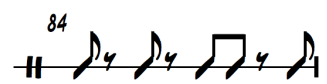
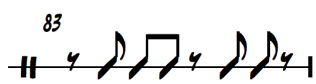
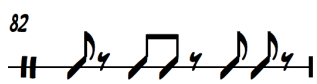
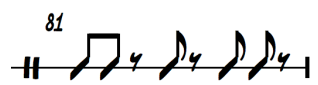
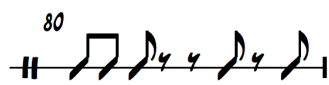
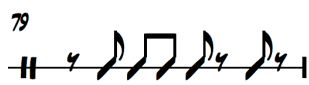
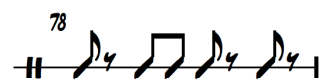
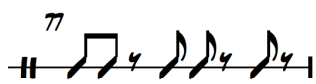
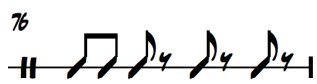
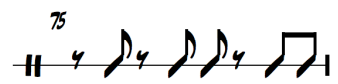
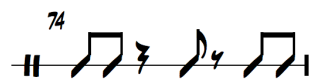
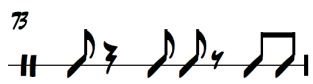
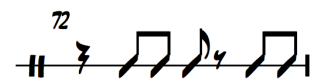
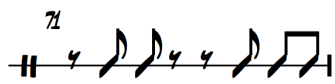
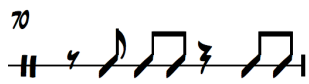
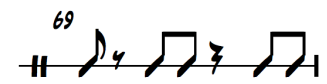
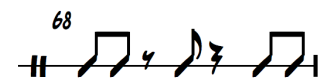
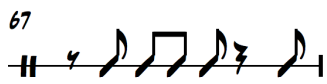
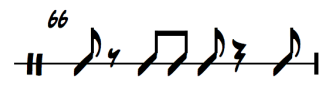
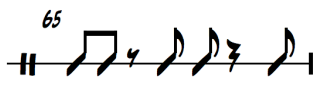
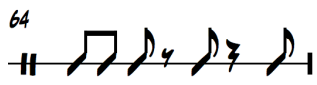
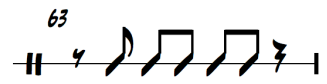
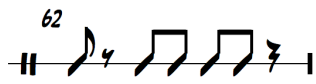
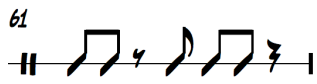
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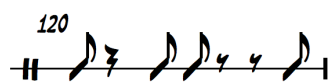
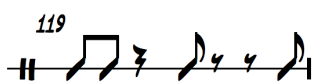
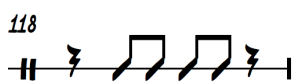
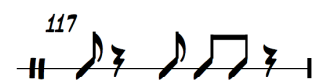
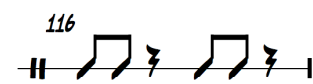
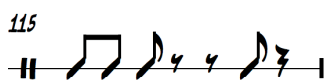
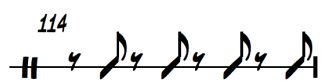
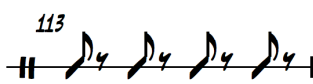
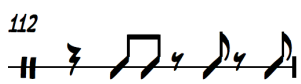
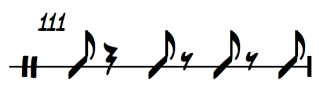
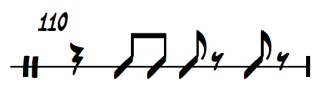
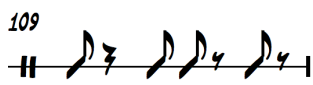
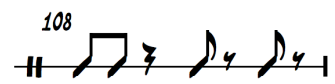
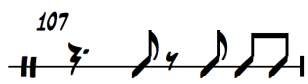
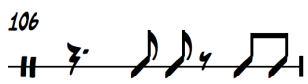
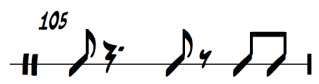
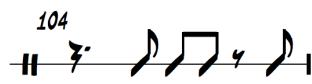
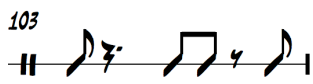
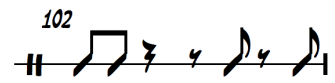
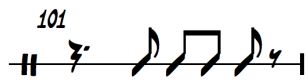
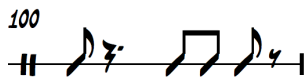
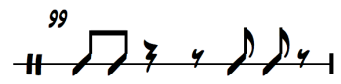
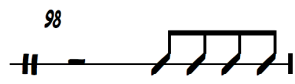
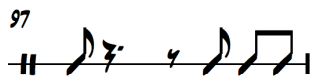
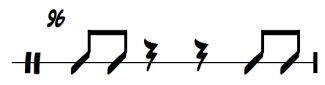
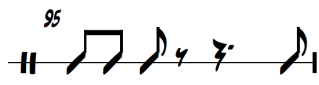
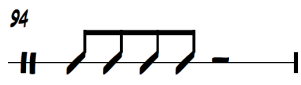
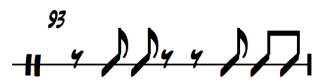
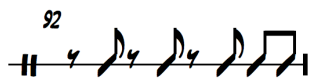
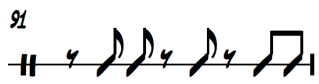
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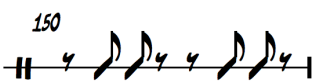
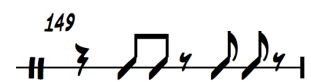
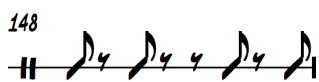
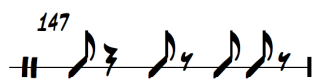
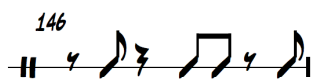
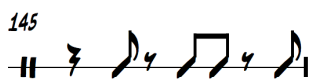
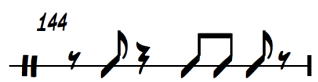
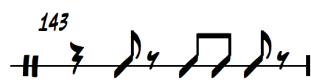
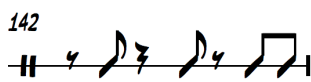
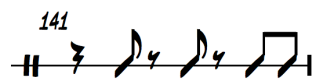
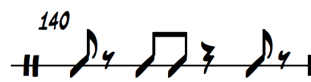
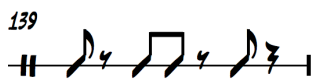
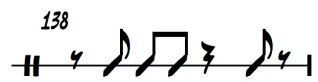
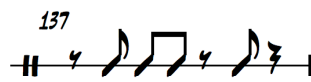
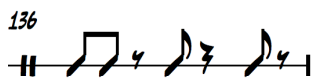
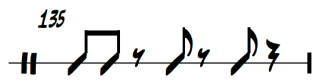
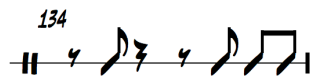
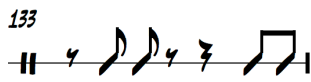
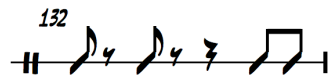
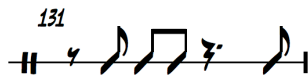
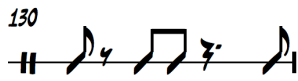
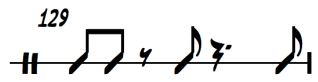
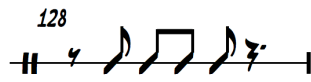
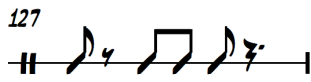
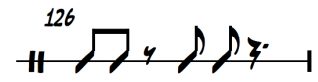
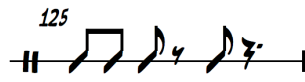
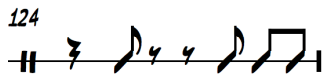
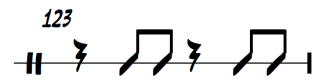
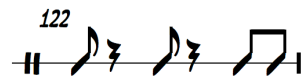
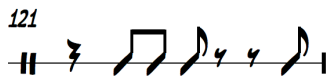
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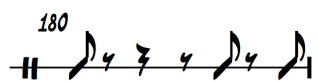
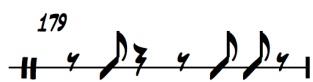
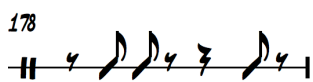
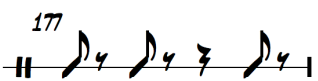
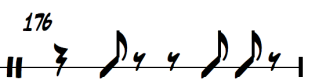
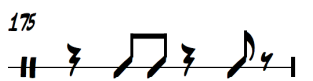
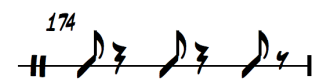
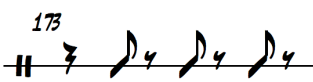
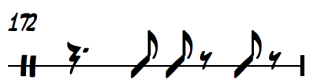
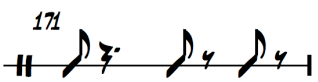
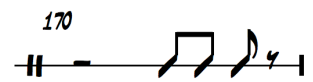
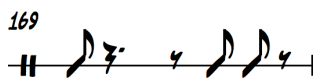
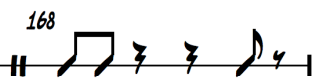
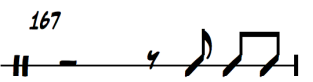
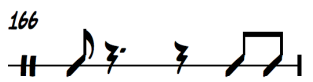
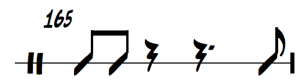
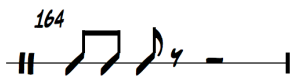
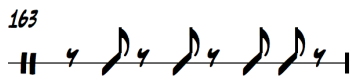
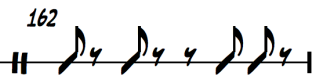
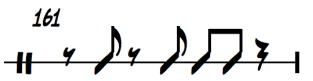
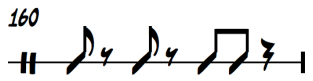
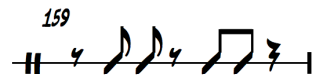
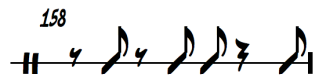
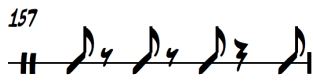
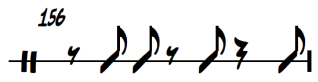
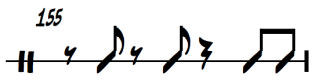
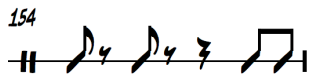
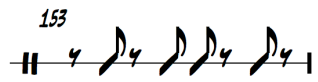
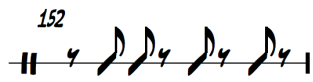
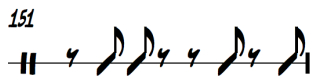


