University of Adelaide

Elder Conservatorium of Music

Faculty of Humanities and Social Sciences

Applying the Linear Concept of contemporary drumming: a portfolio of recorded performances and exegesis.

Ву

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Abstract

This submission for the degree of MPhil in Musical Performance at the Elder Conservatorium of Music, University of Adelaide, is the outcome of a performance-based research project that aims to identify, explore and apply the Linear Concept of contemporary drumming. The investigative approach has been one of analysis followed by synthesis. The initial stage had a focus on aural analysis of existing sound recordings. The creative synthesis was achieved through new performances, in a contemporary jazz setting. The significance of the project is in the creation of performances that develop this interesting but hitherto underdeveloped rhythmic principle. The direct outcomes are presented through the medium of two, 60-minute audio-visual DVD recordings, supported by an explanatory 5,000-word exegesis.

Declaration

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Introduction

Reworking the Linear Concept of contemporary drumming: a portfolio of recorded performances and exegesis.

This practical, performance-based project has aimed to identify, explore and re-work the Linear Concept of contemporary jazz drumming. As a performance-based investigation the primary outcomes have, of course, been the author's own audiovisual DVD recordings, which are presented here, as Part A, in the form of two live 60-minute recitals given to invited audiences in the recording studio of the Electronic Music Unit (EMU) of the Elder Conservatorium of Music. These DVD recordings can be found attached to the inside of the hard covers.

Part B of this submission consists of an explanatory 5,000 word exegesis that seeks to support the recordings in the following ways: by explaining the linear concept and its technique; by differentiating it from the more common 'layered' technique; by reviewing the information available in the relatively few published articles about the technique; and by offering brief reflective commentaries on the performances of each of the pieces contained in the two recitals. Obvious limitations of space and scope mean that this supporting exegesis is not able to offer the type of fully comprehensive study that would be possible in a thesis-based submission. Even so, it is hoped that the information contained may provide a useful point of departure for any future performers wishing to undertake further investigation into this relatively little-known area of jazz drumming technique.

The primary aim of this project has been to develop a conceptual originality which might enrich the author's own style and technique of contemporary jazz performance in directions that are both innovative and progressive. In order to achieve this overarching aim it was necessary first to develop the technical, practical and physical skills demanded by the Linear Concept. Hence the early stages of the project have involved the development of the author's own playing technique, with particular regard to accent control, co-ordination, rhythmic diversity and touch. During this process of skill development it was, of course, necessary to become conscious of and to overturn a collection of deeply embedded physical reflexes connected with the more traditional, layered technique of jazz drumming.

The investigative approach has been one of aural analysis (of existing sound recordings of performances containing the linear drumming technique) leading to a

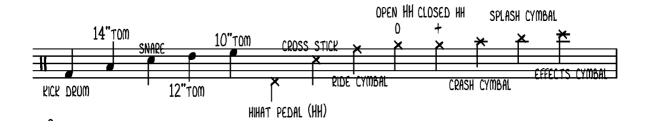
creative synthesis that seeks to apply the linear technique through a range of new performances. Between these starting and ending points there has been the skill development referred to, above.

The significance of the investigation lies primarily in the creation (through live performance) and documentation (through recordings) of pieces that apply the linear technique in a variety of ways and in the setting of a jazz ensemble. At the time of writing, the Linear Concept is still a relatively under-developed rhythmic principle, and it is hoped that this study may also encourage future performer-investigators to explore and apply the technique in their own original, creative ways.

The project has been guided by and has aimed to address four key research questions which were formulated at the beginning of the investigation:

- What are the particular stylistic and technical devices used by jazz drummers in order to perform in a linear style?
- How can the Linear Concept be implemented in a contemporary jazz setting?
- How can the performance of original compositions assist in the development of the Linear Concept?
- What are the limitations of the Linear Concept within the contemporary jazz genre?

The two 60-minute recitals took place towards the end of 2012, on 12 December and 19 December, respectively. The band consisted of five jazz musicians: Jason McMahon on saxophone/EWI (electronic wind instrument); Sam Leske on guitar; Alex Wignall on keyboard/piano; Marty Holoubek on electric/double bass, and myself, Holly Thomas on drums. The drum kit set up (shown in the example below on a percussion stave) consisted of the following: 20x18" kick drum; 14x5" snare drum; 10x8" tom; 12x9" tom; 14x14" tom; 14" hi-hats; 16" crash cymbal; 8" trash splash cymbal; 20" ride cymbal; 14" effects crash cymbal.



The two recitals, each containing eight pieces, were carefully differentiated. The first focussed on both extending the use of the Linear Concept in pieces which had already previously implemented linear drumming to some degree in the original performances, as well as focussing on a number of performances that were not originally performed with any reference to linear drumming. The pieces chosen for this treatment were ones characterised metrically and rhythmically by *regular* time signatures such as 4/4 and 6/8.

