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A method for electric bass improvisation via a detailed analysis of the improvisational techniques of Jaco Pastorius from 1967-1968

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EDITH COWAN UNIVERSITY

WESTERN AUSTRALIAN ACADEMY OF PERFORMING ARTS

JAZZ DEPARTMENT

Dissertation

**A METHOD FOR ELECTRIC BASS IMPROVISATION VIA A DETAILED
ANALYSIS OF THE IMPROVISATIONAL TECHNIQUES OF JACO
PASTORIUS FROM 1967-1980**

By

Aaron Spiers



Bachelor of Music – Jazz (Performance) with Honours

November 30, 2007

USE OF THESIS

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Thesis Abstract

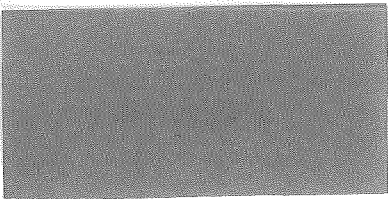
This thesis/dissertation is an exploration into Jaco Pastorius' approach to improvisation via detailed analysis of seven selected transcriptions between the years 1975-80. This dissertation also analyses Pastorius' development as a performer, highlighting the many techniques he pioneered on the electric bass guitar from a historic perspective focusing on the years 1967-74. The final chapter of this dissertation presents a series of etudes that are designed to assist an advanced performer assimilate selected aspects of Pastorius' harmonic approach to improvisation.

Declaration

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Aaron Spiers

2007

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Lastly I'd like to pay a small tribute to the memory of Jaco Pastorius. This great musician has formed a lasting impression on my life and my approach to music, if I could write and perform my music with a fraction of the intensity that Jaco did throughout his life, it would make me incredibly happy.

This dissertation is dedicated to the memory of my Grandma Betty Geilman, who sadly passed away in August of 2007. I miss her dearly.

TABLE OF CONTENTS

INTRODUCTION 2

CHAPTER 1: HISTORICAL PORTRAIT..... 4

 INTRODUCTION..... 4

 THE ELECTRIC BASS GUITAR 6

 BIOGRAPHY..... 6

CHAPTER 2: ANALYSIS..... 15

 INTRODUCTION..... 15

 RHYTHMIC DEVICES..... 16

 MELODIC DEVICES..... 20

Double Stops..... 25

Be-Bop Language 29

 HARMONIC DEVICES 32

Chord Choices 32

Common Scale Choice..... 36

Use of Pentatonics..... 37

Harmonic Superimposition..... 38

CHAPTER 3: METHOD..... 44

 INTRODUCTION..... 44

 FORMAT OF METHOD 45

 SECTION ONE: HARMONIC SUPERIMPOSITION USING THE MODE BELOW THE GIVEN CHORD. 45

Etude 1 – Solar (CD 1: track 8)..... 48

Etude 2 – Havona (CD1: track 9)..... 49

 SECTION TWO: HARMONIC SUPERIMPOSITION USING THE PENTATONIC SCALE. 50

Etude 3 – Fingerprints (CD1: track 10) 52

Etude 4 – Used to be a Cha Cha (CD1: track 11) 53

 SECTION THREE: COMBINATION OF ALL SUPERIMPOSITION TECHNIQUES..... 54

Etude 5 – Havona (2) (CD1: track 12)..... 54

Etude 6 – Used to be a Cha Cha (2) (CD 1: track 13)..... 55

CONCLUSION..... 56

REFERENCES 60

APPENDIX A 63

 TRANSCRIBED PASTORIUS SOLOS..... 63

APPENDIX B 74

 AUDIO CD CONTAINING TRANSCRIPTIONS AND ETUDES..... 74

‘A method for electric bass improvisation via a detailed analysis of the improvisational techniques of Jaco Pastorius from 1967 to 1980.’

Introduction

This dissertation seeks to firstly, provide a detailed analysis of Jaco Pastorius’ formative years from a historical perspective focusing on the techniques that he pioneered on the electric bass guitar, secondly, to analyse the bassists melodic, harmonic and rhythmic approach to improvisation via detailed transcription and thirdly, to provide an application method for the modern bassist to assist an advanced performer in assimilating Pastorius’ harmonic approach to improvisation.

Chapter one will present the historical analysis that will highlight how Pastorius developed his unique approach to the electric bass guitar. Due to the length of his career and the many accolades he achieved throughout it, the first chapter of this dissertation will focus specifically on Pastorius’ early years from 1967 (the year he started on the electric bass guitar) to 1974 (the start of his recording career), outlining his influences and highlighting any major technical ‘breakthroughs’ that he achieved.

Chapter two will present an analysis of selected aspects of Pastorius’ rhythmic, melodic and harmonic approach to improvisation via detailed analysis of seven selected transcriptions from the period 1975 to 1980. The transcriptions selected will purposefully present a wide cross section of musical styles, tempos and instrumentation to best represent his approach to improvisation.

Finally Chapter Three will proceed to present an application method for the modern bassist that will assist an advanced performer to imitate and assimilate Pastorius' harmonic approach to improvisation. This will be achieved by presenting his harmonic vocabulary in a series of etudes designed to help integrate this approach into one's playing.

Chapter 1: Historical Portrait

Introduction

As stated earlier, this dissertation will focus on Pastorius' early career as a musician highlighting important stages of his development and identifying the origins of the techniques that he pioneered on the electric bass guitar. This approach has been taken as much of the literary information written about Pastorius has focused on his performances during the peak of his career and later, perhaps misguidedly, concentrating on the repercussions of his drug use and alcoholism that ultimately resulted in his untimely death at age thirty five.

However, before exploring Pastorius' early development as a bassist, it would seem prudent to outline how great he was at his art at the peak of his career. Seemingly, the best way to outline this would be to explore accounts from the musicians he played with. In the liner notes to Pastorius' self titled debut album, Herbie Hancock (jazz pianist who played with Miles Davis, founded the fusion band Headhunters) writes:

"Jaco is a phenomenon. He is able to make sounds on the bass that are total surprise to the sensibilities. Not only single notes, but chords, harmonics, and all sorts of nuances with the colour of the instrument that when combined and translated through Jaco make for some of the best music I've heard in a long time. Of course, it's not the technique that makes the music; it's the sensitivity and his ability to be able to fuse his life with the rhythm of the times."¹

Pat Metheny (jazz guitarist and key collaborator on multiple albums with Pastorius) also writes for the re-issue of Pastorius' debut album:

"Jaco Pastorius may well have been the last jazz musician of the twentieth century to have made a major impact on the musical world at large. (He is) the only post 1970 jazz musician known on a first name basis with all music fans of all varieties everywhere in the world. From the depths of Africa where he is revered in God-like status to halls of most every

¹ Hancock, H. Liner notes to *Jaco Pastorius*. Epic/Legacy, 2000.

music university on the planet. To this day, and maybe more than ever, he remains to one and only, Jaco.”²

Metheny continues:

“Jaco at his best, as on this record (Jaco Pastorius), defines what the word jazz really means. Jaco used his own experiences, filtered through an almost unbelievable originality informed by a musicianship as audacious as it was expansive, to manifest into sound through improvisation a musical reality that illuminated his individuality. And besides all that, he simply played his ass off – in a way that was totally unprecedented on his instrument, or on ANY instrument for that matter...(yet) I notice that it is difficult for people who weren’t around at the time of his emergence to fully weigh the impact of his contribution. As a young musician who met Jaco in his prime...I can only say that my reaction upon hearing him for the first time was simply of shock – I had literally never heard anything remotely like it, nor had anyone else at the time.”³

Metheny states about Pastorius’ approach to the bass:

“Jaco restructured the function of the bass in music in a way that has affected the outcome of countless musical projects to follow in his wake – an innovation that is still being absorbed by rhythm sections players to this day – he showed the world that there was an entirely different way to think of the bass function, and what it meant...His solo on “Donna Lee”, beyond being astounding for just the fact that he used horn-like phrasing that was previously unknown to the bass guitar is even more notable for being one of the freshest looks at how to play on a well-travelled set of chord changes in recent jazz history...And then there is just his basic relationship to sound and touch: refined to a degree that some would have thought impossible on an ‘electric’ instrument.”⁴

Another of Pastorius’ contemporaries, jazz legend Ira Sullivan (multi-instrumentalist who played with drummer Art Blakey and pianist Red Garland) who played with Pastorius in the year leading up to the release of his debut album (1973) writes of Pastorius:

“He (Pastorius) made the bass a solo instrument, which was something people hadn’t heard before. Now bassists all over the world play like Jaco – grabbing that hand full of harmonics, playing chords, and soloing like a horn player. When his first album came out, though, it was really the shot heard around the world.”⁵

² Metheny, P. “The life & music of Jaco Pastorius.” Liner notes to the 2000 reissue of *Jaco Pastorius*. Epic/Legacy, 2000, 5.

³ Ibid, 5.

⁴ Ibid, 7-8.

⁵ Milkowski, B. *Jaco: The Extraordinary and Tragic Life of Jaco Pastorius*. (Backbeat Books, San Francisco. 2005), 318.

With this brief introduction, highlighting what Pastorius' contemporaries have written about him, a little insight into where the electric bass guitar had developed to in 1967, when he started to play the electric bass, will help to illustrate his impact on the instruments development.

The Electric Bass Guitar

According to *Grove Music Online*, the electric bass guitar was first mass-produced in 1951 by Leo Fender as a Fender Precision Bass. The instrument was designed for bassists in dance bands as a more portable alternative to a double bass but also had the feature of greater volume like the increasingly popular electric guitar. In 1960, Fender introduced the Jazz Bass, the bass that Pastorius almost exclusively used throughout his career, which had two pickups compared to the Precision's one, to provide the bass with a greater range of timbral possibilities. By the 1960's bassists including Monk Montgomery, James Jamerson, Steve Swallow and Ron Carter were recording with the electric bass but perhaps were not extending further than using double bass techniques.⁶

Biography

John Francis Pastorius 3 was born on the 1st of December 1951. Perhaps his first major musical influence was his father Jack Pastorius who was a professional drummer and lounge singer. Particularly proud of his record collection, Jack had records by swing-era bands such as Count Basie, the Dorsey Brothers and Benny Goodman and vocalists Frank Sinatra, Tony

⁶ Bacon, T & Ferguson, J. "Electric Bass Guitar." In *Grove Music Online* ed. L. Macy (Accessed [03/06/2007]), <http://www.grovemusic.com>.

Bennett and Nat King Cole and played them regularly for the young Jaco.⁷ According to Jim Roberts, Author of *Genesis of a Genius*, with the influence of these great ‘singers and swingers’ it is not so hard to imagine that Pastorius’ instruments voice possessed those great singers cool command of melody and time and their nuance of phrasing.⁸

Another early influence on the young Pastorius was the Caribbean bands that played in the local Miami area. Milkowski writes how Pastorius was captivated by the sound of the steel pans and particularly intrigued by a local island musician named Fish Ray, a colourful character who played washtub bass in one of the bands. Perhaps on a subliminal level, Fish Ray was Pastorius’ first bass influence.⁹ Pastorius in an interview with Julie Coryell for the book *Jazz-Rock Fusion* supports this by suggesting that there are no musical prejudices in Florida, there were steel drum bands, Cuban bands, James Brown, Sinatra and the Beatles, which could attribute to his wide musical diversity throughout in his career.¹⁰

By age twelve, Pastorius was most interested in playing the drums (perhaps influenced by his father Jack) although limited to a pair of bongos at first; he managed to save enough money for a full drum kit and with practice soon became the best drummer at his school. His brother Rory recounts “Wow, not only is Jaco the best athlete in school (football and baseball)

⁷ Milkowski, B. *Jaco*, 2005, 5.