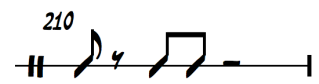
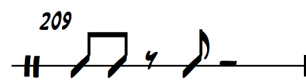
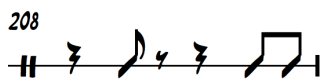
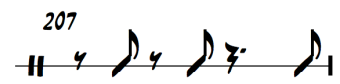
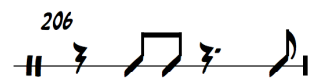
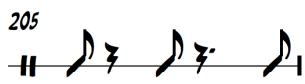
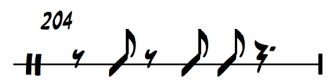
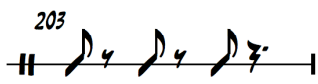
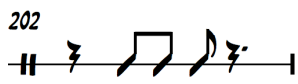
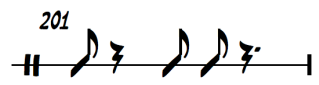
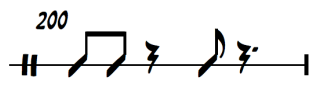
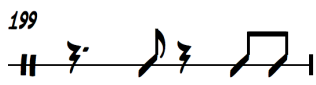
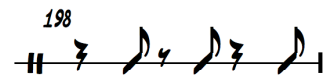
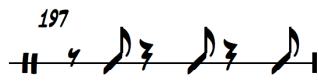
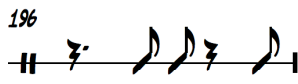
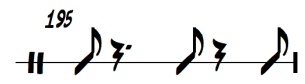
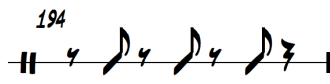
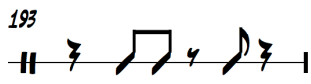
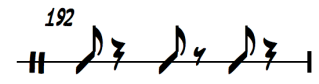
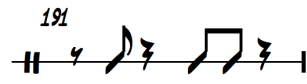
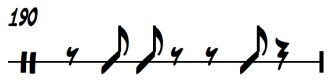
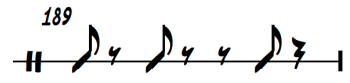
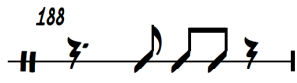
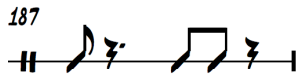
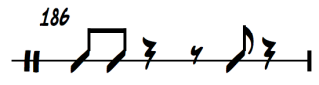
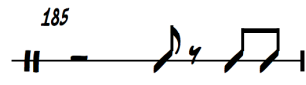
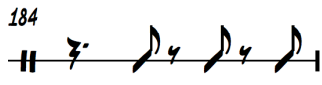
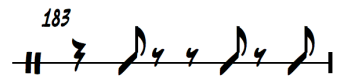
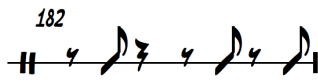
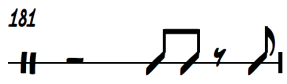


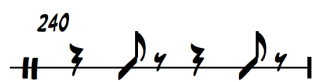
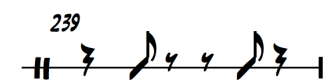
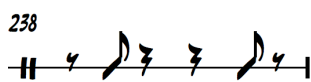
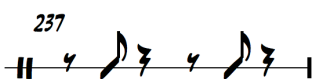
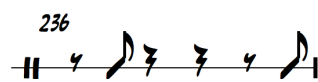
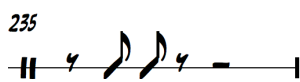
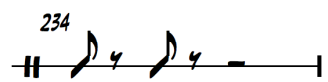
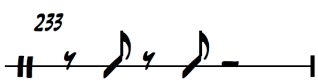
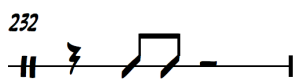
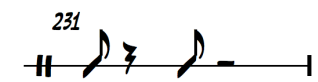
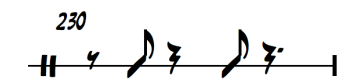
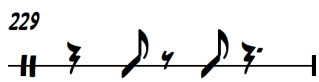
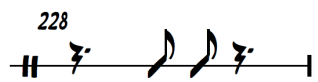
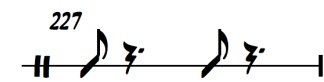
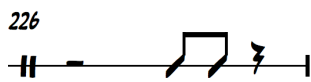
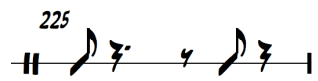
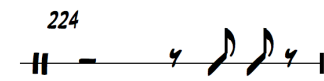
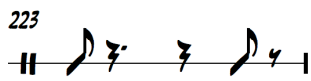
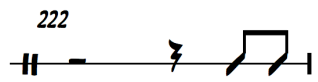
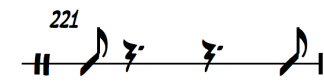
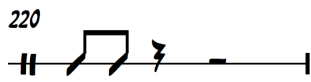
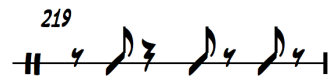
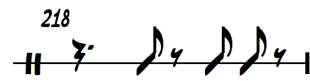
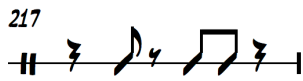
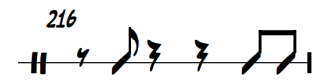
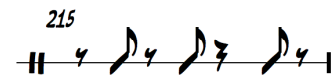
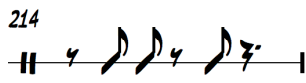
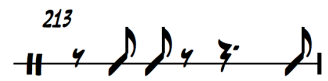
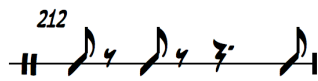
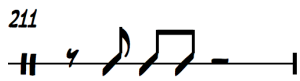


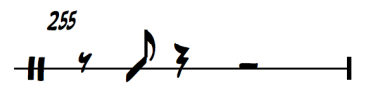
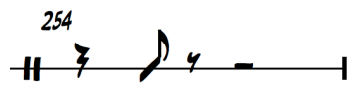
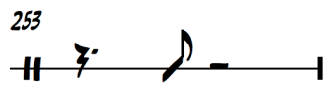
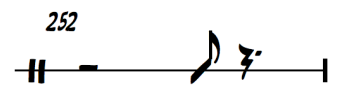
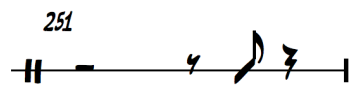
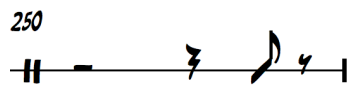
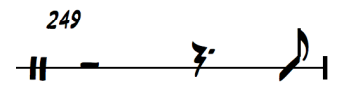
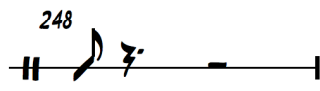
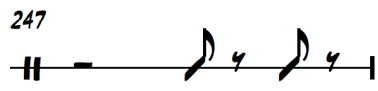
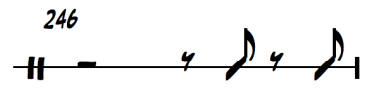
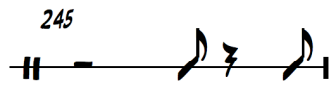
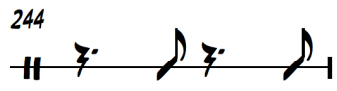
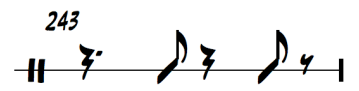
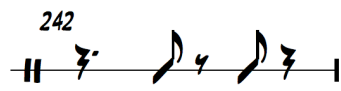
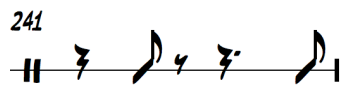














## Appendix Four: Stylistic Overview of Tony Williams' Drumming to 1969

**Table 4:** Slow Tempo Swing Feel

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Yams	Hancock	Vertigo	Jackie McLean	11 Feb 63	McLean Connection	84	4/4
Vonetta	Shorter	Sorcerer	Miles Davis	16 May 67	Acoustic Davis	81	4/4
Fall	Shorter	Nefertiti	Miles Davis	19 Jul 67	Acoustic Davis	84	4/4

**Table 5:** Medium Tempo Swing Feel

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Cheers	McLean	Vertigo	Jackie McLean	11 Feb 63	McLean Connection	165	4/4
A Tribute To Someone	Hancock	My Point of View	Herbie Hancock	19 Mar 63	McLean Connection	124	4/4
If Ever I Would Leave You	Loewe and Lerner	Una Mas	Kenny Dorham	1 Apr 63	McLean Connection	120	4/4
Autumn Leaves	Mercer, Prévert and Kosma	Miles In Antibes	Miles Davis	Jul 63	Acoustic Davis	186	4/4
All Of You	Porter	Miles In Antibes	Miles Davis	Jul 63	Acoustic Davis	131	4/4
Autumn Leaves	Mercer, Prévert and Kosma	Live At The 1963 Monterey Jazz Festival	Miles Davis	20 Sep 63	Acoustic Davis	180	4/4
Monk In Wonderland	Moncur III	Evolution	Grachan Moncur III	21 Nov 63	Acoustic Davis	140	4/4 and 3/4
All Of You	Porter	The Complete Concert: 1964 [Disc 1]	Miles Davis	12 Feb 64	Acoustic Davis	146	4/4
There Is No Greater Love	Symes and Jones	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	156	4/4
New Monastery	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	142-165	4/4
East Of The Sun (And West Of The Moon)	Bowman	Of Course, Of Course	Charles Lloyd	8 May 64	Acoustic Davis	189	4/4
All Of You	Porter	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	190-136	4/4

Autumn Leaves	Mercer, Prévert and Kosma	Miles In Berlin	Miles Davis	25 Sep 64	Acoustic Davis	142	4/4
The Big Push	Shorter	The Soothsayer	Wayne Shorter	4 Mar 65	Acoustic Davis	158	4/4
Third Floor Richard	Lloyd	Of Course, Of Course	Charles Lloyd	8 Mar 65	Acoustic Davis	162	4/4
Dolphin Dance	Hancock	Maiden Voyage	Herbie Hancock	17 Mar 65	Acoustic Davis	118	4/4
Cyclic Episode	Rivers	Fuchsia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	202	4/4
Beatrice	Rivers	Fuchsia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	128	4/4
Love Song	Williams	Spring	Tony Williams	12 Aug 65	Acoustic Davis	213	5/4 & 3/4
All Of You	Porter	The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	160	4/4
No Blues	Davis	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	160	4/4
All Of You	Porter	The Complete Live At The Plugged Nickel 1965 [Disc 5]	Miles Davis	23 Dec 65	Acoustic Davis	159	4/4
On Green Dolphin Street	Washington and Kaper	The Complete Live At The Plugged Nickel 1965 [Disc 5]	Miles Davis	23 Dec 65	Acoustic Davis	197	4/4
No Blues	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	180 - 324 - 146 - 92 - 208	4/4
Yesterdays	Kern and Harbach	Highlights From The Plugged Nickel	Miles Davis	23 Dec 65	Acoustic Davis	124	4/4
Nefertiti	Shorter	Nefertiti	Miles Davis	7 Jun 67	Acoustic Davis	108	4/4
Capricorn	Shorter	Water Babies	Miles Davis	13 Jun 67	Acoustic Davis	192	4/4

Pinocchio	Shorter	Nefertiti	Miles Davis	19 Jul 67	Acoustic Davis	205	4/4
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**Table 6:** Medium-Up Tempo Swing Feel

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
King Cobra	Hancock	My Point of View	Herbie Hancock	19 Mar 63	McLean Connection	230	4/4
Straight Ahead	Dorham	Una Mas	Kenny Dorham	1 Apr 63	McLean Connection	244	4/4
Blue Rondo	McLean	One Step Beyond	Jackie McLean	30 Apr 63	McLean Connection	256	4/4
Joshua	Feldman	Seven Steps To Heaven	Miles Davis	14 May 63	Acoustic Davis	226	4/4 and 6/4
The Coaster	Moncur III	Evolution	Grachan Moncur III	21 Nov 63	Acoustic Davis	256	4/4
The Best Thing For You	Berlin	Of Course, Of Course	Charles Lloyd	8 May 64	Acoustic Davis	244	4/4
Goin' To Memphis	Lloyd	Of Course, Of Course	Charles Lloyd	8 May 64	Acoustic Davis	225	4/4
E S P	Shorter and Davis	E S P	Miles Davis	20 Jan 65	Acoustic Davis	268	4/4
R J	Carter	E S P	Miles Davis	20 Jan 65	Acoustic Davis	266	4/4
Agitation	Davis	E S P	Miles Davis	22 Jan 65	Acoustic Davis	268	4/4
Angola	Shorter	The Soothsayer	Wayne Shorter	4 Mar 65	Acoustic Davis	244	4/4
The Soothsayer	Shorter	The Soothsayer	Wayne Shorter	4 Mar 65	Acoustic Davis	264	4/4
Of Course, Of Course	Lloyd	Of Course, Of Course	Charles Lloyd	8 Mar 65	Acoustic Davis	234	4/4
One For Joan	Lloyd	Of Course, Of Course	Charles Lloyd	8 Mar 65	Acoustic Davis	260	4/4
The Eye Of The Hurricane	Hancock	Maiden Voyage	Herbie Hancock	17 Mar 65	Acoustic Davis	254	4/4
Downstairs Blues Upstairs	Rivers	Fuchsia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	217	4/4
Ellipsis	Rivers	Fuchsia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	229	4/4
The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	230	4/4