The second recital focussed on applying the Linear Concept to a variety of pieces that had *not* contained the linear drumming technique in the original recordings, however were chosen and grouped in such a way that they apply the technique in the context of various types of *irregular* metre. The second recital also featured two original compositions by the author: 'A Slippery Slope', and 'Luigi's Lament', thus allowing the author to use the Linear Concept as a tool for composition. An added benefit of including these two compositions was that the author was able to apply the linear concept without any preconceived ideas (particularly with regard to the role of the drum kit) from any pre-existing performances or recordings. These new pieces established a direct relativity to the third of the four central research questions above.

The decision to differentiate the recitals according to regularity versus irregularity of metre had some interesting implications for the other members of the band. With the regular metres the others were able to perform more instinctively and intuitively, whereas when working with the irregular metres they needed to be more consciously aware of the rhythmic processes at work.

PART A

Recorded Performances

A.1 DVD 1 (Recital 1)

DVD.1, Track 1: Actual Proof

Duration: 06:55

Duration: 04:44

Duration: 07:42

Duration: 08:27

Duration: 06:17

Original creators/songwriters: Herbie Hancock.

Details of original performance/recording: Thurst (1974), Columbia.

Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. (piano),

Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.1, Track 2: Lenore

Original creators/songwriters: Chick Corea.

Details of original performance/recording: *The Leprechaun* (1976), Polygram Records.

Performers on this new version: McMahon, J. (electronic wind instrument "ewi"), Wignall, A. (piano), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.1, Track 3: Four String Drive

Original creators/songwriters: Paul Jackson and Mike Clark.

Details of original performance/recording: *The Funk Stops Here* (1993), Tip Toe. Performers on this new version: McMahon, J. (soprano saxophone), Wignall, A. (keyboard), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.1, Track 4: Jazz Crimes

Original creators/songwriters: Joshua Redman.

Details of original performance/recording: *Elastic* (2002), Warner Bros / Wea. Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. (keyboard), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.1, Track 5: Pinzin Kinzin

Original creators/songwriters: Avishai Cohen, Mark Guiliana and Shai Maestro.

Duration: 06:22

Duration: 06:10

Duration: 06:28

Details of original performance/recording: *Gently Disturbed* (2008), Sunny Side. Performers on this new version: Wignall, A. (piano), Holoubek, M. (double bass), Thomas, H. (drums).

DVD.1, Track 6: Slinky

Original creators/songwriters: Paul Jackson and Mike Clark.

Details of original performance/recording: *The Funk Stops Here* (1993), Tip Toe. Performers on this new version: McMahon, J. (EWI), Wignall, A. (keyboard), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.1, Track 7: Common Ground

Original creators/songwriters: Stanton Moore.

Details of original performance/recording: *All Kooked Out* (1998), Fog City Records. Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. (keyboard), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.1, Track 8: Oatmeal Bandage

Original creators/songwriters: Tal Wilkenfeld.

Details of original performance/recording: Transformation (2007), Ais.

Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. (piano),

Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums)

NOTE:

2 DVDs containing 'Recorded Performances' are included with the print copy of the thesis held in the University of Adelaide Library.

The DVDs must be listened to in the Music Library.

A.2 DVD 2 (Recital 2)

DVD.2, Track 1: Train

Duration: 09:55

Original creators/songwriters: Chris Potter.

Details of original performance/recording: *Follow The Red Line: Live At The Village Vangard* (2007), Sunny Side.

Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. (keyboard), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.2, Track 2: **Softly As In A Morning Sunrise**

Duration: 07:24

Original creators/songwriters: Sigmund Romberg and Oscar Hammerstein II (Arrangement by Hiromi Uehara.)

Year composed: 1928.

Details of performance/recording: *Hiromi's Sonicboom: Beyond Standard* (2008), Telarc.

Performers on this new version: Wignall, A. (piano), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.2, Track 3: A Slippery Slope

Duration: 05:42

Original creators/songwriters: Holly Thomas.

Year composed: 2012

Performers on this version: McMahon, J. (tenor saxophone), Wignall, A. (keyboard), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.2, Track 4: Streams of Consciousness

Duration: 07:10

Original creators/songwriters: Joshua Redman.

Details of original performance/recording: *Freedom Of The Groove* (1996), Warner Bros.

Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. Leske, S. (electric guitar), (keyboard), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.2, Track 5: The Crunge

Duration: 06:30

Original creators/songwriters: John Bonham, John Jones, Jimmy Page and Robert Plant. (Arranged by Joshua Redman)

Details of original performance/recording: D'yer Mak'er (1973), Atlantic.