⁸ Bobbing, Pastorius, Roberts and Weiss. Liner notes to *Portrait of Jaco: the early years 1968-78*. Holiday Park, 2002, 5.

⁹ Milkowski, B. *Jaco*, 2005, 7.

¹⁰ Coryell, J. and Freidman, L. *Jazz-Rock Fusion: The People The Music*. (Dell Publishing Co. Inc. New York, 1978)

he's now the best drummer too!' and he was. He had impeccable time. In fact, he would've ended up being a great drummer if he hadn't broken his wrist.'¹¹

Pastorius reflects about his injury in an interview with Julie Coryell:

"I got really beat up in a...football rumble when I was thirteen. My hand was almost severed from my left arm. I was playing drums in a local band and I was a good drummer, but I wasn't strong enough to lay down a heavy backbeat. There was a really good drummer in town who took my place. A week later the bass player quit the band. So the guys called me up and said 'Jaco, you think you can play bass?' I said, 'yeah sure.' I had never played bass in my life. I went out and bought a brand new Fender bass and I was working the next day and haven't been out of work since."¹²

With a perfect segue into how Pastorius started playing the electric bass, David Neubauer, the bassist Pastorius replaced in the band Las Olas Brass, describes Pastorius' start on the electric bass: "it was pretty clear he was a natural talent, a driven innovator, and he wouldn't stop until he took things as far as they would go. He was wildly enthusiastic about music."¹³ Drummer Scott Kirkpatrick also recalls with amazement how smoothly Pastorius made the transition from drums to bass.

"He was a drummer when I met him...but when he started playing bass, he progressed so rapidly it was incredible. Jaco had a gift. He was one of those guys who could pick up an instrument and learn it in three days...he was just a phenomenon that way."¹⁴

Approximately one year later in the summer of 1968, Bob Bobbing, a fellow bassist, recalls an audition for a band that both friends attended:

"The bandleader asked Jaco if he knew 'Fire' by Jimi Hendrix. Jaco just nodded his head and they were off. Right from the four count, Jaco was loud and on top of it. What was unusual though was that he didn't play any of the bass parts from the record. He knew the

¹¹ Milkowski, B. *Jaco*. 2005, 10.

¹² Coryell, J. and Freidman, L. *Jazz-Rock Fusion*, 1978.

¹³ Milkowski, B. *Jaco*. 2005, 13.

¹⁴ Ibid, 14.

arrangement dead, but went totally off in his own direction. On the verses for example, Jaco played the most wicked-fast, double time, groovin' bass line I'd ever heard. "¹⁵

Interestingly, Pastorius didn't get the job with the band (Bobbing did!), as his apparent over-playing didn't suit the bands style at the time but this story helps to illustrate his development as a bassist and musician after only one year playing the bass. After that audition, Bob Bobbing became an avid Jaco Pastorius fan and began taping Pastorius' early performances without knowing the historical significance and has in recent times become one of the leading historians of Jaco Pastorius' early career.

In October of 1970, Pastorius made the first in a series of key discoveries that would help to shape his unique sound and approach on the electric bass. Bob Bobbing recalls a bassist named Carlos Garcia who was playing with a band called Nemo Spliff who had an approach to bass that was very unique. 'He was using a left hand muting technique that we hadn't seen before...he (Pastorius) was really checking out how Garcia got those staccato notes happening in his bass lines.' Furthermore, he was impressed with Garcia's amplifier; an acoustic 360 that would ultimately help the young Pastorius attain his signature sound. The key features of the Acoustic 360, that differed from the amps he'd used before, was that it gave his sound a strong, tight low-end that didn't distort. For the first time, he could play a loud open E, as well as chords, without the amp distorting or bottoming out.¹⁶ Pastorius supports this in an interview with Steve Rosen in 1978 where he states 'I've gone through a

¹⁵ Ibid, 22.

¹⁶ Milkowski, B. *Jaco*. 2005, 32-33.

direct box through the PA and I've distorted the whole PA. But the acoustic can take it, it can take anything.'¹⁷

Another key in the development of Pastorius' sound was in 1971, when Pastorius pulled out the frets on his black 1962 Fender Jazz Bass that he bought from Bob Bobbing. Bobbing recalls that 'the bass always buzzed high up on the neck when I owned it, and this couldn't be fixed without raising the action really high...so Jaco carefully removed the frets by tapping them out.' He intended to replace the frets but ended up re-stringing his bass and playing a gig with the bass fret-less. Bobbing recalls that Pastorius had trouble playing the bass in tune that night but with persistence and practice soon learned to play in tune.¹⁸

Pastorius comments in an interview with Steve Rosen on the technique for playing a fretless bass:

'The hardest thing to worry about is intonation...(the difference between fretted and fretless technique) is just having to hit the notes in tune. That's the only difference...the technique is pretty much the same. The vibrato on a fretless is legit, you have to play like a cellist, you've got to roll it.'¹⁹

Another interesting key to Pastorius' development as a musician that perhaps set him apart from other bassists and musicians at the time was his relationship to guitarist and arranger Charlie Brent. On July the eleventh, 1972, Pastorius joined the ranks of a touring R&B band named (after the leader) Wayne Cochran and the CC Riders. His time with this band (twenty weeks) turned out to be the most intense period of performance practice that he

¹⁷ Rosen, Steve. "International musician and recording world." Aug. 1978, p.24.

¹⁸ Milkowski, B. *Jaco*. 2005, 36.

¹⁹ Rosen, Steve. "International musician ." 1978.

would undertake. Besides playing demanding five-hour shows every night, he practiced on the bus as the band travelled from town to town.²⁰

The significance of Pastorius' relationship with Charlie Brent during this period was that he learned about jazz harmony, arranging and orchestration and as a result began to compose for large ensembles. The significance of this is that rather than learning bass from a bassist for example, Pastorius learned about music theory from a guitarist and more importantly an arranger, which ultimately would shape his approach to composition, arranging and even improvisation; always thinking about the larger picture in relation to a performance or recording.²¹

Also during this period, Pastorius undertook intense research into the R&B bass players of the time. Including names such as Charles Sherrell and Bernard Odum, the bass players with James Brown, Jerry Jemmott's work with B.B. King, Tommy Cogbill, Duck Dunn and the bass lines from other popular soul and R&B songs from the 1960's on music labels Stax, Atlantic, Mowtown and King Records.²² Pastorius confirms these influences in an interview with Julie Coryell and adds jazz bassists Gary Peacock and Ron Carter to his list of influences.²³

At the end of this period of 'wood-shedding' with Wayne Cochran's band, according to Bob Bobbing:

²⁰ Milkowski, B. *Jaco*. 2005, 40.

²¹ Ibid.

²² Milkowski, B. *Jaco*. 2005, 41.

²³ Coryell, J. and Freidman, L. *Jazz-Rock Fusion*, 1978.

“His improved musicianship and ever growing confidence made him feel like he was ready to take on the world...everything came together in dramatic fashion in that band (CC Riders). Learning to read, write and arrange music and eventually composing his first originals...and without a keyboard player in the Riders, Jaco was able to experiment with chords, harmonics and that soloistic approach to the bass that he became so famous for.”²⁴

By the time Pastorius left the CC Riders, the drummer at the time Allyn Robinson had established such a strong connection with Pastorius’ groove-conscious, interactive style of playing that he says it was hard for him to play with other bass players after Jaco left the band. Robinson says ‘I’ve never had a musical hook-up with another bass player like that, before or since...Jaco just made me sound so good.’²⁵

After leaving the CC Riders, Pastorius returned to Fort Lauderdale and made a series of musical connections that helped in his development immensely. These included Peter Graves and his big band, Pat Metheny, Alex Darqui and jazz legend Ira Sullivan.

With Graves, Pastorius became the full time bass player with his big band who played swing, funk and soul music and backed musical acts such as The Temptations, The Four-Tops, Mel Torme, and The Supremes to name but a few. Pastorius also got the opportunity to arrange for the band to make extra money for his family, which at this stage was a wife, Tracy and daughter Mary. This is also where he made the musical connection with Pat Metheny who would later become a key collaborator on various recordings including *Jaco*, Metheny’s debut *Bright Size Life* and Joni Mitchell’s *Shadows and Light*.²⁶

²⁴ Milkowski, B. *Jaco*. 2005, 45.

²⁵ Ibid, 46.

²⁶ Milkowski, B. *Jaco*. 2005., 49.

In January of 1973, Pastorius and his small family moved into an apartment above a Laundromat and across the hall from pianist Alex Darqui. This gave Pastorius the opportunity for endless hours of jamming and practice on Darqui's baby grand piano, drum kit and his own bass equipment, which he moved into Darqui's apartment. It was also at this time that either to help with reading music, developing melodies or helping with endurance, practicing be-bop melodies out of Charlie Parker's *Omnibook* was commonplace at Darqui's apartment. Pastorius and Darqui would also improvise in the style of the free-jazz pioneer Ornette Coleman without, as Darqui remembers 'stepping on each other. We were creating simultaneously by listening and reacting in a purely spontaneous manner, and that resulted in some very interesting music.'²⁷

This period also resulted in Pastorius meeting guitarist Joe Diorio who introduced him to Slominsky's *Thesaurus of Chromatic Scales and Patterns* (the book that hugely influenced John Coltrane and Eddie Harris in their approach to intervallic improvisation). He also started listening to, upon Diorio's suggestions, classical composers including Igor Stravinsky, Bela Bartok and J.S. Bach.²⁸

Jazz legend Ira Sullivan also started playing with Pastorius around 1973 as Pastorius, Darqui and drummer Bobby Economou formed the band Baker's Dozen. The band played a musical style that could only be defined as fusion: the fusion of rock, jazz, funk and free jazz elements. Darqui explains:

"It was more like jazz with a different background. It would swing too, but it had roots in R&B and funk...one minute we'd play funk, and then we'd explode into an up-tempo

²⁷ Ibid, 51.

²⁸ Milkowski, B. *Jaco*. 2005, 57.

swinging thing...I think we would have fainted if we had to play the same arrangement twice...but Jaco was an important spark. He was bringing all that great creativity and all those fast lines and ostinatos.”²⁹

One of the final developmental aspects of Pastorius’ unique approach to electric bass was his pioneering use of harmonics, natural and artificial. Malone in his text *A Portrait of Jaco: The Solos Collection* describes harmonics as:

“The natural by-product of a vibrating string is the overtone series, a collection of pitches that sound simultaneously with the fundamental. As the string vibrates, it continues to divide into sections – first in half, then thirds, quarters etc. At each of those divisions is a harmonic node, where a chime like tone can be produced when the finger is lightly placed over that spot and the string is plucked.”³⁰

In an interview with Steve Rosen, Pastorius talks about his approach to harmonics:

‘When I first started playing the bass I did it (used harmonics). In fact someone played me a tape recently of what I was playing when I was eight, nine years ago and it sounded like now. All the harmonics were there and everything. I just thought they were part of the instrument. I didn’t question it because I had no one to judge by. There were no records I could turn on and hear someone doing that. So I just said ‘Hey man, that sounds good,’ So I hit that and there were some notes and hit a bass note here and a couple of those (harmonics) and got some chords going.’³¹

This concludes the historical analysis of Pastorius’ early career outlining his development as a musician and highlighting the pioneering aspects of his approach to the electric bass guitar. The next chapter of this dissertation will relate to the musical analysis of selected Pastorius transcriptions that will be used to gain an insight into how he approaches improvisation from a rhythmic, melodic and harmonic perspective.