Autumn Leaves	Prevert, Kasma and Mercer	The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	228	4/4
Orbits	Shorter	Miles Smiles	Miles Davis	24 Oct 66	Acoustic Davis	264	4/4
The Sorcerer	Hancock	Sorcerer	Miles Davis	17 May 67	Acoustic Davis	260	4/4
Hand Jive	Williams	Nefertiti	Miles Davis	22 Jun 67	Acoustic Davis	229	4/4
Madness	Hancock	Nefertiti	Miles Davis	22 Jun 67	Acoustic Davis	266	Multi
Paraphernalia	Shorter	Miles In The Sky	Miles Davis	16 Jan 68	Electric Davis	244	4/4 and 3/4

**Table 7:** Up Tempo Swing Feel

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Marney	Byrd	Vertigo	Jackie McLean	11 Feb 63	McLean Connection	272	4/4
Vertigo	McLean	Vertigo	Jackie McLean	11 Feb 63	McLean Connection	290	4/4
Saturday And Sunday	McLean	One Step Beyond	Jackie McLean	30 Apr63	McLean Connection	282	4/4
Seven Steps To Heaven	Feldman and Davis	Seven Steps To Heaven	Miles Davis	14 May 63	Acoustic Davis	284	4/4
Joshua	Feldman	Miles In Antibes	Miles Davis	Jul 63	Acoustic Davis	310	4/4 and 6/4
Walkin'	Carpenter	Miles In Antibes	Miles Davis	Jul 63	Acoustic Davis	324	4/4
Milestones	Davis	Miles In Antibes	Miles Davis	Jul 63	Acoustic Davis	344	4/4
Walkin'	Carpenter	Live At The 1963 Monterey Jazz Festival	Miles Davis	20 Sep 63	Acoustic Davis	296	4/4
So What	Davis	Live At The 1963 Monterey Jazz Festival	Miles Davis	20 Sep 63	Acoustic Davis	280	4/4
Four	Davis	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	275-340	4/4
Joshua	Feldman and Davis	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	288-344	4/4 and 3/4
Seven Steps to Heaven	Feldman and Davis	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	320-330	4/4

Walkin'	Carpenter	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	338	4/4
So What	Davis	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	288	4/4
Refuge	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	300	3/4
Flight 19	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	270	4/4
One Finger Snap	Hancock	Empyrean Isles	Herbie Hancock	17 Jun 64	Acoustic Davis	272	4/4
If I Were A Bell	Losser	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	288-192	4/4
Walkin'	Carpenter	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	308	4/4
So What	Davis	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	330	4/4
Tomorrow Afternoon	Williams	Life Time	Tony Williams	21 Aug 64	Acoustic Davis	282	4
Milestones	Davis	Miles In Berlin	Miles Davis	25 Sep 64	Acoustic Davis	320	4/4
Walkin'	Carpenter	Miles In Berlin	Miles Davis	25 Sep 64	Acoustic Davis	324	4/4
So What	Davis	Miles In Berlin	Miles Davis	25 Sep 64	Acoustic Davis	272	4/4
Apex	Lloyd	Of Course, Of Course	Charles Lloyd	8-Mar-65	Acoustic Davis	296	4/4
Fuschia Swing Song	Rivers	Fuschia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	300	4/4
Luminous Monolith	Rivers	Fuschia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	285	4/4
Walkin'	Carpenter	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	296	4/4
Milestones	Davis	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 2b]	Miles Davis	22 Dec 65	Acoustic Davis	340	4/4

If I Were A Bell	Losser	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	284	4/4
The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	289 – 242 – 210	4/4
Four	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 2a]	Miles Davis	22 Dec 65	Acoustic Davis	300	4/4
Agitation	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 2b]	Miles Davis	22 Dec 65	Acoustic Davis	294	4/4
Oleo	Rollins	The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	344	4/4
If I Were A Bell	Losser	The Complete Live At The Plugged Nickel 1965 [Disc 4]	Miles Davis	23 Dec 65	Acoustic Davis	288	4/4
Walkin'	Carpenter	Highlights From The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 4]	Miles Davis	23 Dec 65	Acoustic Davis	334	4/4
The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 4]	Miles Davis	23 Dec 65	Acoustic Davis	300	4/4
Agitation	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 5]	Miles Davis	23 Dec 65	Acoustic Davis	324	4/4
So What	Davis	Highlights From The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 5]	Miles Davis	23 Dec 65	Acoustic Davis	340	4/4
The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 5]	Miles Davis	23 Dec 65	Acoustic Davis	304	4/4
Milestones	Davis	Highlights From The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	324	4/4
The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 7]	Miles Davis	23 Dec 65	Acoustic Davis	270	4/4
Dolores	Shorter	Miles Smiles	Miles Davis	24 Oct 66	Acoustic Davis	274	4/4
Ginger Bread Boy	Heath	Miles Smiles	Miles Davis	25 Oct 66	Acoustic Davis	274	4/4
Teo's Bag	Davis (Hancock)	Circle In The Round	Miles Davis	16 Jan 68	Electric Davis	274	4/4

**Table 8:** Ballads

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
The Pleasure Is Mine	Hancock	My Point of View	Herbie Hancock	19 Mar 63	McLean Connection	43	4/4
Stella Starlight	Washington and Young	Live At The 1963 Monterey Jazz Festival	Miles Davis	20 Sep 63	Acoustic Davis	65	4/4
My Funny Valentine	Rogers and Hart	The Complete Concert: 1964 [Disc 1]	Miles Davis	12 Feb 64	Acoustic Davis	116	4/4
Stella Starlight	Washington and Young	The Complete Concert: 1964 [Disc 1]	Miles Davis	12 Feb 64	Acoustic Davis	119	4/4
I Thought About You	Mercer and Van Heusen	The Complete Concert: 1964 [Disc 1]	Miles Davis	12 Feb 64	Acoustic Davis	115	4/4
Dedication	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	100	4/4
My Funny Valentine	Rogers and Hart	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	86	4/4
Stella Starlight	Washington and Young	Miles In Berlin	Miles Davis	25 Sep 64	Acoustic Davis	104	4/4
Lady Day	Shorter	The Soothsayer	Wayne Shorter	4 Mar 65	Acoustic Davis	56	4/4
Voice In The Night	Lloyd	Of Course, Of Course	Charles Lloyd	8 Mar 65	Acoustic Davis	48	4/4
Stella Starlight	Washington and Young	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	130 - 260	4/4
I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	60 - 120 - 180	4/4 and 3/4
My Funny Valentine	Rogers and Hart	The Complete Live At The Plugged Nickel 1965 [Disc 2a]	Miles Davis	22 Dec 65	Acoustic Davis	135	4/4
When I Fall In Love	Heyman and Young	The Complete Live At The Plugged Nickel 1965 [Disc 2a]	Miles Davis	22 Dec 65	Acoustic Davis	58 - 116	4/4
'Round About Midnight	Hanighen, Williams and Monk	Highlights From The Plugged Nickel / The Complete Live At The Plugged Nickel 1956 [Disc 2b]	Miles Davis	22 Dec 65	Acoustic Davis	110	4/4

I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	65 - 130 - 216	4/4 and 3/4
I Thought About You	Mercer and Van Heusen	The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	60 - 144	4/4
Stella Starlight	Washington and Young	Highlights From The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 4]	Miles Davis	23 Dec 65	Acoustic Davis	60 - 131 - 283	4/4
I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 4]	Miles Davis	23 Dec 65	Acoustic Davis	60 - 118 - 172	4/4 and 3/4
My Funny Valentine	Rogers and Hart	The Complete Live At The Plugged Nickel 1965 [Disc 5]	Miles Davis	23 Dec 65	Acoustic Davis	120	4/4
When I Fall In Love	Heyman and Young	The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	120 - 272	4/4
I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	120 - 180	4/4 and 3/4
Stella Starlight	Washington and Young	Highlights From The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 7]	Miles Davis	23 Dec 65	Acoustic Davis	67 - 151 - 80 - 190	4/4
Yesterdays	Kern and Harbarch	The Complete Live At The Plugged Nickel 1965 [Disc 7]	Miles Davis	23 Dec 65	Acoustic Davis	130	4/4



**Table 9:** Pieces in Triple Time

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Frankenstein	Moncur III	One Step Beyond	Jackie McLean	30 Apr 63	McLean Connection	130	3/4
All Blues	Davis	The Complete Concert: 1964 [Disc 1]	Miles Davis	12 Feb 64	Acoustic Davis	225	6/4
The Song My Lady Sings	Lloyd	Of Course, Of Course	Charles Lloyd	8 May 64	Acoustic Davis	92	3/4
Thandiwa	Moncur III	Some Other Stuff	Grachan Moncur III	6 Jul 64	Acoustic Davis	130	3/4
Little One	Hancock	E S P	Miles Davis	21 Jan 65	Acoustic Davis	125	3/4
Iris	Shorter and Davis	E S P	Miles Davis	22 Jan 65	Acoustic Davis	93	3/4
Mood	Carter	E S P	Miles Davis	22 Jan 65	Acoustic Davis	86	3/4
Lost	Shorter	The Soothsayer	Wayne Shorter	4 Mar 65	Acoustic Davis	136	3/4
Valse Triste	Sibelius (arr Shorter)	The Soothsayer	Wayne Shorter	4 Mar 65	Acoustic Davis	148	3/4
Little One	Hancock	Maiden Voyage	Herbie Hancock	17 Mar 65	Acoustic Davis	119	3/4
All Blues	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 7]	Miles Davis	23 Dec 65	Acoustic Davis	300 - 202	6/4 and 4/4
Circle	Davis	Miles Smiles	Miles Davis	24 Oct 66	Acoustic Davis	145	3/4
Footprints	Shorter	Miles Smiles	Miles Davis	25 Oct 66	Acoustic Davis	186	6/4 and 4/4
Limbo	Shorter	Directions	Miles Davis	9 May 67	Acoustic Davis	177	3/4
Limbo	Shorter	Sorcerer	Miles Davis	16 May 67	Acoustic Davis	120 - 248	3/4 and 4/4
Pee Wee	Williams	Sorcerer	Miles Davis	24 May 66	Acoustic Davis	130	3/4

**Table 10: Avant Garde Pieces**

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Ghost Town	Moncur III	One Step Beyond	Jackie McLean	30 Apr 63	McLean Connection	88	4/4
Air Raid	Moncur III	Evolution	Grachan Moncur III	21 Nov 63	Acoustic Davis	344	4/4
Evolution	Moncur III	Evolution	Grachan Moncur III	21 Nov 63	Acoustic Davis	N/A	N/A
Hat And Beard	Dolphy	Out To Lunch	Eric Dolphy	25 Feb 64	Acoustic Davis	142	N/4
Something Sweet, Something Tender	Dolphy	Out To Lunch	Eric Dolphy	25 Feb 64	Acoustic Davis	N/A	N/A
Gazzelloni	Dolphy	Out To Lunch	Eric Dolphy	25 Feb 64	Acoustic Davis	198	4/4
Out To Lunch	Dolphy	Out To Lunch	Eric Dolphy	25 Feb 64	Acoustic Davis	126	4/4
Straight Up And Down	Dolphy	Out To Lunch	Eric Dolphy	25 Feb 64	Acoustic Davis	102	4/4
The Egg	Hancock	Empyrean Isles	Herbie Hancock	17 Jun 64	Acoustic Davis	217	6/4
Gnostic	Moncur III	Some Other Stuff	Grachan Moncur III	6 Jul 64	Acoustic Davis	116	3/4
The Twins	Moncur III	Some Other Stuff	Grachan Moncur III	6 Jul 64	Acoustic Davis	254	4/4
Nomadic	Moncur III	Some Other Stuff	Grachan Moncur III	6 Jul 64	Acoustic Davis	152	N/A
Two Pieces Of One: Red	Williams	Life Time	Tony Williams	21 Aug 64	Acoustic Davis	N/A	N/A
Two Pieces Of One: Green	Williams	Life Time	Tony Williams	21 Aug 64	Acoustic Davis	N/A	N/A
Memory	Williams	Life Time	Tony Williams	24 Aug 64	Acoustic Davis	N/A	N/A
Survival Of The Fittest	Hancock	Maiden Voyage	Herbie Hancock	17 Mar 65	Acoustic Davis	262	Multi
Extras	Williams	Spring	Tony Williams	12 Aug 65	Acoustic Davis	360	N/A
Echo	Williams	Spring	Tony Williams	12 Aug 65	Acoustic Davis	N/A	N/A
From Before	Williams	Spring	Tony Williams	12 Aug 65	Acoustic Davis	N/A	N/A
Tee	Williams	Spring	Tony Williams	12 Aug 65	Acoustic Davis	225	N/4
Water Babies'	Shorter	Water Babies	Miles Davis	7 Jun 67	Acoustic Davis	195	3/4

Sweet Pea	Shorter	Water Babies	Miles Davis	23 Jun 67	Acoustic Davis	88	4/4
Circle In The Round	Davis	The Complete Columbia Studio Recordings 1965-68 [Disc 4]	Miles Davis	4 Dec 67	Electric Davis	120	12/8
Sanctuary	Shorter	Circle In The Round	Miles Davis	15 Feb 68	Electric Davis	103	3/4
Tout De Suite	Davis	Filles De Kilimanjaro	Miles Davis	20 Jun 68	Electric Davis	105 / 120	3/4 N/4
Mademoiselle Mabry (Miss Mabry)	Davis	Filles De Kilimanjaro	Miles Davis	24 Sep 68	Electric Davis	74	12/8

**Table 11:** Multi-Section and Other Pieces

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Dusty Foot	Byrd	Vertigo	Jackie McLean	11 Feb 63	McLean Connection	167	6/4
And What If I Don't	Hancock	My Point of View	Herbie Hancock	19 Mar 63	McLean Connection	102	4/4
Sao Paolo	Dorham	Una Mas	Kenny Dorham	1 Apr 63	McLean Connection	155	4/4
So Near, So Far	Crombie and Green	Seven Steps To Heaven	Miles Davis	14 May 63	Acoustic Davis	112	12/8
The Time of the Barracudas	Evans	The Complete Columbia Studio Recordings (Disc 4)	Miles Davis and Gil Evans	9/10 October 63	Acoustic Davis	Various	Various
Spectrum	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	174	4/4
Oliloqui Valley	Hancock	Empyrean Isles	Herbie Hancock	17 Jun 64	Acoustic Davis	180	4/4
Barb's Song To The Wizard	Williams	Life Time	Tony Williams	24 Aug 64	Acoustic Davis	N/A	Multi
The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 2b]	Miles Davis	22 Dec 65	Acoustic Davis	132	3/4

The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	115	3/4
Falling Water (Take 4)	Evans	The Complete Columbia Studio Recordings [Disc 4]	Gil Evans and Miles Davis	16 Feb 68	Electric Davis	139	4/4
Falling Water (Take 6)	Evans	The Complete Columbia Studio Recordings [Disc 4]	Gil Evans and Miles Davis	16 Feb 68	Electric Davis	139	4/4
Falling Water (Take 8)	Evans	The Complete Columbia Studio Recordings [Disc 4]	Gil Evans and Miles Davis	16 Feb 68	Electric Davis	139	4/4
Falling Water (Take 9)	Evans	The Complete Columbia Studio Recordings [Disc 4]	Gil Evans and Miles Davis	16 Feb 68	Electric Davis	139	4/4
Country Son	Davis	Miles In The Sky	Miles Davis	15 May 68	Electric Davis	174	4/4
Black Comedy	Williams	Miles In The Sky	Miles Davis	16 May 68	Electric Davis	195	Multi

**Table 12:** Straight Eighth and Latin Pieces

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Blind Man, Blind Man	Hancock	My Point of View	Herbie Hancock	19 Mar 63	McLean Connection	133	4/4
Una Mas	Dorham	Una Mas	Kenny Dorham	1 Apr 63	McLean Connection	170	4/4
Cantaloupe Island	Hancock	Empyrean Isles	Herbie Hancock	17 Jun 64	Acoustic Davis	112	4/4
Eighty-One	Davis and Carter	E S P	Miles Davis	21 Jan 65	Acoustic Davis	139	4/4
Maiden Voyage	Hancock	Maiden Voyage	Herbie Hancock	17 Mar 65	Acoustic Davis	128	4/4
Masqualero	Shorter	Sorcerer	Miles Davis	17 May 67	Acoustic Davis	268	4/4
Prince Of Darkness	Shorter	Sorcerer	Miles Davis	24 May 67	Acoustic Davis	256	4/4
Riot	Hancock	Nefertiti	Miles Davis	19 Jul 67	Acoustic Davis	244	4/4
Water On The Pond	Davis	Directions	Miles Davis	28 Dec 67	Electric Davis	127	4/4
Fun	Davis	Directions	Miles Davis	11 Jan 68	Electric Davis	206	6/4
Side Car I	Davis	Circle In The Round	Miles Davis	15 Feb 68	Electric Davis	195	4/4
Side Car II	Davis	Circle In The Round	Miles Davis	15 Feb 68	Electric Davis	195	4/4

Filles De Kilimanjaro (Girls Of Kilimanjaro)	Davis	Filles De Kilimanjaro	Miles Davis	21 Jun 68	Electric Davis	152	4/4
Two Faced	Shorter	Water Babies	Miles Davis	11 Nov 68	Electric Davis	138	4/4
In A Silent Way / It's About That Time	Zawinul / Davis	In A Silent Way	Miles Davis	18 Feb 69	Electric Davis	136	4/4

**Table 13:** Sixteenth-Note Pieces

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Freedom Jazz Dance	Harris	Miles Smiles	Miles Davis	24 Oct 66	Acoustic Davis	202	4/4
Stuff	Davis	Miles In The Sky	Miles Davis	17 May 68	Electric Davis	116	4/4
Petits Machins (Little Stuff)	Davis	Filles De Kilimanjaro	Miles Davis	19 Jun 68	Electric Davis	122	4/4
Frelon Brun (Brown Hornet)	Davis	Filles De Kilimanjaro	Miles Davis	24 Sep 68	Electric Davis	134	4/4
Dual Mr Anthony Tillmon Williams Process	Davis	Water Babies	Miles Davis	11 Nov 68	Electric Davis	157	4/4
Splash	Davis	Water Babies	Miles Davis	12 Nov 68	Electric Davis	146	4/4
Shhh / Peaceful	Davis	In A Silent Way	Miles Davis	18 Feb 69	Electric Davis	130	4/4

**Table 14:** Pieces Including a Drum Solo

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
Vertigo	McLean	Vertigo	Jackie McLean	11 Feb 63	McLean Connection	290	4/4
King Cobra	Hancock	My Point of View	Herbie Hancock	19 Mar 63	McLean Connection	230	4/4
Straight Ahead	Dorham	Una Mas	Kenny Dorham	1 Apr 63	McLean Connection	244	4/4
Ghost Town	Moncur III	One Step Beyond	Jackie McLean	30 Apr 63	McLean Connection	88	4/4
Saturday And Sunday	McLean	One Step Beyond	Jackie McLean	30 Apr 63	McLean Connection	282	4/4
Seven Steps To Heaven	Feldman and Davis	Seven Steps To Heaven	Miles Davis	14 May 63	Acoustic Davis	284	4/4
Walkin'	Carpenter	Miles In Antibes	Miles Davis	Jul 63	Acoustic Davis	324	4/4

Walkin'	Carpenter	Live At The 1963 Monterey Jazz Festival	Miles Davis	20 Sep 63	Acoustic Davis	296	4/4
Air Raid	Moncur III	Evolution	Grachan Moncur III	21 Nov 63	Acoustic Davis	344	4/4
Walkin'	Carpenter	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	338	4/4
Seven Steps To Heaven	Feldman and Davis	The Complete Concert: 1964 [Disc 2]	Miles Davis	12 Feb 64	Acoustic Davis	320-330	4/4
New Monastery	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	142-165	4/4
Spectrum	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	174	4/4
Refuge	Hill	Point Of Departure	Andrew Hill	21 Mar 64	Acoustic Davis	300	3/4
The Egg	Hancock	Empyrean Isles	Herbie Hancock	17 Jun 64	Acoustic Davis	217	6/4
One Finger Snap	Hancock	Empyrean Isles	Herbie Hancock	17 Jun 64	Acoustic Davis	272	4/4
Nomadic	Moncur III	Some Other Stuff	Grachan Moncur III	6 Jul 64	Acoustic Davis	152	N/A
All Of You	Porter	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	190-136	4/4
Walkin'	Carpenter	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	308	4/4
Two Pieces Of One: Green	Williams	Life Time	Tony Williams	21 Aug 64	Acoustic Davis	N/A	N/A
Walkin'	Carpenter	Miles In Berlin	Miles Davis	25 Sep 64	Acoustic Davis	324	4/4
Agitation	Davis	E S P	Miles Davis	22 Jan 65	Acoustic Davis	268	4/4
Angola	Shorter	The Soothsayer	Wayne Shorter	4 Mar 65	Acoustic Davis	244	4/4
Apex	Lloyd	Of Course, Of Course	Charles Lloyd	8 Mar 65	Acoustic Davis	296	4/4
Survival Of The Fittest	Hancock	Maiden Voyage	Herbie Hancock	17 Mar 65	Acoustic Davis	262	Multi
Ellipsis	Rivers	Fuchsia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	229	4/4
Fuchsia Swing Song	Rivers	Fuchsia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	300	4/4
Luminous Monolith	Rivers	Fuchsia Swing Song	Sam Rivers	21 May 65	Acoustic Davis	285	4/4
Echo	Williams	Spring	Tony Williams	12 Aug 65	Acoustic Davis	N/A	N/A

Stella Starlight	Washington and Young	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	130 - 260	4/4
Walkin'	Carpenter	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc One]	Miles Davis	22 Dec 65	Acoustic Davis	296	4/4
Agitation	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 2a]	Miles Davis	22 Dec 65	Acoustic Davis	294 - free	4/4 and N/4
So What	Davis	Highlights From The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 5]	Miles Davis	23 Dec 65	Acoustic Davis	340	4/4