²⁹ Ibid, 58.

³⁰ Malone, S. *Portrait of Jaco: The solos collection*. 2002, 21.

³¹ Rosen, Steve. “International musician.” 1978.

Chapter 2: Analysis

Introduction

As previously stated, in order to gain an insight into Pastorius’ approach to improvisation, a detailed analysis of his recorded solos from a variety of musical settings will best serve to identify selected aspects of his melodic, harmonic and rhythmic approach to improvisation. Though the method section of this dissertation will be specifically related to his harmonic approach to improvisation, it is crucial to the validity of this study that his rhythmic and melodic approach to improvisation is researched and utilised in the composition of the etudes in the following method section, thus, this chapter will analyse his rhythmic, melodic and harmonic approach to improvisation.

The improvised solos chosen include: ‘Bright Size Life’ from Pat Metheny’s *Bright Size Life* (1975), ‘Donna Lee,’ ‘Used to be a Cha-Cha,’ ‘Portrait of Tracy’ and ‘Continuum,’ from Pastorius’ debut album *Jaco Pastorius* (1975), ‘Havona’ from Weather Report’s *Heavy Weather* (1977) and ‘Port of Entry’ from Weather Report’s *Night Passage* (1980). These solos were chosen as they present a wide cross section of tempos, styles and instrumentation as illustrated in the table below.

Year	Title	Tempo	Style	Combinations
1975	Bright Size Life	166 bpm	Straight eighths	Trio
1975	Donna Lee	218 bpm	Swing eighths	Duo
1975	Used To Be A Cha Cha	230 bpm	Samba	Quintet
1975	Portrait of Tracy	Rubato		Solo
1975	Continuum	112 bpm	Straight eighths	Quartet
1977	Havona	145 bpm	Funk/Samba	Quartet
1980	Port of Entry	154 bpm	Straight eighths	Quintet

Fig. 1. Table of Transcriptions

Through detailed research into Pastorius' recorded output, in this writer's opinion, these transcribed solos best represent the combination of his technical facility on the electric bass guitar, unique melodic sense, advanced harmonic approach to improvisation and his command of rhythm when improvising, thus presenting the best examples for the following analysis.

According to *Grove Music Online*, the central act of analysis is the 'test for identity,' illuminating the three fundamental processes, 'recurrence, contrast and variation.'³² Thus to test for Pastorius' musical 'identity,' any musical language that seems to re-occur will be the focus of this analysis.

Rhythmic Devices

One of Pastorius' most frequently used rhythmic devices is a pattern using four and or five note groupings in an ascending or descending scalar pattern. This technique seems to give the effect that the 'time' or harmonic rhythm of a given tune is slowing down by accenting every five notes rather than every four notes. This device regularly reoccurs during his improvised solos.

³² Ian D Bent and Anthony Pople, 'Analysis,' *Grove Music Online* (Accessed [01/11/2007]), <http://www.grovemusic.com>.

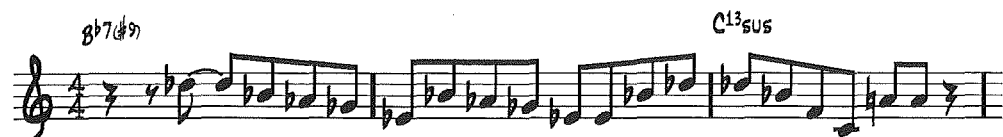


Fig. 2. Bar 7-9 of Used to be a Cha Cha

In this example Pastorius uses a descending five then four-note rhythmic grouping of this Gb major pentatonic scale over the Bb7 (#9) chord.

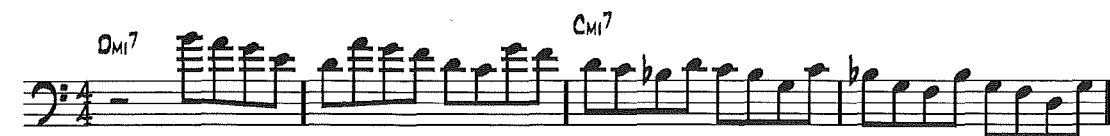


Fig. 3. Bar 37-40 of Used to be a Cha Cha

This example illustrates Pastorius use of a descending five note then four note rhythmic grouping of a G major pentatonic over the Dmi7 chord, which changes to a Bb major pentatonic over the Cmi7 chord. This phrase highlights another common feature of Pastorius' approach to improvisation, that being the way he links up two chords with a continuous flow of notes without breaking the momentum of the phrase.



Fig. 4. Bar 51-52 of Used to be a Cha Cha

In this example Pastorius uses an ascending five note rhythmic grouping over the Eb7 (#9) to Eb69 chords using tones derived from the Eb Lydian scale.

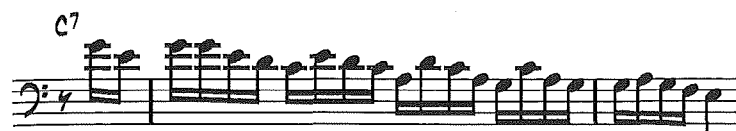


Fig. 5. Bar 7-9 of Port of Entry

This example illustrates Pastorius using a descending four note rhythmic grouping of this C major pentatonic scale over the C7 chord.

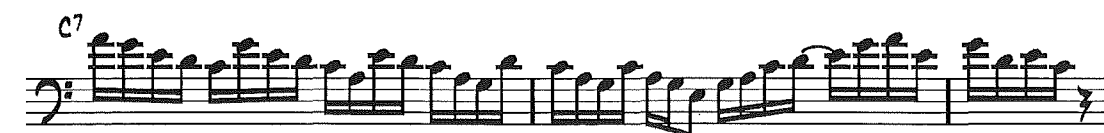


Fig. 6. Bar 28-30 of Port of Entry

In this example Pastorius uses a descending five note then four note rhythmic grouping of this C major pentatonic scale over the C7 chord.



Fig. 7. Bar 34-36 of Port of Entry

This example illustrates Pastorius using an ascending four note rhythmic grouping of this E jazz minor scale over the C7 chord.



Fig. 8. Bar 27-28 of Continuum

In this example Pastorius uses a descending five note rhythmic grouping of this E major pentatonic scale over the E major 69 chord.

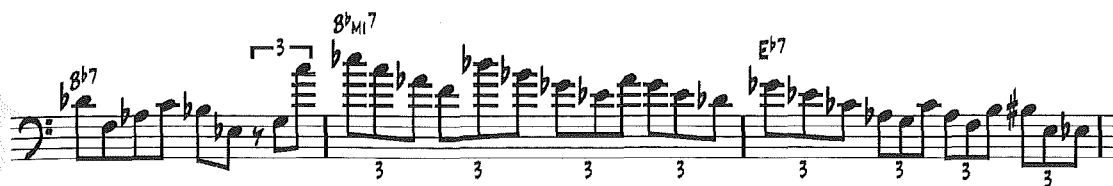


Fig. 9. Bar 16-18 of Donna Lee

This example illustrates Pastorius using a descending four note rhythmic grouping in triplets over the Bbm7 to Eb7 chords. This gives a similar effect to, as described earlier, accenting every four triplets in 4/4 time gives the impression to the listener that the ‘time’ or harmonic rhythm is slowing down.

Another key feature of Pastorius’ rhythmic approach to improvisation is his use of the many rhythmic subdivisions available. Pastorius regularly uses the eighth note and sixteenth note subdivisions and also the quarter note and eighth note triplet subdivisions in various combinations and for varying effect. For musical examples of this device see any of the transcriptions in the appendices.

In chapter two of *Concepts for Bass Soloing*, which is dedicated to the incorporation of rhythm in improvisation, guitarist John Schofield is quoted from an interview for *Jazz-Times* magazine:

‘Rhythm involves feel, but too many people think it’s magical and just comes out of the air. You work on it through analysis and feel. You learn to hear and identify rhythms and subtleties of where something is placed just like you learn to hear and identify pitches.’³³

³³ Johnson, M and Sher, C. *Concepts For Bass Soloing*. 1993, p.20.

Thus to strengthen the validity of the final section of this dissertation, the rhythms used to construct the etudes will originate directly from Pastorius' transcribed solos.

Melodic Devices

This next section will analyse some of Pastorius' melodic devices but rather than an analysis of his melodic approach to improvisation, this analysis section will focus on melodic devices employed by Pastorius in his approach to improvisation. Liebman in his instructional text *A Chromatic Approach to Jazz Harmony and Melody* uses a methodology that includes identifying the shape, repetition, side-slipping, rhythm and phrasing (rhythmic placement, articulation, time feel, dynamics and nuance) of a given melody.³⁴ Pastorius' melodic devices will be analysed by selectively identifying the previously listed features.

A commonly appearing melodic device is Pastorius' use of the intervals of a perfect fourth and perfect fifth. Liebman suggests that improvising using these types of intervals is more 'ambiguous harmonically' than the use of major and minor seconds and thirds. Liebman continues that:

'When combined with other types of intervals they (4th and 5th intervals) assume a more definitive character due to the fourth and fifth being so closely associated with the dominant and sub-dominant functions of diatonicism.'³⁵

This sound could conceivably be identified as being an 'open,' modern sound as it tends not to suggest a major or minor tonality and is useful for improvising over harmonically 'open' compositions and or modal compositions.

³⁴ Liebman, D. *A Chromatic Approach to Jazz Harmony and Melody*. 1997, p. 47-57.

³⁵ Ibid, 59.



Fig. 10. Bar 15-16 of Continuum

In this phrase Pastorius uses ascending fifth intervals to lead into the G/A chord in bar 16. Pastorius effectively accents the second semi-quaver in the five repetitions of the fifth interval thus giving the improvised line a sense of forward momentum.



Fig. 11. Bar 52-53 of Continuum

This example illustrates Pastorius using descending fourth intervals to link up his upper register (D) and his lower register and lowest note (E). Pastorius effectively uses an increased dynamic to strike the low E's in this passage of improvisation, which gives more weight to the line itself.

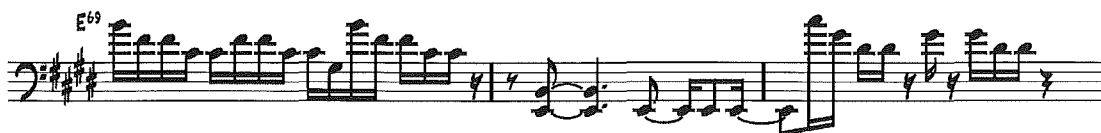


Fig. 12. Bar 54-56 of Continuum

In this phrase Pastorius continues with the descending fourth intervals as the main melodic idea, punctuated by low E's. As previously stated, Pastorius uses dynamics to great effect during this passage where the low E's are accentuated to great effect.



Fig. 13. Bar 5-6 of Donna Lee

In this example Pastorius punctuates his phrase with a chord of harmonics that is made up of two fourth intervals stacked on top on one another (A, D and G) over the Bb7 chord. This passage also highlights Pastorius' rhythmic placement favouring the 'off'-beats, which gives the line increased forward momentum.

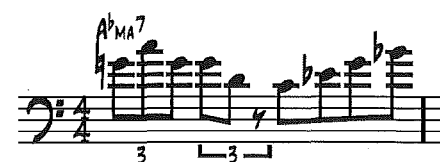


Fig. 14. Bar 45 of Donna Lee

This phrase is reminiscent of figures found in the improvised solo on the composition 'Continuum,' where Pastorius plays repeated fourth intervals in a similar manner to this example. Pastorius follows the use of the fourth intervals with a common be-bop practice of the use of arpeggios starting from the third of Ab (C) ascending in thirds to the 9th (Bb).