**Table 15:** Pieces Involving Complex Temporal Performance

Title	Composer	Album	Artist	Rec Date	Period	Tempo	Time
If I Were A Bell	Lossler	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	288 - 192	4/4
So What	Davis	Miles In Tokyo	Miles Davis	14 Jul 64	Acoustic Davis	330	4/4
I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	60 - 120 - 180	4/4 and 3/4
The Theme	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 1]	Miles Davis	22 Dec 65	Acoustic Davis	289 - 242 - 210	4/4
I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	65 - 130 - 216	4/4 and 3/4
No Blues	Davis	Cookin' At The Plugged Nickel / The Complete Live At The Plugged Nickel 1965 [Disc 3]	Miles Davis	22 Dec 65	Acoustic Davis	160	4/4
I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 4]	Miles Davis	23 Dec 65	Acoustic Davis	60 - 118 - 172	4/4 and 3/4
I Fall In Love Too Easily	Styne	The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	120 - 180	4/4 and 3/4

No Blues	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 6]	Miles Davis	23 Dec 65	Acoustic Davis	180 - 324 - 146 - 92 - 208	4/4
All Blues	Davis	The Complete Live At The Plugged Nickel 1965 [Disc 7]	Miles Davis	23 Dec 65	Acoustic Davis	300 - 202	6/4 and 4/4
Footprints	Shorter	Miles Smiles	Miles Davis	25 Oct 66	Acoustic Davis	186	6/4 and 4/4
Limbo	Shorter	Sorcerer	Miles Davis	16 May 67	Acoustic Davis	120 - 248	3/4 and 4/4
Fall	Shorter	Nefertiti	Miles Davis	19 Jul 67	Acoustic Davis	84 - 252	4/4 and 3/4



## Appendix Five: *Mayreh*

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45 **A** **CS 2**

49

Detailed description: This is a musical score for a single melodic line, likely for a string instrument. The score is written on a single staff with a treble clef. It begins with a tempo marking of a quarter note equal to 286 beats per minute. The piece starts with a dynamic marking of *SFZ* (Sforzando) and a first-measure rest. The notation consists of eighth and sixteenth notes, often beamed together. There are several accents (v) and dynamic markings (p, sfz) throughout. The score is divided into measures, with measure numbers 1, 6, 11, 15, 19, 23, 27, 31, 35, 39, 45, and 49 indicated. There are two boxed letters, 'A' and 'B', which likely refer to specific sections or techniques. There are also two 'CS' markings (CS 1 and CS 2) with brackets, possibly indicating cadences or specific performance instructions. The piece ends with a final measure at measure 49.

53 CB 3

57 CB 5

61 B

65

69 CB 6 CB 7

73

77 A

81 CB 8

85 CB 9

89 CB 10

93 B

97 CB 11 CB 12

Detailed description: This image shows a page of musical notation for guitar, consisting of 12 horizontal staves. Each staff begins with a measure number on the left and a 'CB' label with a number above it. The music is written in a single system on a six-line staff. The notation includes various rhythmic values such as eighth and sixteenth notes, often beamed together. There are also rests, some of which are marked with a circled 'x'. The 'CB' labels are: CB 3 (measures 53-56), CB 5 (measures 57-60), B (measures 61-64), CB 6 (measures 65-68), CB 7 (measures 69-72), CB 8 (measures 73-76), A (measures 77-80), CB 8 (measures 81-84), CB 9 (measures 85-88), CB 10 (measures 89-92), B (measures 93-96), and CB 11 (measures 97-100) and CB 12 (measures 101-104). The 'B' and 'A' labels are enclosed in boxes. The page number '420' is located at the bottom right.

101

105

109 **A**

113

117

121

125 **B**

129

133

137

141 **A**

145

This musical score consists of 17 measures of music, each with a corresponding Lick Diagram (LD) above it. The measures are numbered 149, 153, 157, 161, 165, 169, 173, 177, 181, 185, and 189. The notation includes a treble clef, a key signature of one sharp (F#), and a 4/4 time signature. The music features a consistent rhythmic pattern of eighth notes, often with a dotted eighth note followed by a sixteenth note. The Lick Diagrams (LD 4 through LD 20) provide a visual representation of the fretboard for each measure, showing the specific frets and strings to be played. Measure 169 includes a double bar line and a key signature change to one flat (Bb). Measure 173 is marked with a box containing the letter 'A'. Measure 157 is marked with a box containing the letter 'B'. Measure 189 is also marked with a box containing the letter 'B'. The score concludes with a final double bar line at the end of measure 189.

193 LD 18

197 LD 19

201

205 **A** LD 20 LD 21

209 LD 22 LD 23

213 LD 24 LD 25

217 LD 26 LD 27

221 **B** LD 28

225 LD 29

229 LD 30

233 LD 31

237 **A** HS 1

Detailed description: This page contains a musical score for guitar, consisting of 12 staves of music. The notation includes rhythmic patterns, accidentals, and various performance markings. The staves are numbered 193, 197, 201, 205, 209, 213, 217, 221, 225, 229, 233, and 237. Above the staves, there are labels for specific techniques or sections: LD 18, LD 19, LD 20, LD 21, LD 22, LD 23, LD 24, LD 25, LD 26, LD 27, LD 28, LD 29, LD 30, and LD 31. A section starting at measure 205 is marked with a box containing the letter 'A', and a section starting at measure 221 is marked with a box containing the letter 'B'. A section starting at measure 237 is also marked with a box containing the letter 'A'. A marking 'HS 1' is placed above the staff at measure 237. The music features a mix of eighth and sixteenth notes, often beamed together, with various articulation marks like accents and slurs.

This musical score is for guitar, featuring a series of 19 numbered sections labeled HS 2 through HS 19. Each section is presented on a single staff with a treble clef and a double bar line at the beginning. The notation consists of rhythmic patterns of eighth and sixteenth notes, often with stems pointing downwards. Some notes are marked with an 'x' below them, indicating muted notes. Section 269 is marked with a boxed letter 'A' and section 285 with a boxed letter 'B'. Brackets above the staves indicate the span of each section. The page number 424 is located at the bottom right.

289

293

297

301 **A**

305

309

313

317 **B**

321

325

329

HS 20

HS 21

HS 22

HS 23

HS 24

HS 25

HS 26

HS 27

HS 28

HS 29

HS 30

HS 31

HS 32

Detailed description: This page contains ten staves of musical notation for guitar, numbered 289 to 329. Each staff begins with a treble clef and a double bar line. The notation includes various rhythmic patterns, primarily eighth and sixteenth notes, often with stems pointing downwards. Many notes are marked with an 'x' below them, indicating natural harmonics. Some notes are circled, and some have accents (>) above them. Brackets above the staves group measures into sections labeled 'HS 20' through 'HS 32'. Section 'A' is marked at measure 301, and section 'B' is marked at measure 317. The music concludes at measure 329 with a final accent mark.

333 **A**

337

341

345

349 **B**

353

357

361

365 **A**

369

373

377



381 **B**

385

389

393

397

PREELY

401

## Appendix Six: Powell's Prances

$\text{♩} = 300$

1

5

9

13

17

21

25

29

33

37

41

45

49

CB 1

CB 2

CB 3

CB 4

CB 5

CB 6

CB 7

CB 8

53 CB 9

57 CB 10

61 CB 11 CB 12

65

69

73 SR 1 SR 2

77 SR 3

81 SR 4

85 SR 5

89 SR 6 SR 7

93 SR 8

97 SR 9 SR 10

101

Detailed description: This is a musical score for guitar, consisting of 13 staves of music. The staves are numbered 53, 57, 61, 65, 69, 73, 77, 81, 85, 89, 93, 97, and 101. The music is written in a single system with a common time signature. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. There are several annotations above the staves: 'CB 9' through 'CB 12' are placed above staves 53, 57, 61, and 61-62 respectively. 'SR 1' through 'SR 10' are placed above staves 73, 73-74, 77, 81, 85, 89, 89-90, 93, 97, and 97-98 respectively. The music features a consistent rhythmic pattern of eighth notes with stems pointing down, often grouped in pairs. There are also some longer notes and rests, particularly in the later staves. The overall style is that of a technical exercise or a specific piece of music for guitar.

105

109

113

117

121

*SUBITO p*

125

129

133

137

141

145

149

153

SR 11

SR 12

RP 1

RP 2

RP 3

RP 4

RP 5

RP 6

RP 7

RP 8

RP 9

RP 10

RP 11

RP 12

RP 13

V

v

o

x

157 *pp* 14

161 *pp* 15

165 *pp* 16

169 *f*

173

177

181

185

189

193

197

201

205

209 *ff*

213

217

221

225

229

233

237 *ff*

241 *FREELY*

245

249

253

## Appendix Seven: *Locomotion*

$\text{♩} = 272$

5

9 **A**

13

17

21 **A**

25

29

33 **B**

37

41 **A**

45

49 TC 1

This musical score is for guitar, featuring a series of 11 trills (TC 1 through TC 11) across 11 staves. The notation includes various rhythmic values such as eighth and sixteenth notes, often beamed together. Trills are indicated by a 'v' symbol above the notes. Section A is marked with a box containing the letter 'A' at the beginning of staves 53, 65, 85, and 97. Section B is marked with a box containing the letter 'B' at the beginning of staff 77. The staves are numbered 53, 57, 61, 65, 69, 73, 77, 81, 85, 89, 93, 97, and 101. The score is written on a single treble clef staff with a key signature of one flat (Bb).



105 TC 12

109 A TC 13

113 TC 14

117 TC 15

121 B TC 16

125 TC 17

129 A TC 18

133 TC 19

137 TC 20

141 CF 1 5 CF 2

149 A CF 3

153 CF 4 CF 5

157

161 **A** CF 6

165 CF 7

169 CF 8

173 **B** CF 9 CF 10

177 CF 11 3 CF 12

181 **A** CF 13

185 CF 14

189 3 CF 15

193 **A** 3 CF 16

197 CF 17

201 CF 18

204 **A** CF 19

209 3 CF 20

Detailed description: This is a musical score for guitar, consisting of 20 measures. The notation is on a single staff with a treble clef and a key signature of one flat. The music features a complex rhythmic pattern of eighth and sixteenth notes, often beamed together. Various annotations are present throughout the score, including measure numbers (161, 165, 169, 173, 177, 181, 185, 189, 193, 197, 201, 204, 209), section markers 'A' and 'B' in boxes, and 'CF' (Capo Fingering) labels with numbers 6 through 20. Some measures contain triplets, indicated by a '3' above the notes. Dynamic markings like accents (>) and breath marks (v) are used. The score is organized into systems of two staves each, with measure numbers placed at the beginning of each system.



264 **B** LM 6

273 LM 7 LM 8

277 **A** LM 9

281 LM 10

285 LM 11

289 **A** LM 12

293 3

297 3

301 **A** LM 13

305 LM 14

309 LM 15

313 **B** LM 16

317 LM 17 3 LM 18 LM 19

Detailed description: This is a musical score for a drum set, consisting of 14 measures of music. The notation is written on a single staff with a double bar line at the beginning. The music is primarily composed of eighth and sixteenth notes, often beamed together. There are several measures with a '3' above them, indicating a triplet. The score is divided into sections by letters 'A' and 'B' in boxes. Labeled measures (LM) are indicated by brackets above the staff. The measures are numbered on the left side of the staff. The notation includes various rhythmic markings such as accents and slurs.

321 **A**

325 LM 20

329 LM 21

333 **A** KD 1 KD 2

337 KD 3

341

345 **A** KD 4

349 KD 5 KD 6

353 KD 7 KD 8

357 **B** KD 9 KD 10

361 KD 11

365 **A** KD 12

369

Detailed description: This is a musical score for guitar, consisting of 12 measures. The notation is on a single staff with a treble clef and a key signature of one flat. The music features a complex rhythmic pattern of eighth and sixteenth notes, often with ties. Various annotations are present: 'A' and 'B' are boxed letters indicating sections; 'LM 20' and 'LM 21' are labels for specific measures; 'KD 1' through 'KD 12' are labels for groups of notes, often with arrows pointing to the start of the group. Some notes are circled, and there are several accents and slurs throughout the piece.