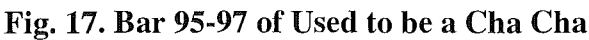


Fig. 15. Bar 17-18 of Used to be a Cha Cha

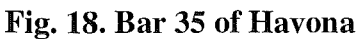
This example illustrates Pastorius using the D minor pentatonic scale, however he constructs this phrase to utilise the perfect fourth intervals within the pentatonic scale then ending on a B to perhaps suggests G major over the Dmi7 chord.



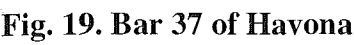
This example illustrates Pastorius stacking two perfect fifth intervals a perfect fifth away (fifth from F# and a fifth from B), which then leads into D major pentatonic scale tones.



In this example, Pastorius continues the theme suggested in Fig. 16. and expands on the idea, playing a perfect fifth interval over six repetitions from F# two octaves below middle C to C# two octave above middle C, which is a minor third away from the entire tessitura of Pastorius' instruments range.

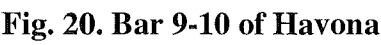


This phrase, similar to that of the previous two examples yet recorded almost four years after in 1977, incorporates stacked perfect fifths repeated three times leading into a B Lydian flavoured phrase.



This example illustrates another approach to this melodic idea where Pastorius plays diatonic perfect fifth intervals based in the key of D major over a suggested G pedal on the Gma9 (#11) chord. Pastorius also highlights the quaver-triplet pulse, which effectively slows the harmonic rhythm of the piece.

Another common melodic idea that appears regularly in Pastorius' improvised solos is a phrase that is played then transposed down a semitone in order to create dissonance over the given chord; Liebman identifies this technique as 'side-slipping.'³⁶ For example:



Pastorius plays the notes from a D major triad then repeats the last two notes (F# and D) transposed down a semitone and repeats this three times leading into an E Lydian flavoured phrase ending on the 13th (C#) of E major. Pastorius also accentuates the notes F# on beat 3+, F on beat 4, E on beat 4+ and D# on beat one again giving the line forward momentum.

³⁶ Liebman, D. *A Chromatic Approach to Jazz Harmony and Melody*. 1997, p. 51.



Fig. 21. Bar 12-13 of Havona

In this phrase, Pastorius plays two four note groupings of firstly a D major pentatonic then C major pentatonic descending from the 5th over the Cma9 (#11) chord proceeding to then play those eight notes down a semitone over the Bma9 (#11) chord.



Fig. 22. Bar 36-37 of Port of Entry

This example illustrates Pastorius using a similar idea as in Fig. 20 where he plays descending Major 3rd intervals transposing them down a semitone each time, that then links into a C lydian flavoured ending phrase.

Double Stops

Another melodic device that Pastorius uses regularly is double stops and chords in his improvised solos. Pastorius uses these devices to punctuate his melodic lines with chords that either outline the harmony or upper extensions of the chords or superimposes other tonalities over the given chord. Pastorius also uses this device as a pedal point whereby allowing him to improvise melodies over the pedal. For example:



Fig. 23. Bars 1-13 of Continuum

Pastorius starts this solo by stating his improvised melody over pedalling open strings (E and A). In this example, this technique effectively states the roots of the chords whilst Pastorius improvises using an E Major scale sound from bars 1-4 and E Lydian in bars 5-6 over the E major 69 chord, A Major scale in bars 7 and 8 over the A Major 69 chord and E Lydian in bars 9-11 again over the E Major 69 chord. This technique works especially well over this composition as the tempo is 112 beats per minute, an easy medium tempo and the style of the piece is very ‘open’ harmonically, leaving space for Pastorius to state an improvised phrase over the pedal tones.



Fig. 24. Bar 19-20 of Continuum

In this example, Pastorius plays a melody that is seemingly harmonised in thirds using mainly diatonic chords from the C# Major scale over the C#/D# chord in bar 19 leading into again diatonic chords from the C Major scale over the C/D chord in bar 20. In this example,

this technique perhaps highlights this descending melodic line more so than if Pastorius had only played the top line of the melody in these bars.

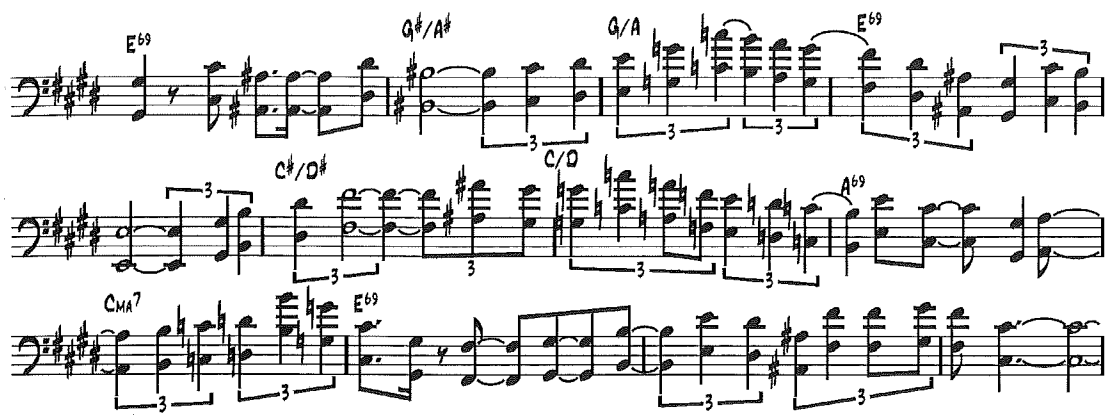


Fig. 25. Bar 36-47 of Continuum

In this example, Pastorius uses an octave technique, as suggested by Berendt in *The Jazz Book*, pioneered by jazz guitarist Wes Montgomery³⁷. This technique highlights the melodic line by doubling the melody an octave below and as played in this register on the electric bass, the melody has a deeper resonance as if played by two bassists simultaneously giving the phrase a more weighted impact to the listener.



Fig. 26. Bar 4-5 of Used to be a Cha Cha

In this phrase, Pastorius plays a line seemingly based in a D Aeolian scale over the C_Mi⁷ chord in bar 4 that ends with a double stop incorporating the notes C[#] and B^b (3rd and Flat 9th of A) over the A¹³ (b⁹) chord in bar 5.

³⁷ Berendt, J. *The Jazz Book*, 1982, p. 381



Fig. 27. Bar 20-21 of Used to be a Cha Cha

This example is very similar to the previous example as Pastorius plays a phrase seemingly based in the C Mixolydian scale leading into the notes A and Bb (5th and b13th of D) over the Dmi7 chord in bar 21. Both of these melodic lines seem to lead into the double stops at the end of both phrases rather naturally, even though both chords are seemingly dissonant (3rd and flat 9th of A and flat 13th and 5th of D) to the underlying harmony.



Fig. 28. Bar 99-100 of Used to be a Cha Cha

In this phrase, Pastorius ends his solo with this triple stop that suggests Dmi7/A perhaps (F, C and A) utilising the A open string, which appears as a very dramatic ending to the solo.



Fig. 29. Bar 50-53 of Bright Size Life

This example illustrates Pastorius punctuating his improvised melodic lines with chords; bar 50 he plays B to C# over the G, which perhaps suggests G7 (#11) over the G/A chord. Pastorius then plays F# and B (suggesting G Major 7), descending chromatically twice to end on E and A (suggesting F Major 7) over the F/G chord, punctuating the phrase with D

and G bass notes then continuing by playing F and B (suggesting G7) then sideslipping the chord down a semitone and back.

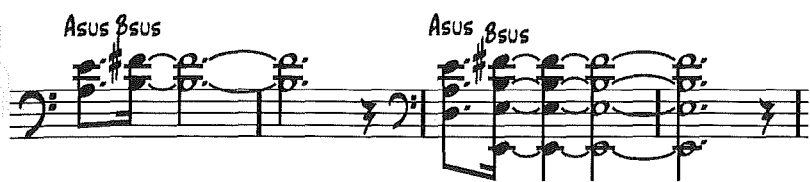


Fig. 30. Bar 39-42 of Havona

Finally, this example illustrates Pastorius playing a chord of a fifth then a chord of two stacked fifths over the open string E. These chords are extremely effective on the electric bass, as these chords resonate strongly and powerfully at this range.

For another example of Pastorius’ use of chords and double stops see the appendices, which illustrates the transcription of the Pastorius composition ‘Portrait of Tracy,’ which is composed almost entirely with chords on the electric bass. Another key feature of this composition is that most of the chords that make up the piece are natural and artificial harmonics, produced on the electric bass guitar, which in 1976 when this composition was recorded was the first of its kind.

Be-Bop Language

The next section of this discussion will focus on the influence of the Be-bop musical language on Pastorius’ approach to improvisation over the composition ‘Donna Lee’ by saxophonist Charlie Parker. This analysis will relate to Kernfeld’s writings from *Grove Music Online* and specifically the chapter relating to improvisation that outline melodic

paraphrasing, arpeggios, targeting and surrounding techniques and elements of chromaticism as identifying features of the Be-Bop style.³⁸



Fig. 31. Bar 35-38 of Donna Lee

In this example, Pastorius uses the technique of ‘Melodic Paraphrasing,’³⁹ by stating the melody of the composition but altering the end of the phrase as opposed to how the phrase appears in the melody. This technique, as illustrated, can add continuity to an improvised solo and demonstrate a firm knowledge of a given melody.



Fig. 32. Bar 9-10 of Donna Lee

This example illustrates the common be-bop technique of surrounding or targeting. Pastorius descends down an Eb minor 7 arpeggio over the Eb minor 7 chord to target the third (C) of Ab on beat three. Pastorius then targets the flat 9th of Ab and descends chromatically to target the third of Db7 (F) on beat one of the following bar.

³⁸ Kernfeld, B. *Grove Music Online*, ‘Improvisation,’ (accessed [01/11/2007]), <<http://www.grovemusic.com>>.

³⁹ Ibid.

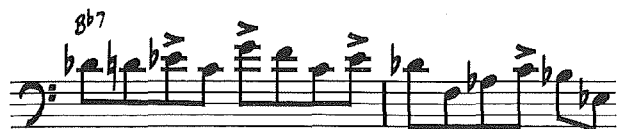


Fig. 33. Bar 15-16 of Donna Lee

This example demonstrates Pastorius’ ability to ‘extemporise rapid melodies filled with asymmetrical phrases and accent patterns’ in the Bop tradition.⁴⁰ In this example Pastorius uses tones from the Bb Mixolydian scale with chromatic passing tones in combination with this asymmetric accented phrase.



Fig. 34. Bar 27-28 of Donna Lee

This example is another that includes the use of chromatic passing tones and the targeting technique found in the language of Bop. Pastorius targets the minor third of F minor (Ab) on beat three of bar 27 and then uses a C minor arpeggio over the Fmin7 chord to target the third of C7, which is the E on beat one of bar 28.



Fig. 35. Bar 63-66 of Donna Lee

Finally, this example is another example of the Bop targeting technique where Pastorius uses this repeated phrase, which outlines descending ii-v’s to change key centres from the key of Ab into the key of E. This phrase seems to target beat 3 where Pastorius then incorporates the interval of a major 7th ascending into a surrounding technique, which targets the beat one of the following bars. Bar four of this example seems to deliberately displace the

repetition of this figure, which effectively displaces the pattern-like feel that the improvised line illustrates.

Harmonic Devices

Chord Choices

To best understand the reasons for Pastorius’ scale choices and use of particular superimposition ideas that will be investigated in the following chapter, it would seem prudent to first investigate some of the chords Pastorius used to construct the compositions he improvised solos over. Through thorough transcription, some common traits appear in Pastorius’ compositional style.

HAVONA - JACO PASTORIUS (1976)

♩ = 145

EMA9(#11) CMA9(#11) BMA9(#11) GMA9

9 EMI9 EMA9(#11) CMA9(#11) BMA9(#11) GMA9

16 ASUS BSUS ASUS BSUS ASUS BSUS NC

Detailed description: The image shows a musical score for the piece 'Havona' by Jaco Pastorius. It consists of three staves of music. Above the first staff, the title 'HAVONA - JACO PASTORIUS (1976)' is written, followed by a tempo marking '♩ = 145'. Chord changes are indicated above the staves: EMA9(#11) at measure 1, CMA9(#11) at measure 3, BMA9(#11) at measure 5, and GMA9 at measure 7. The second staff begins at measure 9 with EMI9, followed by EMA9(#11) at measure 10, CMA9(#11) at measure 11, BMA9(#11) at measure 13, and GMA9 at measure 15. The third staff begins at measure 16 with ASUS BSUS, which continues through measures 17, 18, and 19. At measure 20, the notation changes to 'NC' (No Chord), and the final two measures (21 and 22) show a melodic line for the bass.

Fig. 36. Chord Changes to ‘Havona’

This example presents the chord changes to the twenty-two bar Pastorius composition ‘Havona.’ The predominant chord usage is that of a Major 9 (#11) chord with an added minor 9 chord at bar 9 of the form and suspended chords in the final four bars of the composition. Note the basic pattern of major chords moving in major thirds (E to C and B to G), perhaps influenced by John Coltrane’s ‘Giant Steps,’ which Pastorius would later record a version on the album ‘Invitation.’ Janek Gwizdala, bassist for Mike Stern, suggests in an interview for

⁴⁰ Owens, T. *Grove Music Online*. ‘Bop,’ (accessed [01/11/2007]), <<http://www.grovemusic.com>>.

Bass Player Magazine that a chord progression that features three or more chords of the same quality can be described by the term ‘parallel constant-structure chords’.⁴¹ Gwizdala continues that another example of this is Joe Henderson’s ‘Inner Urge.’

The composition presents a harmonic structure that, as opposed to styles like bop or other traditional jazz styles, contains few chord changes allowing a soloist to explore the sound of each chord for longer. This compositional tool was perhaps first used to best effect by Miles Davis in his composition ‘So What’ where the thirty-two bar form is constructed using sixteen bars of the chord Dmi7, eight bars of Ebmi7 followed by another eight bars of Dmi7.⁴² Another example of this compositional tool appears in Herbie Hancock’s ‘Maiden Voyage’ where the thirty-two bar form features dominant 7th suspended 4th chords (for example D7sus4) that last for four bars at a time allowing the soloist to explore the sound of each chord and or superimpose other tonalities over the chords.⁴³

The rhythm in ‘Havona’ features the synthesis of a Latin Samba and Funk elements, whereby the soloist improvises in a straight-eighths rhythmic feel. A transcription of the first chorus of Pastorius’ bass-line can be viewed in the appendices section at the back of this dissertation to give an idea of the type of rhythmic ‘feel’ employed for this composition.

⁴¹ Gwizdala, J. *Jaco’s Finest Hour*, *Bass Player Magazine*, (Accessed [01/11/2007]), <http://www.bassplayer.com>.

⁴² Davis, M. *So What*, Kind of Blue, 1957.

⁴³ Hancock, H. *Maiden Voyage*, Maiden Voyage, 1965

CONTINUUM - JACO PASTORIUS (1976)

♩ = 412

E⁶⁹ A⁶⁹

9 E⁶⁹ G[#] / A[#]

16 G/A E⁶⁹ C[#]/D[#] C/D A⁶⁹ C_{MA}7

Fig. 37. Chord Changes to ‘Continuum’

‘Continuum’ is another twenty-two bar composition that utilises the approach that could be described as ‘harmonically open.’ As the chords last for several bars at a time, it allows an improviser to explore the sound of each chord, it also allows for an exploration into harmonic superimpositions over the given chords. In this instance, the composition utilises the keys directly related to the open strings of the electric bass guitar, E and A, allowing a bassist to use pedal tones underneath their improvised melodies. This composition utilises Major 69 chords in the keys of E and A and also later in the piece G[#]/A[#] to G/A chords and the turnaround C[#]/D[#] to C/D to A 69 to finally Cma7.

It is unclear whether Pastorius was the first bassist to use this technique of composing in the key centres based on the open strings of the electric bass however, there is evidence that this technique was used in the compositional approach of guitarist Wes Montgomery. From the album entitled *The Incredible Jazz Guitar of Wes Montgomery* the tune ‘D Natural Blues’ is an example of composing in the key centres relating to the open strings of the guitar where the tonic, sub-dominant and dominant of D are all open strings. Another example is from the album *Full House* where Montgomery performs the standard ‘I’ve Grown Accustomed to Her Face’ transposed into the key of E. This compositional technique is also a feature of modern

guitarists Pat Metheny and Wayne Krantz’ compositional and improvisational styles, particularly the album *Bright Size Life* by Pat Metheny and *Long To Be Loose* by Wayne Krantz. Whether Pastorius influenced these guitarists or was himself influenced by Montgomery or not, this compositional tool is effectively executed on stringed instruments and offers a plethora of possibilities to the modern guitarist and bassist.

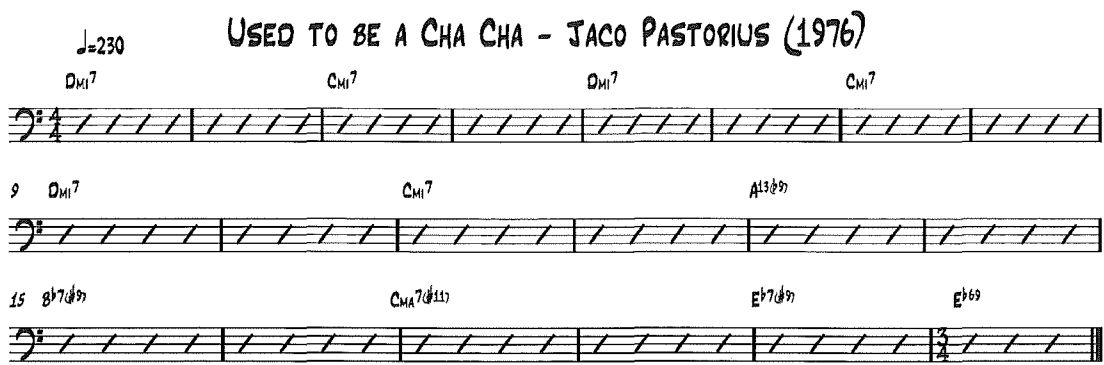


Fig. 38. Chord Changes to ‘Used to be a Cha Cha’

This example presents the twenty bar composition ‘Used to be a Cha Cha,’ again featuring the approach to this harmonically ‘open’ sound, allowing an improviser to explore each chord. This seems to be a feature of Pastorius’ compositional style, which highlights his approach to improvisation.

Another feature of the previous three figures is the curious number of bars that make up each composition. Unlike the structure of common tunes from the ‘American songbook’ for example, which more commonly feature thirty-two bar AABA forms, these compositions present uneven phrase lengths, perhaps a feature of a more ‘modern’ approach to composition, which again seems to be a common feature of Pastorius’ style. Another example of the compositional feature of uneven form structures comes from the text *Jazz Composers*

Companion by Gil Goldstein where Scott La Faro's 'Gloria's Step' is analysed.⁴⁴ This composition features an AAB form where the A is five bars long and the B is ten bars long, totalling a twenty bar form; the same length as Pastorius' 'Used to be a Cha Cha.'

Common Scale Choice

As identified earlier, the chords commonly found in Pastorius' compositions (at least those presented previously) are as follows:

- Major 9 (#11)
- Minor 9
- Suspended
- Major 6/9
- Dominant 13 (b9)
- Dominant 7 (#9)

These chords, as identified from Pastorius' compositions, influence what scale choices the bassist uses whilst improvising. Via detailed transcription and analysis the scale choices most commonly found in Pastorius' improvised solos include the Major scale and subsequent modes particularly the Lydian, Mixolydian and Dorian modes, Minor and Major Pentatonic, the blues scale, the diminished scale, the Chromatic scale and elements of chromaticism.

⁴⁴ Goldstein, G. *Jazz Composers Companion*, 1993, p. 72.

Use of Pentatonics

Another feature of Pastorius' approach to improvisation is his use of the pentatonic scale, which according to *Grove Music Online* during the late 1960's became an identifying sound of the style of Fusion,⁴⁵ of which Pastorius was commonly associated throughout his career.⁴⁶

Following are some examples of Pastorius' use of the Pentatonic scale in his improvised solos.



Fig. 39. Bar 7-9 of Used to be a Cha Cha – Gb Major Pentatonic

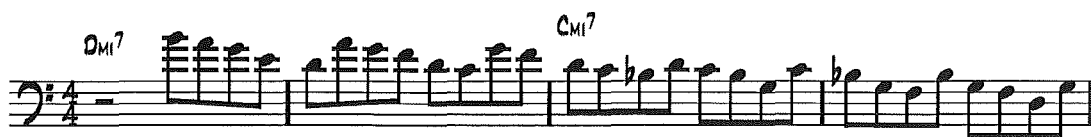


Fig. 40. Bar 37-40 of Used to be a Cha Cha – D and G Minor Pentatonic



Fig. 41. Bar 7-9 of Port of Entry – C Major Pentatonic

⁴⁵ Strunck, S. *Grove Music Online*, 'Harmony: Jazz' (Accessed [01/11/2007]), <<http://www.grovemusic.com>>.

⁴⁶ Kernfeld, B and Robinson, B. 'Jaco Pastorius,' *Grove Music Online*. ed. L. Macy (Accessed [01/11/2007]), <<http://www.grovemusic.com>>

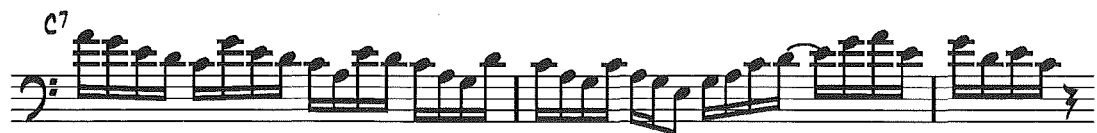


Fig. 42. Bar 28-30 of Port of Entry – C Major Pentatonic



Fig. 43. Bar 27-28 of Continuum – E Major Pentatonic



Fig. 44. Bar 17-18 of Used to be a Cha Cha – D Minor Pentatonic

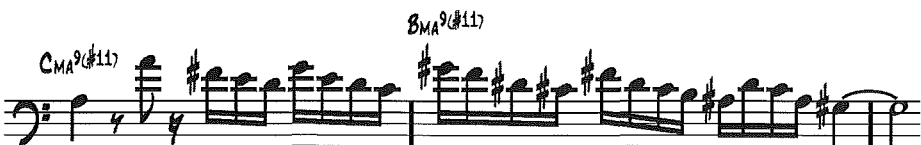


Fig. 45. Bar 12-13 of Havona – D, C and B Major Pentatonic

The use of the Pentatonic scale in improvisation allows one to outline the given harmony and or invent angular melodies that perhaps aren't possible from the use of other scales. However, the most important feature of the pentatonic scale is its use as a superimposition device, which will be explored in the next section.