375

377 **A**

381

385

389 **A**

393

397

401 **B**

405

409 **A**

413

417

Detailed description: This is a musical score for guitar, consisting of ten staves of music. The notation includes various rhythmic values, accidentals, and articulation marks such as accents and breath marks. Section markers 'A' and 'B' are placed at the beginning of specific measures. Measure numbers 375, 377, 381, 385, 389, 393, 397, 401, 405, 409, 413, and 417 are indicated at the start of their respective staves. The music features a mix of eighth and sixteenth notes, often grouped in triplets, and includes some rests and dynamic markings.

421 **A**

427

433 **A**

439

444 **B**

449

455 **A**

458

463

470

SLOWER

## Appendix Eight: Reaching Fourth

$\text{♩} = 272$

6

10

14 **A** MT 1

18

22 **A** MT 2 MT 3

26

30 **B** MT 4

34

38 **B** MT 5

42

46 **A** MT 6 MT 7 MT 8

50 MT 9



54 **A** MT 10

58 MT 11

62 **A** MT 12 MT 13

66 MT 14

70 **B** MT 15

74 MT 16

78 **B** MT 17

82 MT 18

86 **A** MT 19 MT 20 MT 21

90

94 **A** MT 22 MT 23

98 MT 24

102 **A** MT 25 MT 26 MT 27

Detailed description: This is a musical score for guitar, consisting of 17 measures numbered 54 to 102. The score is written on a single staff with a treble clef and a key signature of one sharp (F#). The music is primarily composed of eighth and sixteenth notes, often beamed together. There are several dynamic markings, including accents (>) and breath marks (v). The score is divided into sections marked with 'A' and 'B' in boxes. There are 27 'MT' (Musical Technique) markers, each with a bracket indicating the range of measures it covers. The markers are: MT 10 (measures 54-57), MT 11 (58-61), MT 12 (62-65), MT 13 (66-69), MT 14 (70-73), MT 15 (74-77), MT 16 (78-81), MT 17 (82-85), MT 18 (86-89), MT 19 (90-93), MT 20 (94-97), MT 21 (98-101), MT 22 (102-105), MT 23 (106-109), MT 24 (110-113), MT 25 (114-117), MT 26 (118-121), and MT 27 (122-125).

106 MT 28

110 **B** MT 29

114 MT 30

118 **B** MT 31

122 3 3 3 3

126 **A** MT 32 MT 33 MT 34

130

134 **A** MT 35 MT 36

138 MT 37

142 **A** MT 38 MT 39

146 MT 40 MT 41

150 **B** MT 42 MT 43

154 MT 44 MT 45

158 **B** MT 46 MT 47

162 MT 48

166 **A** MT 49

170

174 **A** HG 1

178 HG 2

182 **A** HG 3

186

190 **B** HG 4

194 HG 5

198 **B**

202 HG 6

204 **A**

Detailed description: This musical score is for guitar, spanning measures 158 to 204. It features six systems of two staves each. The first system (measures 158-161) includes a boxed 'B' at the start and two multi-measure rests labeled 'MT 46' and 'MT 47'. The second system (measures 162-165) has a multi-measure rest 'MT 48'. The third system (measures 166-169) starts with a boxed 'A' and a multi-measure rest 'MT 49'. The fourth system (measures 170-173) contains no markings. The fifth system (measures 174-177) starts with a boxed 'A' and a multi-measure rest 'HG 1'. The sixth system (measures 178-181) has a multi-measure rest 'HG 2'. The seventh system (measures 182-185) starts with a boxed 'A' and a multi-measure rest 'HG 3'. The eighth system (measures 186-189) has no markings. The ninth system (measures 190-193) starts with a boxed 'B' and a multi-measure rest 'HG 4'. The tenth system (measures 194-197) has a multi-measure rest 'HG 5'. The eleventh system (measures 198-201) starts with a boxed 'B'. The twelfth system (measures 202-203) has a multi-measure rest 'HG 6'. The final system (measures 204) starts with a boxed 'A'.

210

214 **A**

218

222 **A**

226

230 **B**

234

238 **B**

242

246 **A**

250

254 **A**

258

Detailed description: This page of a guitar score contains ten staves of music, numbered 210 through 258. The music is written in a single system on a grand staff. It features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. Several measures contain triplets, indicated by a '3' above the notes. Dynamic markings such as accents (>) and breath marks (v) are used throughout. Section markers 'A' and 'B' are enclosed in boxes and placed at the beginning of measures 214, 222, 230, 238, 246, and 254. The score concludes with a double bar line at measure 258.





55

59

63

67

71

75

79

83

87

91

95

99

103

This musical score is for guitar, featuring 21 numbered measures (107-151) and 11 technical exercises (JM 8-21). The notation is on a single staff with a treble clef and a common time signature. The exercises are indicated by brackets above the staff, with labels JM 8 through JM 21. The music consists of eighth and sixteenth notes, often with slurs and accents. Measure 107 is marked with JM 8. Measure 111 is marked with JM 9. Measure 115 is marked with JM 10. Measure 119 is marked with JM 11. Measure 125 is marked with JM 12. Measure 127 is marked with JM 14. Measure 131 is marked with JM 15. Measure 135 is marked with JM 16. Measure 139 is marked with JM 18. Measure 143 is marked with JM 20. Measure 147 is marked with JM 21. Measure 151 is marked with JM 21. The score includes various musical notations such as slurs, accents, and dynamic markings like 'v'.



155 JM 22 JM 23

159

163 JM 24 JM 25

167

171 JM 26

175

179 JM 27 *p* *f*

183 JM 28

187 JM 29 JM 30

191

195 JM 31

199 JM 32

Detailed description: This page of a guitar score contains 12 staves of music, numbered 155 to 200. The notation includes various rhythmic patterns, slurs, and dynamic markings. Key features include:

- Measures 155-158: A sequence of eighth notes with slurs, labeled JM 22 and JM 23.
- Measures 159-162: Similar eighth-note patterns with slurs.
- Measures 163-166: Eighth-note patterns with slurs, labeled JM 24 and JM 25.
- Measures 167-170: Eighth-note patterns with slurs.
- Measures 171-174: Eighth-note patterns with slurs, labeled JM 26.
- Measures 175-178: Eighth-note patterns with slurs.
- Measures 179-182: Eighth-note patterns with slurs, labeled JM 27, featuring triplets and dynamic markings *p* and *f*.
- Measures 183-186: Eighth-note patterns with slurs, labeled JM 28.
- Measures 187-190: Eighth-note patterns with slurs, labeled JM 29 and JM 30.
- Measures 191-194: Eighth-note patterns with slurs.
- Measures 195-198: Eighth-note patterns with slurs, labeled JM 31.
- Measures 199-200: Eighth-note patterns with slurs, labeled JM 32.

203

207 JM 33

211

215

219 3:03

223

227 DB 1

231 DB 2

235 DB 3

239

243 DB 4 DB 5

247 DB 6

251 DB 7 DB 8

Detailed description: This is a musical score for guitar, consisting of ten staves of music. The staves are numbered 203, 207, 211, 215, 219, 223, 227, 231, 235, and 251. The music is written in a single system with a treble clef and a key signature of one sharp (F#). The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. There are several dynamic markings, such as 'v' (pizzicato) and 'x' (palm mute). There are also some specific markings like 'JM 33' and '3:03'. The score is divided into sections by double bar lines and includes various articulation marks like slurs and accents.

This musical score is for guitar, consisting of 12 staves and 18 measures. The notation includes various rhythmic values such as eighth and sixteenth notes, often beamed together. Many notes are marked with an 'x', indicating natural harmonics. The score is divided into measures by vertical bar lines, with measure numbers 255, 259, 263, 267, 271, 275, 279, 283, 287, 291, 295, and 299 written at the beginning of each staff. Above the staves, there are 18 numbered phrases labeled 'D8 9' through 'D8 26'. These phrases are indicated by horizontal lines with arrows pointing to the specific notes they encompass. The notation also includes slurs, accents, and dynamic markings like 'p' and 'f'.

304 <sup>DB 27</sup> <sup>DB 28</sup>

309 <sup>DB 29</sup>

313

317 <sup>HH 1</sup>

321

325

329

333 <sup>HH 2</sup>

337 <sup>HH 3</sup>

341 <sup>HH 4</sup>

345 <sup>HH 5</sup>

349 <sup>HH 6</sup>

The image displays a musical score for a drum set, consisting of 12 staves of notation. Each staff begins with a measure number (304, 309, 313, 317, 321, 325, 329, 333, 337, 341, 345, 349) and a dynamic marking (DB 27, DB 28, DB 29, HH 1, HH 2, HH 3, HH 4, HH 5, HH 6). The notation includes various rhythmic patterns, such as eighth and sixteenth notes, and rests, with some notes marked with 'x' to indicate specific drum sounds. The score is organized into groups of three staves each, with horizontal lines connecting the measures across the staves. The first group (304-309) features dynamic markings DB 27, DB 28, and DB 29. The second group (313-317) features HH 1. The third group (321-325) features HH 2. The fourth group (329-333) features HH 3. The fifth group (337-341) features HH 4. The sixth group (345-349) features HH 5 and HH 6.

353

357

361 HH 7 HH 8 HH 9

365 HH 10

369 HH 11

373 HH 12

377 HH 13 HH 14 HH 15 HH 16

381 HH 17 HH 18 HH 19 HH 20

385 HH 21

389

393 HH 22

397

401

Detailed description: This image shows a musical score for a drum set, spanning measures 353 to 401. The notation is written on a single staff with a double bar line at the beginning of each measure. The notes are represented by 'x' marks on the staff, indicating the specific drum or cymbal being played. The score is divided into measures, with some measures containing multiple notes. The notation includes various rhythmic values, such as eighth and sixteenth notes, and rests. The score is annotated with measure numbers (353, 357, 361, 365, 369, 373, 377, 381, 385, 389, 393, 397, 401) and specific drum/cymbal assignments (HH 7 through HH 22). The notation is clear and easy to read, providing a detailed guide for the drummer.

405 HH 23

409 HH 24

413 HORN BACKGROUND LINE

417 HH 25

421 HH 26

425 HH 27

429

433

437

441 HH 28

445 HH 29

449

FF

Detailed description: This page of a musical score contains ten staves of music for Horns 23 through 29. The staves are numbered 405, 409, 413, 417, 421, 425, 429, 433, 437, and 441. The music is written on a grand staff (treble and bass clefs). The notation includes eighth and sixteenth notes, rests, and dynamic markings such as 'v' (accents) and 'ff' (fortissimo). A 'HORN BACKGROUND LINE' is indicated above the staff starting at measure 413. A crescendo hairpin is shown below the staff between measures 409 and 413. The score concludes at measure 449.

453 HM 30

457

461

465

469

473 6:33 FREELY

*sfz*

Musical score for guitar, consisting of multiple staves. The score includes various musical notations such as triplets (marked with '3'), slurs, and dynamic markings like 'C' (Crescendo) and 'A TEMPO'. Measure numbers 476, 478, and 482 are indicated. The notation includes sixteenth and thirty-second notes, often with 'x' marks above them, suggesting muted or percussive sounds. There are also rests and longer note values.