Harmonic Superimposition

Another common feature of Pastorius' approach to improvisation is his use of harmonic superimposition. Liebman uses this term 'harmonic superimposition' in the text A

Chromatic Approach to Jazz Harmony and Melody to describe the technique of improvising over a given chord using a differing mode or chord sound.⁴⁷ Liebman continues that several ways of executing this technique is through tri-tone substitution, alternate ii-v substitutions, scale quality substitution, upper structure chords, modal and pedal point.⁴⁸

To explore Pastorius' approach to harmonic superimposition; firstly, he approaches a chord via the modes directly below and above a given chord. For example, take the chord C Major 13 (#11). This chord symbol would suggest using a C Lydian scale, which is the fourth mode of a major scale (according to major scale tone harmony).⁴⁹ One way that Pastorius sometimes approaches improvising over this chord symbol would be to use to scale tones from the B Phrygian scale (mode below C Lydian) and or the D Mixolydian scale (mode above C Lydian) thus highlighting different degrees of the chord.

By targeting the tones from the B Phrygian mode against the C Major 13 (#11) chord, the strong tones from the B Phrygian scale (B, D, F# and A)⁵⁰ highlight the Major 7th, Major 9th, sharp 11th and Major 13th of the C Major 13 (#11) chord thus highlighting the 'colour tones' or upper extensions of the given chord.

Similarly, by targeting the strong tones from the D Mixolydian mode (D, F#, A and C) over the same C Major 13 (#11) chord, a similar effect is achieved as the Major 9th, sharp 11th,

⁴⁷ Liebman, D. *A Chromatic Approach to Jazz Harmony and Melody*, 1997, p. 17.

⁴⁸ Ibid, 17-29.

⁴⁹ Crook, Hal. *How to Improvise*, 1991, p.54-55.

⁵⁰ These tones make up the arpeggio to the seventh degree of the B Phrygian scale thus outlining the modes strongest degrees (tonic, third, fifth and seventh).

Major 13th and Tonic of the C Major 13 (#11) chord is targeted. These examples have been described using the modes of the Major scale however, these same techniques apply to the Jazz Minor scale as will be illustrated later in this study.

The second approach to harmonic superimposition Pastorius uses is through the use of the pentatonic scale however; Pastorius approaches different chords differently when using the pentatonic scale as a substitution device.



Fig. 46. Bar 7-9 of Port of Entry

In this example, Pastorius simply uses the C Major pentatonic scale over the C7 chord, which effectively outlines the tonic, 9th, 3rd, 5th and 13th of C Major.



Fig. 47. Bar 37-40 of Used to be a Cha Cha

This example illustrates Pastorius using the G major pentatonic over the Dmi7 chord, which outlines the 11th, 5th, 13th, tonic and 9th of D. He then alters the line, changing to Bb Major pentatonic over the Cmi7 chord, which outlines the flattened 7th, tonic, 9th, 11th and 5th of C.



Fig. 48. Bar 12-13 of Havona

This example illustrates Pastorius using a D major pentatonic shifting to C major pentatonic over the CMA9 (#11) chord and B Major pentatonic over the BMA9 (#11) chord. Whilst the pentatonic scales relating to the tonic of the chord effectively outlines the tonic, 9th, 3rd, 5th and 13th of the chord, the use of the D Major Pentatonic over the CMA9(#11) chord highlights the 9th, 3rd, sharp 11th, 5th and 13th of C.



Fig. 49. Bar 7-9 of Used to be a Cha Cha

This example illustrates Pastorius' most dissonant use of the pentatonic scale from the selected transcriptions. Here Pastorius uses a Gb Major pentatonic scale over the Bb7 (#9) chord effectively highlighting the sharp 5th, flattened 7th, tonic, sharp 9th and 11th of Bb. Pastorius ends this phrase by highlighting the flattened 9th, flattened 7th, 11th, tonic and 13th of C in the final bar, perhaps resolving the dissonant phrase by ending on chord tones of the final chord.

Thus, to summarise, these examples illustrate Pastorius' varying approaches to using the pentatonic scale in improvisation. According to these examples, Pastorius uses the pentatonic scale in the following ways:

- Major Pentatonic based on the tonic over a Major 7th chord,
- Major Pentatonic based on the tonic over a Dominant 7th chord,

- Minor Pentatonic based on the tonic over a Minor 7th chord,
- Major Pentatonic based on the tonic over a Major 6⁹ chord,
- Major Pentatonic based on the fifth over a Major 6⁹ chord,
- Minor Pentatonic based on the fifth over a Minor 7th chord,
- Major Pentatonic based on the second over a Major 7th chord,
- Major Pentatonic based on the flattened 13th over a Dominant 7th chord.

Crook expands on what effect the use of these pentatonic scales has on a major, minor and dominant chord in the instructional text *How To Improvise*.⁵¹

Major pentatonic over a Major chord:

- Based on the tonic gives a Major 6 sound.
- Based on the fifth gives a Major 9 sound.
- Based on the second gives a Major 9 (#11) sound.

Minor pentatonic over a minor chord:

- Based on the tonic gives a minor 7 sus sound.
- Based on the fifth gives a minor 9 sus sound.
- Based on the second gives a minor 13 sus sound.

Major pentatonic over a dominant chord:

- Based on the tonic gives a Major 6 sound.
- Based on the flat third gives a dominant 7 (#9) sound.

⁵¹ Crook, H. *How To Improvise*, 1991, p. 110.

These examples present the superimposition devices that Pastorius uses in his improvised solos that were discovered through detailed transcription. However, these ideas can be expanded further as detailed by Crook in the instructional text *How to Improvise*. It is also important to note that Pastorius doesn't merely play the highlighted pentatonic scale over these selected chords rather, he has presented highly developed improvised melodies and perhaps patterns that are then superimposed over the given chords. Crook goes on to suggest ways of practicing the incorporation of these pentatonic scales into ones playing in *How To Improvise* however, this chapter is dedicated to the analysis of Pastorius' various improvisational devices.⁵² These harmonic devices are important features of Pastorius' approach to improvisation and will therefore be the focus of the etudes in the following section.

To conclude this analysis chapter, it is important to reiterate that even though the method section will focus mainly on Pastorius' harmonic approach to improvisation (specifically Pastorius' superimposition techniques through use of the modes and use of the pentatonic scale), thorough knowledge of his melodic and rhythmic approach combined with the harmonic devices presented, will strengthen the validity of the etudes that appear in the method section.

⁵² Crook, H. *How to Improvise*, 1991, p.111.

Chapter 3: Method

Introduction

This section of the dissertation will attempt to construct a method for the modern electric bassist that will assist an advanced performer assimilate selected aspects of Pastorius' harmonic approach to improvisation.

All of the musical language used in this method can be traced to the analysis of the seven selected Pastorius transcriptions found in chapter two of this dissertation and reference can be made to the transcriptions in their entirety in the appendices section.

The methodology used to help form the framework of this chapter will be influenced by the following key improvisational texts; *Concepts For Bass Soloing* (1993) by Marc Johnson and Chuck Sher and *How to Improvise* (1991) by Hal Crook. Reference will also be made to the instructional booklet from the video *Jaco Pastorius: Modern Electric Bass* (1985), which could be described as the only 'Jaco Pastorius method.' However, due to Pastorius' declining health at the time of the making of the video and due to the interviewers lack of questioning into the area of harmonic devices and superimpositions, this method will attempt to rectify the lack of available information regarding this area of study into Pastorius' approach to improvisation.

found in Pastorius' improvised solos and will feature essential aspects of his rhythmic and melodic approach, which will arguably present a more effective and thorough method.

Format of Method

Four topics of study:

- 1) Harmonic superimposition using the mode below the given chord changes.
- 2) Harmonic superimposition using the pentatonic scale.
- 3) Combination of both superimposition techniques.

This practice method will feature examples of:

- a) The basic superimposition,
- b) Chord/scale relationship examination,
- c) Etudes over a selected chord progression and
- d) Etudes over selected Pastorius compositions.

Section One: Harmonic superimposition using the mode below the given chord.

Basic idea:



This basic idea presents a C Major 7th chord, which for these exercises we will assume to be the fourth degree of the G major scale thus incorporating the sharpened 4th for greater tonal flavour. As illustrated, by improvising using the scale tones from the B Phrygian mode,

Similarly:

D_M7



A musical staff in bass clef showing the notes of a D minor 7 chord: D2, F2, A2, and C3. The notes are written as quarter notes in the first measure, followed by a double bar line. The second measure contains the notes D2, F2, and A2 as eighth notes, with a C3 quarter note in the third measure, followed by a final double bar line.

When presented with this Dmi7 chord and assuming it to be the second degree of the C major scale, by improvising using the C major scale the flattened 7th, 9th, 11th and 13th of D are emphasised on the strong beats of the bar.

C7(b13)

The image shows a musical staff in bass clef with a key signature of one flat (B-flat). The notes are C, E-flat, G, B-flat, and D, which are the notes of a C7(b13) chord. The notes are written as eighth notes in a sequence: C, E-flat, G, B-flat, D.

To continue, given this C7 (b13) chord and assuming it to be the fifth degree of the Jazz Minor scale, by improvising using the B Lydian Dominant scale the flattened 7th, 9th, 11th and flattened 13th of C are emphasised on the strong beats of the bar.

Chord/Scale relationship examination:

The following Etude will be based on the chord progression to the Miles Davis composition ‘Solar.’ The composition features the combination of selected chords that last for two bars at a time and both Major and minor ii-v progressions thus allowing for a thorough exploration of Pastorius’ superimposition techniques.

C_{M1}⁷ G_{M1}⁷ C⁷ F_{M4}⁷

7 F_{M1}⁷ B^{b7} E^b_{M4}⁷ E^b_{M1}⁷ A^{b7} D^b_{M4}⁷ D_{M1}⁷(B^{b5}) G⁷(A^{b7})

Fig. 50. Chord changes to Miles Davis' Solar

Illustrated above is the chord progression to Miles Davis' 'Solar.' Listed below are the chords from 'Solar' and the relative modes that will be used to improvise with in this study:

Cmi7



Cmi7 – Bb Major scale

Gmi7



Gmi7 – F Major scale,

C7



C7 – Bb Lydian scale,

Fma7



Fma7 – E Phrygian scale,

Fmi7



Fmi7 – Eb Major scale,

Bb7



Bb7 – Ab Lydian scale,

Ebma7



Ebma7 – D Phrygian scale,

Ab7



Ab7 – Gb Lydian scale,

Dbma7



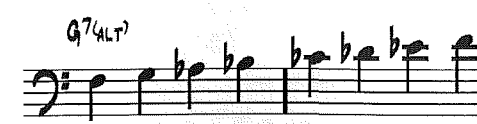
Dbma7 – C Phrygian scale,

Dmi7(b5)



Dmi7(b5) – C Mixolydian b6 scale,

G7(alt)



G7(alt) – F Locrian #2 scale.

The following etude is based on the chord changes of the Miles Davis composition ‘Solar.’ This etude was constructed utilising the harmonic device of improvising in the mode below the given chord changes. The etude also features the rhythms from the first twenty-four bars of Pastorius’ solo on Charlie Parker’s ‘Donna Lee’ from the album *Jaco Pastorius* and also utilises selected melodic devices from Pastorius’ solos including the use of side-slipping, chromaticism, targeting and surrounding techniques as analysed in chapter two.

Etude 1 – Solar (CD 1: track 8)

SOLAR

MILES DAVIS

13 17 21

Using the same principles as the previous exercise, this etude is based on the changes to the Pastorius composition ‘Havona.’ This etude was also composed using the rhythms from the first chorus of Pastorius’ improvised solo from the *Weather Report* album ‘Heavy Weather.’