486

490

494

498

502

506

510

514

518

Appendix Ten: *Walkin'*

$\text{♩} = 308$  1

5

9

13

17

MD 1

MD 1

MD 2

F

MD 3

25

29

MD 2

MD 4

37

MD 5

41

MD 6

MD 3

MD 7

49

53

MD4

MD 8

61

MD 9

65

MD5

MD 10

73

MD 11

77

MD6

MD 12

MD 13

MD 14

85

MD 15

89

MD7

MD 16

97

101

Detailed description: This is a musical score for guitar, consisting of 16 measures. The notation is on a single staff with a treble clef and a double bar line at the beginning. The music features a mix of eighth and sixteenth notes, often beamed together. There are several dynamic markings, including accents (v) and breath marks (x). Measure numbers are placed at the start of each line: 53, 61, 65, 73, 77, 85, 89, 97, and 101. Specific measures are highlighted with boxes and labeled: MD4 (measures 53-60), MD5 (measures 73-80), MD6 (measures 85-92), and MD7 (measures 97-104). Other measures are labeled with 'MD' followed by a number (MD 8, MD 9, MD 10, MD 11, MD 12, MD 13, MD 14, MD 15, MD 16). The notation includes various rhythmic values, such as eighth and sixteenth notes, and rests. There are also some unusual markings, like a circled 'x' in measure 89.

MD8 MD 17

109 MD 18

113 MD 19

MD9 MD 19

121 MD 20

125 MD 20

MD10 MD 21 MD 22 MD 23

133 MD 24

137 MD 25

MD11 MD 26

145 MD 27 *ff*

149 MD 28

MD12 MD 28

Detailed description: This page contains a musical score for a drum set, consisting of 12 measures of music. The notation is written on a single staff with a double bar line at the beginning. The music is divided into 12 measures, each with a measure number and a measure designator (MD). The measures are: MD8 (measures 105-108), MD 17 (measures 109-112), MD 18 (measures 113-116), MD 19 (measures 117-120), MD 20 (measures 121-124), MD 21 (measures 125-128), MD 22 (measures 129-132), MD 23 (measures 133-136), MD 24 (measures 137-140), MD 25 (measures 141-144), MD 26 (measures 145-148), MD 27 (measures 149-152), and MD 28 (measures 153-156). The notation includes various rhythmic patterns, such as eighth and sixteenth notes, and rests. Dynamics include *ff* (fortissimo) at the end of measure 148. The score is presented in a clean, black-and-white format.

157 MD 29

161 TW 344 FREELY



5:4

5:4

162 A TEMPO

QC1

168 QC2

172 QC3

QC4

180 QC5

184 QC6

QC7

192 QC8

196 QC9

QC4 QC10

Detailed description: This page of a musical score for guitar contains ten guitar checks, labeled QC1 through QC10. The score is written on a single staff with a treble clef. It begins with two measures of music, each marked with a '5:4' time signature and an accent (>) over a quarter note. This is followed by a dense sequence of sixteenth notes. At measure 162, the tempo marking 'A TEMPO' is indicated. The guitar checks are marked with brackets and labels: QC1 (measures 162-167), QC2 (measures 168-171), QC3 (measures 172-175), QC4 (measures 176-179), QC5 (measures 180-183), QC6 (measures 184-187), QC7 (measures 188-191), QC8 (measures 192-195), QC9 (measures 196-199), and QC10 (measures 200-203). Each guitar check consists of a series of rhythmic patterns, often involving sixteenth notes and rests, with various articulations like accents and slurs. The page number '465' is located at the bottom right.

204 GC11 GC12

208

GC5 GC13 GC14

216 GC15

220 GC16

GC6

228 GC17

232 GC18 GC19

GC7

240 GC20 GC21

244 GC22 GC23

GC8 GC24

252 GC25 GC26

Detailed description: This is a musical score for guitar, consisting of 11 staves of music. The measures are numbered from 204 to 252. The notation includes various rhythmic patterns, primarily eighth and sixteenth notes, often beamed together. There are several guitar-specific notations: 'GC' codes (GC5 through GC26) are placed in boxes or above the staff, indicating specific guitar techniques or chords. Some notes have 'x' marks above them, likely indicating muted notes. There are also accents (>) and slurs over certain phrases. The music is written on a single staff with a treble clef and a common time signature.



256

GC27

GC9

GC28

GC29

264

GC30

268

GC31

GC10

GC32

GC33

GC34

GC35

GC36

276

GC37

GC38

GC39

GC40

GC41

280

GC42

GC43

GC11

288

292

GC44

GC45

GC12

GC46

GC47

300

304

Detailed description: This is a musical score for guitar, consisting of ten staves of music. The first staff starts at measure 256 and contains a melodic line with a bracket labeled GC27. The second staff begins with a boxed label GC9 and contains a series of chords with stems pointing down, with a bracket labeled GC28 above it. The third staff starts at measure 264 and contains a melodic line with a bracket labeled GC30. The fourth staff starts at measure 268 and contains a melodic line with a bracket labeled GC31. The fifth staff begins with a boxed label GC10 and contains a series of chords with stems pointing down, with brackets labeled GC32, GC33, GC34, GC35, and GC36 above it. The sixth staff starts at measure 276 and contains a series of chords with stems pointing down, with brackets labeled GC37, GC38, GC39, GC40, and GC41 above it. The seventh staff starts at measure 280 and contains a melodic line with a bracket labeled GC42. The eighth staff begins with a boxed label GC11 and contains a series of chords with stems pointing down, with a bracket labeled GC43 above it. The ninth staff starts at measure 288 and contains a melodic line with a bracket labeled GC44. The tenth staff starts at measure 292 and contains a series of chords with stems pointing down, with brackets labeled GC45, GC46, and GC47 above it. The eleventh staff starts at measure 300 and contains a series of chords with stems pointing down. The twelfth staff starts at measure 304 and contains a melodic line with a bracket above it.

**QC13** 

312 

316 

**QC14** 

324 

328 

**QC15** 

336 

*P*  *F*

340 

**QC16** 

348 

352 

**QC17** 

360 GC62 GC63

364 GC64 GC65

**GC18** GC66 GC67

372 GC68

376 GC69 GC70

**GC19** GC71 GC72 GC73 GC74

384 GC75 GC76 GC77 GC78 GC79

388 GC80

**HH1** 380

396 HH1 HH2

400

**HH2** HH3

408 HH4

412 HH5

HH3 HH6

420 HH7

424 HH4

HH8

432 HH9 HH10

436 HH11

HH12 HH13

444

448 HH14

HH15

456 HH16

460

HH7 HH17 HH18

468 HH19

472 HH20

HH8

480 HH21

484 HH22

HH9 HH23 HH24 HH25 HH26

492 HH27

496

HH10 HH28 HH29

504

508 HH30

HH11 HH31

Detailed description: This page contains a guitar score with 11 fretboard diagrams, each labeled with a fret number (HH7 to HH11) and a measure number. The diagrams show the fretting hand positions for various chords and melodic lines. Measure numbers 468, 472, 480, 484, 492, 496, 504, and 508 are indicated at the start of their respective staves. The notation includes standard musical symbols such as stems, beams, and slurs, as well as guitar-specific symbols like 'x' for muted strings and 'o' for natural harmonics. Some diagrams include a 'v' symbol, likely indicating a vibrato or breath mark. The fretboard diagrams are arranged in a vertical sequence, with each diagram corresponding to a specific fret position and measure.

516 HH32

520 HH34

**HH12** HH35

528 HH37

532 HH40

**SHOUT 1**

*FF*

540

544

**HEAD 1**

*MF*

552

556

560

564

568 **mf**

*pp* **SLOWER**

572

## Appendix Eleven: Tony Williams Discography

**Table 16:** Tony Williams Discography (in alphabetical order by artist)

Artist	Rec. Year	Album Name	Label	Cat #
Allen, Geri	1994	<i>Twenty One</i>	Blue Note	CDP 7243 8 30028 2 5
Arcana	1995	<i>The Last Wave</i>	DIW	DIW-903
Arcana	Unkn.	<i>Arc of the Testimony</i>	Axiom	314-524 431-2
Baker, Chet	1988	<i>You Can't Go Home Again</i>	Universal / A & M	SP726, CD 0832
Baker, Chet; and Lackerschmid, Wolfgang	1979	<i>Feat. Larry Coryell, Buster Williams, Tony Williams</i>	inak	inak 857 CD
Bruce, Jack	1989	<i>A Question of Time</i>	Epic	EK 45279
Brunel, Bunny	1989	<i>Ivanhoe</i>	Planet Blue Records	CDMRP027
Burning Spear	1996	<i>Appointment with His Majesty</i>	Heartbeat Records	HB 211
Cables, George	1984	<i>Phantom of the City</i>	Contemporary	C-14014
Carter, Ron	1977	<i>Third Plane</i>	Milestone Records	FCD-603-9105
Carter, Ron	1979	<i>Parade</i>	Original Jazz Classics	OJCCD-1047- 2
Carter, Ron	1982	<i>Etudes</i>	Elektra Musician	96 02141
Carter, Ron	1988	<i>Standard Bearers</i>	OJC	Unknown
Cherry, Don	1976	<i>Hear and Now</i>	Wounded Bird Records	WOU 8217
Clarke, Stanley	1974	<i>Stanley Clarke</i>	Epic	EK 36973
Cliff, Jimmy	1992	<i>Breakout</i>	JRS Records	35808-2
Coryell, Larry	1978	<i>Difference</i>	Egg	Unknown
Davis, Miles	1963	<i>Live At The 1963 Monterey Jazz Festival</i>	MJF Records	MJFR-30310
Davis, Miles	1963	<i>Miles In Antibes</i>	Sony BMG Music Entertainment	CBS 462960 2
Davis, Miles	1963	<i>Seven Steps To Heaven</i>	Sony BMG Music Entertainment	SICP 820
Davis, Miles	1964	<i>Miles In Berlin</i>	Sony Music Japan International Inc.	SICP 825
Davis, Miles	1964	<i>Miles In Tokyo</i>	Sony Records	SRCS 9112



Davis, Miles	1964	<i>The Complete Concert: 1964</i>	Sony Music Entertainment	471246 2
Davis, Miles	1965	<i>E. S. P.</i>	Sony Records Stereo	SRCS 9113
Davis, Miles	1965	<i>Cookin' At The Plugged Nickel</i>	SME Records	SRCS 9731
Davis, Miles	1965	<i>Highlights From The Plugged Nickel</i>	Columbia	CK 67377
Davis, Miles	1965	<i>The Complete Plugged Nickel</i>	Columbia/Legacy	CXK 66955
Davis, Miles	1966	<i>Miles Smiles</i>	Columbia/Legacy	CK 48849
Davis, Miles	1967	<i>Directions</i>	Columbia/Legacy	No. 12
Davis, Miles	1967	<i>Nefertiti</i>	Sony Records	SRCS 9116
Davis, Miles	1967	<i>Sorcerer</i>	Sony Records	SRCS 9115
Davis, Miles	1965-1968	<i>The Complete Columbia Studio Recordings 1965-68</i>	Sony Music Entertainment	DIDP 09702
Davis, Miles	1967 & 1968	<i>Water Babies</i>	Sony Music Japan International Inc.	SICP 831
Davis, Miles	1968	<i>Circle In The Round</i>	Columbia	467898 2
Davis, Miles	1968	<i>Filles De Kilimanjaro</i>	Columbia/Legacy	CK 46116
Davis, Miles	1968	<i>Miles In The Sky</i>	Sony Music Japan International Inc.	SICP 830
Davis, Miles	1969	<i>In A Silent Way</i>	Columbia/Legacy	CK 40580
Davis, Miles; and Gil Evans	1963 & 1968	<i>The Complete Columbia Studio Recordings (Disc 4).</i>	Columbia/Legacy	CXK 67397
Davis, Walter	1989	<i>Illumination</i>	Denon	DC8553
Dolph, Eric	1964	<i>Out To Lunch</i>	Blue Note Records: RVG Edition	7243 4 98793 2 4
Dorham, Kenny	1963	<i>Una Mas</i>	Blue Note Records: RVG Edition	7243 5 21228 2 0
Dudek, Les	1977	<i>Say No More</i>	Columbia	Unknown
Eastman, Madeline	1995	<i>Art Attack</i>	Mad Kat	Unknown
Evans, Bill; with George Russell Orchestra	1972	<i>Living Time</i>	Columbia	Unknown
Evans, Gil	1975	<i>There Comes A Time</i>	RCA	ND85783
Farmer, Art	1983	<i>Maiden Voyage</i>	Denon	38C38-7071
Flanagan, Tommy	1983	<i>The Trio</i>	Gambit Records	69218
Fuse One	1980	<i>Fuse One</i>	CTI Records	KICJ 98518

Galper, Hal	1977	<i>Now Hear This</i>	Enja Records	ENJ-2102 2
Getz, Stan	1972	<i>At Montreux</i>	Polydor	2310 549
Getz, Stan	1972	<i>Captain Marvel</i>	Columbia / Legacy	CK 86086
Getz, Stan	1972	<i>Portrait</i>	Lotus	ORL 8249
Gordon, Dexter	1985	<i>The Other Side of 'Round Midnight</i>	Blue Note	BT 85135
Great Jazz Trio, The	1976	<i>Love For Sale</i>	Test of Time / 441 Records	Unknown
Great Jazz Trio, The	1977	<i>At The Village Vanguard</i>	Test of Time Records	TOT 2
Great Jazz Trio, The	1977	<i>Direct From L.A.</i>	Test of Time / 441 Records	TOT 14 (Box Set)
Great Jazz Trio, The	1977	<i>Kindness, Joy, Love and Happiness</i>	East Wind	UCCJ-4005
Great Jazz Trio, The	1977	<i>At The Village Vanguard Vol. 2</i>	Test of Time Records	TOT 6
Great Jazz Trio, The	1977	<i>At The Village Vanguard Again</i>	Test of Time Records	TOT 8
Great Jazz Trio, The	1978	<i>Milestones</i>	Test of Time / 441 Records	TOT 14 (Box Set)
Great Jazz Trio, The	1978	<i>The Great Tokyo Meeting</i>	Test of Time / 441 Records	TOT 14 (Box Set)
Great Jazz Trio, The; with Jackie McLean	1978	<i>New Wine in Old Bottles</i>	Test of Time / 441 Records	TOT 13
Great Jazz Trio, The; with Sadao Watanabe	1976	<i>I'm Old Fashioned</i>	JVC	JVC-6008-2
Hancock, Herbie	1963	<i>My Point of View</i>	Blue Note Records: RVG Edition	7243 5 21226 2 2
Hancock, Herbie	1964	<i>Empyrean Isles</i>	Blue Note Records: RVG Edition	7243 4 98796 2 1
Hancock, Herbie	1965	<i>Maiden Voyage</i>	Blue Note Records: RVG Edition	7243 95331 2 7
Hancock, Herbie	1977	<i>Trio</i>	Sony Music Records	SRCS 7051
Hancock, Herbie	1978	<i>Sunlight</i>	Sony Music Entertainment	COL 486570 2
Hancock, Herbie	1980	<i>Mr. Hands</i>	Columbia	CK 36793
Hancock, Herbie	1981	<i>Quartet</i>	Columbia	CGK 38275
Hancock, Herbie	1981	<i>Trio '81</i>	Sony Records	SRCS 9172
Hancock, Herbie	1991	<i>A Jazz Collection</i>	Columbia/Legacy	CK 46865
Hancock, Herbie; with Wayne Shorter, Ron Carter, Wallace Roney and Tony Williams	1992	<i>A Tribute to Miles</i>	Qwest Records	9362 45059-2
Hellborg, Jonas	1991	<i>The Word</i>	Axiom	162 539 898-2

Henderson, Joe	1979	<i>Relaxin' at Camarillo</i>	Contemporary	OJCCD-776-2 (S-14006)
Hill, Andrew	1964	<i>Point Of Departure</i>	Blue Note Records: RVG Edition	7243 4 99007 2 1
Hino, Terumasa	1977	<i>May Dance</i>	JVC	VICJ-70009
Holdsworth, Allan	1986	<i>Atavachron</i>	Cream Records	CR 280-2
Honda, Takehiro	1977	<i>Another Departure</i>	JVC	VICJ-70010
Honda, Takehiro	1977	<i>Reaching For Heaven</i>	JVC	VICJ-61422
Jordan, Sheila	1975	<i>Confirmation</i>	Test of Time / 441 Records	TOT-4
Karashima, Fumio	1993	<i>In San Francisco</i>	Polydor	POCH-1322
Khaled	1996	<i>Sahra</i>	Barclay	533 405-2
Lloyd, Charles	1964 & 1965	<i>Of Course, Of Course.</i>	Mosaic	MCD-1006
Lockwood, Didier	1979	<i>New World</i>	MPS	POCJ-2636
Mantler, Michael	1978	<i>Movies</i>	Watt 7/10	543 377-2
Manzarek, Ray	1974	<i>The Golden Scarab</i>	Mercury	314 512 445-2
Marsalis, Branford	1987	<i>Renaissance</i>	Columbia	CK 40711
Marsalis, Wynton	1981	<i>Wynton Marsalis</i>	CBS	CK 37574
McLaughlin, John	1978	<i>Electric Guitarist</i>	Columbia / Legacy	CK 46110
McLaughlin, John; with Jaco Pastorius and Tony Williams	1979	<i>Trio of Doom</i>	Columbia/Legacy	82796 96450 2
McLean, Jackie	1963	<i>One Step Beyond</i>	Blue Note Stereo	84137
McLean, Jackie	1963	<i>Vertigo</i>	Blue Note	7243 5 22669 2 0
Miller, Marcus	1993	<i>The Sun Don't Lie</i>	JVC	VICJ-5042
Miller, Mulgrew	1988	<i>The Countdown</i>	Landmark	LCD-1519-2
Mitchell, Joni	1979	<i>Mingus</i>	Asylum	K 53091
Moncur III, Grachan	1963	<i>Evolution</i>	Blue Note	TOCJ-4153
Moncur III, Grachan	1964	<i>Some Other Stuff</i>	Blue Note: Connoisseur CD Series	CDP 7243 8 32092 2 4
New Tony Williams Lifetime, The	1975	<i>Believe It</i>	Columbia	PC 33836
New Tony Williams Lifetime, The	1976	<i>Million Dollar Legs</i>	Sony Records	SRCS 9388

Ono, Yoko	1986	<i>Starpeace</i>	Rykodisc	RCD 10423
Petrucciani, Michel	1994	<i>Marvellous</i>	Dreyfus Jazz	FDM 36564-2
Pop Workshop	1974	<i>Song of the Pterodactyl</i>	Grammofonverket	EFG-501 5 101
Pride of Lions	1991	<i>Pride of Lions</i>	Sony Masterworks	SK 48192
Public Image Limited	1986	<i>Compact Disc / Album / Cassette</i>	Elektra	9 60438-2 (CD)
Pullen, Don	1988	<i>New Beginnings</i>	Blue Note	CDP 7 91785 2
Reeves, Diane	1987	<i>Diane Reeves</i>	Blue Note	CDP 7 46906 2
Rivers, Sam	1965	<i>Fuchsia Swing Song</i>	Blue Note	TOCJ-4184
Rollins, Sonny	1977	<i>Easy Living</i>	Milestone Records	2518689328
Rollins, Sonny	1978	<i>Don't Stop The Carnival</i>	Milestone Records	MCD-55005-2
Rollins, Sonny	1980	<i>No Problem</i>	Milestone Records	CA671 68.132
Roney, Wallace	1987	<i>Verses</i>	Muse Records	MCD 5335
Sakamoto, Ryuichi	1990	<i>Neo Geo</i>	Epic (USA)	EK 40994
Santana, Carlos	1980	<i>Swing of Delight</i>	Sony	MHCP-823/4
Santana, Carlos	1987	<i>Blues For Salvador</i>	CBS	460258 2
Santana, Carlos	1995	<i>In From The Storm</i>	BMG	74321 31550 2
Shook, Travis	1993	<i>Travis Shook</i>	Columbia	CK 53138
Shorter, Wayne	1965	<i>The Soothsayer</i>	Blue Note	CDP 7 84443 2
Sidran, Ben	1973	<i>Puttin' In Time On Earth</i>	Blue Thumb Records	BTS 55
Sidran, Ben	1977	<i>That's Life I Guess</i>	Blue Bird	6575-2-RB
Sidran, Ben	1977	<i>The Doctor Is In</i>	BMG	BVCM-35-214
Stitt, Sonny	1977	<i>Moonlight In Vermont</i>	Denon	YX-7530-ND
Tony Williams Lifetime, The	1969	<i>Emergency! (Compilation)</i>	Verve	314 539 117-2
Tony Williams Lifetime, The	1969	<i>(Turn It Over!)</i>	Polydor	24-4021
Tony Williams Lifetime, The	1971	<i>Ego</i>	Verve	559 512-2
Tony Williams Lifetime, The	1973	<i>The Old Bum's Rush</i>	Polydor	2391 052
Tony Williams Trio, The	1996	<i>Young at Heart</i>	Sony Records	SRCS 8212

Tyner, McCoy	1977	<i>Supertrios</i>	Milestone Records	MCD-55003-2
Tyner, McCoy	1978	<i>Counterpoints: Live In Tokyo</i>	Milestone Records	Unknown
Tyner, McCoy	1978	<i>Passion Dance</i>	Milestone Records	OJCCD-1107-2 (M-9091)
Tyner, McCoy	Unkn.	<i>Moment's Notice</i>	Milestone Records	VJ-6318 (Japan only LP)
V.S.O.P.	1977	<i>The Quintet</i>	Columbia	CGK 34976
V.S.O.P.	1977	<i>Tempest In The Colosseum</i>	Sony Music Japan International Inc.	SICP 10076
V.S.O.P.	1979	<i>Live Under The Sun</i>	Columbia / Legacy	C2K 87165
Various	1982	<i>Conrad Silver Presents Jazz At The Opera House</i>	CBS	SRCS 9215/6
Various	1985	<i>One Night with Blue Note Preserved Vol. 1</i>	Blue Note / Capitol	7243 4 97811 2 2
Various	1986	<i>Round Midnight (Soundtrack)</i>	Columbia/Legacy	507924 2
Weather Report	1978	<i>Mr. Gone</i>	Arc / Columbia / Legacy	CK 46869
Williams, Tony	1964	<i>Life Time</i>	Blue Note Records: RVG Edition	7243 99004 2 4
Williams, Tony	1965	<i>Spring</i>	Blue Note	CDP 7 46135 2
Williams, Tony	1979	<i>The Joy of Flying</i>	Sony Music Special Products	A 26500
Williams, Tony	1980	<i>Play or Die</i>	P.S. Productions	PS1001
Williams, Tony	1985	<i>Foreign Intrigue</i>	Blue Note	CDP 7 46289 2
Williams, Tony	1986	<i>Civilization</i>	Blue Note	CDP 7 46757 2
Williams, Tony	1988	<i>Angel Street</i>	Blue Note	CDP 7 48494 2
Williams, Tony	1989	<i>New York Live (DVD)</i>	Jazz Door	JD 11043
Williams, Tony	1989	<i>Native Heart</i>	Blue Note	CDP 7 93170 2
Williams, Tony	1991	<i>The Story of Neptune</i>	Blue Note	CDP 7 98169 2
Williams, Tony	1992	<i>Tokyo Live</i>	Blue Note	TOCJ-5773.74
Williams, Tony	1995	<i>Wilderness</i>	Ark 21	7243 8 54571 2 8
Wolff, Michael	1995	<i>Something Blue</i>	M & I Japan	Unknown
Wolff, Michael	1995	<i>Jumpstart!</i>	J!mco	9501-2
Worrell, Bernie	1993	<i>Blacktronic Science</i>	Gramavision	R279474

Yamaguchi, Mabumi	1981	<i>Mabumi</i>	Art Union	ABCJ-492
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