Etude 2 – Havona (CD1: track 9)

HAVONA

JACO PASTORIUS

The musical score for 'Havona' is written in 4/4 time and consists of six staves. The key signature has one sharp (F#). The score includes various chord changes and rhythmic markings:

- Staff 1:** Starts with a whole rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, and a half note C5. Chord changes: E Δ A Δ 9(#11) and C Δ A Δ 9(#11). A triplet of eighth notes (G4, A4, B4) is marked with a '3'.
- Staff 2:** Starts with a whole rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, and a half note C5. Chord changes: B Δ M Δ A Δ 9(#11) and G Δ M Δ A Δ 9(#11). Triplet markings are present over the first three notes of the first measure and the last three notes of the second measure.
- Staff 3:** Starts with a whole rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, and a half note C5. Chord changes: E Δ M Δ 9 and C Δ M Δ A Δ 9(#11). Triplet markings are present over the first three notes of the first measure and the last three notes of the second measure.
- Staff 4:** Starts with a whole rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, and a half note C5. Chord changes: B Δ M Δ A Δ 9(#11) and G Δ M Δ A Δ 9(#11). Triplet markings are present over the first three notes of the first measure and the last three notes of the second measure.
- Staff 5:** Starts with a whole rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, and a half note C5. Chord changes: A Δ S Δ U Δ S and B Δ S Δ U Δ S. Triplet markings are present over the first three notes of the first measure and the last three notes of the second measure.
- Staff 6:** Starts with a whole rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, and a half note C5. Chord changes: A Δ S Δ U Δ S and B Δ S Δ U Δ S. Triplet markings are present over the first three notes of the first measure and the last three notes of the second measure.

Section Two: Harmonic superimposition using the Pentatonic scale.

Basic idea:



This example uses the Major pentatonic scale based off the tonic of the chord thus outlining the tonic, 9th, 3rd, 5th and 13th of the given chord. Pastorius uses this device over Major 7th, Dominant 7th and Major 6⁹ chords, which effectively outlines the chords sound (except perhaps the dominant 7th, which would normally require the flattened 7th to be played).



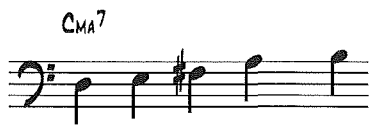
This example uses a similar idea to the previous example where Pastorius plays the minor pentatonic off the tonic of the given chord thus outlining the tonic, minor 3rd, 11th, 5th and flattened 7th of the given chord.



Here Pastorius uses the Major pentatonic based off the fifth degree of the chord, which outlines the 5th, 13th, 7th, 9th and 3rd of the given chord.



This example illustrates Pastorius using the minor pentatonic based off the fifth degree of the chord thus outlining the 5th, flattened 7th, tonic, 9th and 11th of the given chord.



This example illustrates Pastorius using the Major pentatonic based off the second degree of the chord thus outlining the 9th, 3rd, sharp 11th, 13th and major 7th of the given chord (bar 12-13 of Havona).



This example illustrates Pastorius using the Major pentatonic based off the second degree of the chord thus outlining the flattened 13th, flattened 7th, tonic, sharp 9th and 11th of the given chord (bar 7-9 of Used to be a Cha Cha).

The following etude will incorporate harmonic superimposition using the pentatonic scale over the chord changes to Chick Corea’s ‘Fingerprints.’ The rhythms used in this etude have been borrowed from Pastorius’ solo on the composition ‘Used to be a Cha Cha,’ where seven two bar rhythms were selected and mixed into the etude (Bars 1-2, 3-5, 13-14, 17-18, 33-35, 49-50 and 73-75 of ‘Used to be a Cha Cha’). The melodic ideas were also formulated from selected ‘Pastorius pentatonic patterns’ found throughout his transcribed solos; figures 39-45 illustrate some of these ideas.

Etude 3 – Fingerprints (CD1: track 10)

FINGERPRINTS

CHICK COREA

CM^b9

5 FM^b9 CM^b9

9 F[#]13 E^b7(9) D^bΔ7(9,11) D^bΔ7(9,11) CM^b9

13 CM^b9

17 FM^b9 CM^b9

21 F[#]13 E^b7(9) D^bΔ7(9,11) D^bΔ7(9,11) CM^b9

The following etude will incorporate harmonic superimpositions using the pentatonic scale over the chord changes to the Pastorius' composition 'Used to be a Cha Cha.' The rhythms have been taken from Pastorius' solos however, as Crook describes in the text *How to Improvise*, the rhythms, from now, will be slightly altered to explore a more personal approach to composing these etudes.

Etude 4 – Used to be a Cha Cha (CD1: track 11)

USED TO BE A CHA CHA

JACO PASTORIUS

50

These superimposition devices are examples taken directly from transcriptions of Pastorius' solos as seen in the appendices, however these techniques have been presented in a fairly basic form and can be altered and manipulated further at ones discretion. This method is merely a guide to the techniques that Pastorius uses in his improvised solos accompanied with suggested ideas about how to assimilate those techniques into ones improvisational language.

Section Three: Combination of all superimposition techniques.

This section will explore two selected Pastorius compositions in the form of the following etudes that will combine the harmonic devices 1) improvising in the mode below a given chord change and 2) the use of the pentatonic scale and their relative superimposition techniques. As suggested earlier, both the rhythms and melodic shapes that appear in these etudes have now become a synthesis of Pastorius' rhythmic and melodic approach and a manipulation of that approach into this writer's style.

Etude 5 – Havona (2) (CD1: track 12)

HAVONA

JACO PASTORIUS

5

9

13

17

21

Etude 6 – Used to be a Cha Cha (2) (CD 1: track 13)

USED TO BE A CHA CHA

JACO PASTORIUS

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 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 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

In conclusion of this chapter, a clear and concise method for incorporating Pastorius’ harmonic approach to improvisation, in coalition with his melodic and rhythmic approach, has been presented. By illustrating another approach to Pastorius’ improvisational devices through the composed etudes, it opens up the possibility for an advance performer to take this process further and to reap the benefits of this study.

Conclusion

In conclusion, chapter one undertook an in-depth examination of Pastorius' development as a bassist from a historic perspective. The chapter highlighted the techniques Pastorius pioneered whilst also outlining the many influences on the bassist throughout his formative years that consequently helped to shape his approach to improvisation. The biography *Jaco: The Extraordinary and Tragic Life of Jaco Pastorius* by Bill Milkowski and countless interviews with the bassist and his contemporaries were seminal to the construction of this chapter.

Several key discoveries from this chapter that helped identify aspects of Pastorius' unique approach to improvisation include firstly the influence from the great swing-era singers including Frank Sinatra, Tony Bennett and the big bands of Count Basie and Tommy Dorsey that consequently influenced his approach to melody and sound; highlighting the 'woody' bass sound he achieved. Secondly Pastorius' close relationship to the drums and percussion during his youth and later career that clearly influenced his keen command of 'time' and rhythmic 'feel.' Thirdly the funky muting technique, use of harmonics and chords and the 'fretless' bass sound that all became identifiable features of his sound and approach to music. Pastorius was also a competent pianist and arranger that allowed him an expanded, self-taught knowledge of jazz harmony and how the bass can function both below and above the harmony, which attributes to his advanced harmonic concept. He was also influenced by the music of Ornette Coleman and the Free-Jazz movement and such 20th century composers Stravinsky and Bartok who would certainly have influenced his concept of melody,

harmony and rhythm within his approach to improvisation and composition. All of these varying influences helped to shape his unique approach to music and also perhaps help to explain the origin of some of the advanced concepts that he employed in his approach to improvisation, which is explored in chapter two.

Chapter two analysed seven selected transcriptions of Pastorius' improvised solos highlighting any recurring rhythmic, melodic and harmonic devices used by the bassist. These devices were then illustrated and described for use in the final chapter. The chapter was formulated by drawing on a methodology based on the following proven instructional texts *A Chromatic Approach to Jazz Harmony and Melody* by David Liebman, *Concepts For Bass Soloing* by Chuck Sher and Marc Johnson, *How to Improvise* by Hal Crook and *The Chord Scale Theory and Jazz Harmony* by Barrie Nettles and Richard Graf.

The techniques that were discovered through this detailed study include the use of five and four note rhythmic groupings of ascending and or descending scalar patterns, the use of the many rhythmic subdivisions including the eighth-note and sixteenth-note subdivisions also eighth-note and quarter-note triplet subdivisions, the use of perfect fourth and fifth intervals in the construction of improvised melodies that attribute to his 'modern' sounding approach to improvisation, his use of double stops and chords in improvisation and composition, also his use of the many Be-Bop techniques (melodic paraphrasing, surrounding, targeting, chromaticism etc). Other devices that were discovered include the use of a harmonically 'open' approach to composition that allow

for extended explorations into the selected chords sounds and possibilities for the use of superimposition techniques, also the identification of common scale choices during improvisation and the application of the pentatonic scale and the major and jazz minor scale modes as devices for harmonic superimposition.

Finally, chapter three created a method for electric bass improvisation via detailed transcription based on the information gathered in the previous chapters. The devices collected were then formulated into a series of etudes that incorporated the harmonic devices that Pastorius commonly used in his improvised solos. The etudes were purposefully composed over differing chord changes including the Miles Davis composition 'Solar,' the Chick Corea composition 'Fingerprints,' and the Jaco Pastorius' compositions 'Havona' and 'Used to be a Cha Cha.' This approach was taken to highlight his approach over other compositions in the jazz genre as well as those of the bassist.

By identifying these integral aspects of his approach to the electric bass guitar and improvisation we take the first step in attempting to imitate his unique approach. By better understanding where he grew up: his musical upbringing, his theoretical and practical upbringing and the musicians he associated with, all give us a strong start to understanding his approach to music. Similarly, by identifying and illustrating the musical devices he uses in improvisation through detailed transcription, we can better understand his approach to improvisation. Finally, by learning both Pastorius' transcribed solos and the etudes constructed from those transcribed solos in the final chapter we take the next step in imitating and assimilating his unique approach to improvisation.

However, as identified in the improvisational texts referred to throughout this dissertation, the hardest and most complicated aspect of assimilating a players approach to improvisation is just that. One can study and imitate the harmonic, rhythmic and melodic devices of another performer however; making those devices sound musical and personal to that particular performer takes dedicated and disciplined practice. After the acknowledgements page in Hal Crook's *How to Improvise*, jazz trumpeter Clark Terry is quoted: 'Imitate, Assimilate, Innovate.' This dissertation is designed to assist an advanced performer to imitate and assimilate Jaco Pastorius' unique approach to improvisation; to then innovate is up to any advanced performer through dedicated and disciplined study and practice.

References

Biography

- Bacon, T and Ferguson, J. "Electric Bass Guitar." In *Grove Music Online* ed. L. Macy (Accessed [03/06/2007]), <http://www.grovemusic.com>.
- Berendt, J. *The Jazz Book*. Connecticut: Lawrence Hill and Co., 1982.
- Bobbing, Pastorius, Roberts and Weiss. Liner notes to *Portrait of Jaco: the early years 1968-78*. Holiday Park, 2002.
- Campbell, M and Oldham, G. "Harmonics." In *Grove Music Online* ed. L. Macy (Accessed [03/06/2007]), <<http://www.grovemusic.com>>
- Coryell, J. and Freidman, L. *Jazz-Rock Fusion: The People The Music*. New York: Dell Publishing Co. Inc., 1978.
- Druit, J. "Everything I've Listened to with Love. A study of guitarist Wolfgang Muthspiel and his integration of classical music elements into jazz." Hons. Diss. WAAPA, 2006.
- Gonzalez, F. "Jaco: A Legacy Revisited." *Downbeat Magazine*, 2003, 46.
- Hancock, H. Liner notes to *Jaco Pastorius*. Epic/Legacy, 2000.
- Kernfeld, B. *The New Grove Dictionary of Jazz. Vol. 2*. Macmillain Press Ltd, London 1988.
- Kernfeld, B and Robinson, B. 'Jaco Pastorius,' *Grove Music Online*. ed. L. Macy (Accessed [01/11/2007]), <<http://www.grovemusic.com>>
- Malone, S. *A Portrait Of Jaco: The Solos Collection*. Milwaukee : Hal Leonard Corp. 2002.
- Metheny, P. "The life & music of Jaco Pastorius." Liner notes to the 2000 reissue of *Jaco Pastorius*. Epic/Legacy, 2000.
- Milkowski, B. "The Galileo Of Bass." *Downbeat Magazine*, 1999, 90.
- Milkowski, B. *Jaco: The Extraordinary and Tragic Life of Jaco Pastorius*. San Francisco: Backbeat Books, 2005.

- Milkowski, B. "Jaco Pastorius: bass revolutionary." *Guitar Player*, Aug. 1984, 58.
- Oh, L. "New Method of Rhythmic Improvisation for the Jazz Bassist: an interdisciplinary study of Dave Holland's rhythmic approach to bass improvisation and North Indian rhythmic pattern." Hons. Diss, WAAPA, 2006.
- Pastorius, J. *Jaco Pastorius*, Sony Music Entertainment, 1976.
- Prince, P. *Jaco Pastorius: "Portrait of Tracy."* Bass Player Magazine, 1999, 83-85.
- Recchi, Ray. "South Florida's Pastorius Breaks the Bass Barrier." *Ft. Lauderdale News and Sun Sentinel*, 27/11, 1981.
- Rosen, Steve. *International musician and recording world*. (August 1978): 24.
- Tesser, N. "Jaco Pastorius: The Florida Flash." *Downbeat Magazine*, 1977,
- Townley, R. "Christian McBride On Jaco Pastorius." *Downbeat Magazine*, 2004, 88-89.
- Williamson, C. BBC Interview 1978, Unknown editor (Accessed [03/06/20007])
<http://www.jacopastorius.com>
- Zink, J. *Jaco's Forecast Is Sunny (1977)*. Unknown editor (Accessed [03/06/20007])
<http://www.jacopastorius.com>

Analysis

- Bent, Ian D., and Anthony Pople. "Analysis," In *Grove Music Online*, ed. L. Macy (Accessed [01/11/2007]), <<http://www.grovemusic.com>>.
- Berendt, J. *The Jazz Book*. Connecticut: Lawrence Hill and Co. 1982.
- Coltrane, J. *Giant Steps*, Atlantic Records, 1959.
- Doky, Neils Lan. *Jazz Transcription*, Germany: Advance Music, 1992.
- Davis, M. *Kind of Blue*, Sony Music Entertainment, 1957.
- Golstein, G. *Jazz Composer's Companion*, Germany: Advance Music, 1993.
- Graf, R and Nettles, B. *The Chord Scale Theory and Jazz Harmony*. Germany: Advance Music, 1997.
- Gwizdala, J. Jaco's Finest Hour, *Bass Player Magazine Online*, (Accessed [01/11/2007]), <<http://www.bassplayer.com>>.

- Hancock, H. *Maiden Voyage*, Blue Note Records, 1965.
- Kernfeld, B. "Improvisation." In *Grove Music Online* ed. L. Macy (Accessed [01/10/2007]), <http://www.grovemusic.com>
- Krantz, W. *Long To Be Loose*, Enja Records, 1993.
- Liebman, D. *A Chromatic Approach to Jazz Harmony and Melody*. Germany: Advance Music, 1991.
- Metheny, P. *Bright Size Life*, ECM, 1975.
- Montgomery, W. *The Incredible Jazz Guitar of Wes Montgomery*, Fantasy Records, 1960.
- Montgomery, W. *Full House*, Riverside Records, 1962
- Pastorius, J. *Jaco Pastorius*, Sony Music Entertainment, 1976.
- Pastorius, J. *Invitation*, Wounded Bird Records, 1983.
- Weather Report. *Heavy Weather*, Sony Music Entertainment, 1977.
- Weather Report. *Night Passage*, Sony Music Entertainment, 1980.

Method

- Crook, Hal. *How To Improvise*, Germany: Advance Music, 1991.
- Johnson, M and Sher, C. *Concepts For Bass Soloing*. Sher Music Co. (1993)
- Pastorius, J. *Jaco Pastorius: Modern Electric Bass*. Produced by Paul Siegel for Warner Brothers Pub, 1985.
- Strunck, S., 'Harmony: Jazz,' *Grove Music Online*, (Accessed [01/11/2007]), <<http://www.grovemusic.com>>.

Appendix A

Transcribed Pastorius Solos

1. Bright Size Life (Metheny)
Pat Metheny's *Bright Size Life*, ECM, (1975)
2. Donna Lee (Parker)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
3. Used to be a Cha Cha (Pastorius)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
4. Portrait of Tracy (Pastorius)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
5. Continuum (Pastorius)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
6. Havona (Pastorius)
Weather Report's *Heavy Weather*, Sony Music Entertainment (1977)
7. Havona – Bass-line
Weather Report's *Heavy Weather*, Sony Music Entertainment (1977)
8. Port of Entry (Shorter)
Weather Report's *Night Passage*, Sony Music Entertainment (1980)

Transcribed by Aaron Spiers

BRIGHT SIZE LIFE

(PAT METHENY'S BRIGHT SIZE LIFE 1975)

TRANSCRIBED BY ARON SPIERS ♩ = 166

PAT METHENY

FRETLESS BASS GUITAR

6 NC Q^ua7 B^bu^a7(♭11)/A

BASS

13 D D/C B^bu^a7 Q/A Q^ua7 B^bu^a7(♭11)/A

BASS

18 Q/A F/Q A⁷/E

BASS

23 D Q/A Q^ua7

BASS

28 B^bu^a7(♭11)/A D D/C A⁷ Q^ua7

BASS

34 Q^ua7 B^bu^a7(♭11)/A D

BASS

39 D/C B^bu^a7 Q/A

BASS

42 Q^ua7 B^bu^a7(♭11)/A D

BASS

47 D/C Q/B D Q/A

BASS

52 F/Q A⁷/E

BASS

56 D Q/A Q^ua7 B^bu^a7(♭11)/A

BASS

61 D D/C Q/B Q^ua7

BASS

DONNA LEE (JACO PASTORIUS 1976)

TRANSCRIBED BY AARON SPIERS ♩ = 213

A^bM^bA⁷ CHARLIE PARKER

FRETLESS BASS GUITAR

BASS

BASS

BASS

BASS

BASS

BASS

BASS

BASS

BASS

35 *A^bM^a7* *F7* *B^b7*

39 *B^bM^a7* *E^b7* *A^bM^a7* *E^bM^a7* *A^b7*

43 *D^bM^a7* *G^b7* *A^bM^a7* *F7*

47 *B^b7* *B^bM^a7* *E^b7*

51 *A^bM^a7* *F7* *B^b7*

55 *C7* *F^bM^a7* *C7*

59 *F^bM^a7* *C7* *F^bM^a7* *B^b7*

63

65

BASS

USED TO BE A (CHA CHA) (JACO PASTORIUS 1976)

TRANSCRIBED BY AARON SPIERS

JACO PASTORIUS

$\text{♩} = 230$

FRETLESS BASS GUITAR

4 Dmi^7 Cmi^7

8 A11b^9 $\text{Bb7}(\#9)$

9 C11sus $\text{E}^{\flat}7(\#9)$ $\text{E}^{\flat}6/9$

13 Dmi^7 Cmi^7 Dmi^7

18 Cmi^7 Dmi^7

23 Csus^4 A13b^9 $\text{Bb7}(\#9)$

29 $\text{Cmi}^7(\#11)$ $\text{E}^{\flat}7(\#9)$ $\text{E}^{\flat}6/9$ Dmi^7

34 Cmi^7 Dmi^7

39 Cmi^7 Dmi^7

43 Cmi^7 A11b^9

47 $\text{Bb7}(\#9)$ $\text{Cmi}^7(\#11)$

51 $E^b7(\sharp9)$ E^b69 $Dm7$

55 $Cm7$ $Dm7$

59 $Cm7$ $Dm7$ $Cm7$

64 $A^b7(9)$ $G^b7(\sharp9)$ E^b69

68 $Cm7(\sharp11)$

72 $Dm7$ $Dm7$

77 $Dm7$ $Dm7$ $Dm7$

82 $Dm7$ $Dm7$ $Dm7$ $Dm7$

88 NC

93

97

(WITH WEATHER REPORT 1977)

TRANSCRIBED BY ALPHIN SPENCE

HAVONA - BASSLINE (WEATHER REPORT'S HEAVY WEATHER 1977)

TRANSCRIBED BY ARON SPIERS

TACY PASTORUS

♩ = 145 E♭9/B♭11

FRETLESS BASS GUITAR

4 B♭9 G♭9

8 E♭9 E♭9/B♭11 C♭9

12 B♭9 G♭9

16 A♭9/B♭9 A♭9/B♭9

20 A♭9/B♭9

TRANSCRIBED BY AARON SPRESS

$\text{♩} = 154$

PORT OF ENTRY

WAYNE SHORTER

FRETLESS BASS GUITAR $\text{♩} = 154$ C^7

BASS 7

BASS 11

BASS 14

BASS 18

BASS 22

BASS 26

BASS 30

BASS 34

BASS 37

CONTINUUM

♩ = 112

JACO PASTORIUS

FRETLESS BASS GUITAR

BASS

5

10

14

16

19

22

25

28

31

E^b9

A^b9

E^b9

G[#]/A[#]

G/A

C[#]/D[#]

C/D

A^b9

Cm7

E^b9

A^b9

E^b9

34 *G[♯]/A[♯]*

BASS

38 *G/A* *E⁶⁹* *C[♯]/D[♯]*

BASS

42 *C/D* *A⁶⁹* *C[♯]A⁷* *E⁶⁹*

BASS

46

BASS

50 *A⁶⁹*

BASS

53 *E⁶⁹*

BASS

56

BASS

59 *G[♯]/A[♯]* *G/A* *E⁶⁹*

BASS

63 *C[♯]/D[♯]* *C/D* *A⁶⁹* *C[♯]A⁷*

BASS

Appendix B

Audio CD containing transcriptions and etudes

1. Bright Size Life (Metheny)
Pat Metheny's *Bright Size Life*, ECM, (1975)
2. Donna Lee (Parker)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
3. Used to be a Cha Cha (Pastorius)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
4. Portrait of Tracy (Pastorius)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
5. Continuum (Pastorius)
Jaco Pastorius' *Jaco Pastorius*, Sony Music Entertainment (1975)
6. Havona (Pastorius)
Weather Report's *Heavy Weather*, Sony Music Entertainment (1977)
7. Port of Entry (Shorter)
Weather Report's *Night Passage*, Sony Music Entertainment (1980)
- All etudes composed by Aaron Spiers (2007)
8. Etude 1: Solar (Davis)
9. Etude 2: Havona (Jaco Pastorius)
10. Etude 3: Fingerprints (Chick Corea)
11. Etude 4: Used to be a Cha Cha (Pastorius)
12. Etude 5: Havona (Jaco Pastorius)
13. Etude 6: Used to be a Cha Cha (Jaco Pastorius)