Duration: 05:04

Duration: 06:30

Duration: 06:50

Details of arranged performance/recording: *Momentum* (2005), Nonesuch. Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. Leske, S. (electric guitar), (keyboard), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.2, Track 6: Luigi's Lament

Original creators/songwriters: Holly Thomas.

Year composed: 2012

Performers on this version: McMahon, J. (EWI) Wignall, A. (keyboard), Leske, S.

(electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.2, Track 7: The Wheel

Original creators/songwriters: Chris Potter.

Details of original performance/recording: *Underground* (2006), Sunny Side. Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. (keyboard), Leske, S. (electric guitar), Holoubek, M. (electric bass), Thomas, H. (drums).

DVD.2, Track 8: London

Original creators/songwriters: Tom O'Halloran.

Details of original performance/recording: VOID (2005), XenDen.

Performers on this new version: McMahon, J. (tenor saxophone), Wignall, A. (piano), Holoubek, M. (electric bass), Thomas, H. (drums).

NOTE:

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Part B

Exegesis

B.1 Linear Concept

B.1.1 Defining the Linear Concept.

According to drummer and educator, Gary Chaffee, in his book *Linear Time Playing*, "Linear has no layering, no point where two or more voices are sounding at the same time." He continues: "most other types of time feels have lots of layering. That's why linear 'sounds' different, and that's really its value" (Chaffee, G. 1993:4). The Linear Concept is regarded as being complimentary to the "layered concept", defined by David Garibaldi as being where "some or all voices overlap each other at some point in a pattern or phrase forming chords...produce[ing] a thicker and somewhat busier sound." (Garibaldi, D. 1996:10-11).

Shown below in figure B.1.1, is an excerpt from Garibaldi's book, *The Funky Beat*, displaying a particular linear 'groove' (i.e., the repeated patterning of one bar). It can be seen (and heard) that no two notes are played at the same time. This is in contrast to the excerpt shown in figure B.1.2, which depicts a layered version (i.e., two or more rhythmic voices at the same time) of a similar groove.



Figure B.1.1 (Extract from Garibaldi, D 1996:10)



Figure B.1.2 (Extract from Garibaldi, D 1996:11)

Figure B.1.2 shows that the hi-hat (top voice) is paired with the snare drum (middle voice) and bass drum (lower voice) on occasions, creating a texture of rhythmic layering. In this case, the hi-hat has a regular repeated rhythm in eighth notes,

which creates a simpler rhythmic effect to the irregular and aurally more intriguing patterning of the linear example in figure B.1.1.

Funk drummer, David Garibaldi believed Chaffee to be the "first person... who applied the word linear to this particular way of constructing grooves" (Garibaldi, D. 1996:9). Garibaldi describes the linear style as "...one single line with none of the voices touching or overlapping one another to form chords" (Garibaldi, D.1996:9).

Whilst in its purest form, linear playing "involves no layering," (Chaffee, G. 1993:26) Chaffee suggests in his book *Linear Time Playing*, that there are occasions where a note will be "layered between two voices," usually occurring on a downbeat, with a bass drum note "being added to the basic phrase" (Chaffee, G. 1993:26). This is an important side note, because there are many occasions in compositions where particular rhythms, normally played by the whole or most of the ensemble (often called 'ensemble figures'), are required to be emphasised more than regular accents on singular voices. Chaffee states "if you were to do three or four layered notes, it wouldn't really be linear any more. But one, (or occasionally even two), notes [sic] will not really alter the overall sound" (Chaffee, G. 1993:26).

Chaffee articulates in his book *Linear Time Playing* "to be able to play well in the Linear style, there are certain technical skills that need to be developed" (Chaffee, G. 1993:4). Chaffee mentions three important factors to play in Linear style, the first being coordination. He states that "in this style, the various voices (snare drum, bass drum, hi-hat, etc) can be combined in almost any order... therefore, it is necessary to do a lot of routines in which the sequencing is changing constantly." (Chaffee, G. 1993:7)

Of equal significance is the balance between the different voices. As Chaffee states, "since the linear style involves no layering, it is crucial that the correct balance between the voices is maintained." (Chaffee, G. 1993:7) In his book *Future Sounds*, Garibaldi focuses strongly on the "Two sound-level Concept" (Garibaldi, D. 1990:6), which is essentially the ability to play both accents and non-accents on the snare drum, bass drum, hi-hat and ride cymbal, creating a natural balance on the drum kit. Garibaldi states "rhythm without accents is much like speech that is monotone and lifeless." (Garibaldi, D.1996:7) This highlights the importance of the balance between the voices.

The third skill of importance to the Linear Concept, is the rhythmic aspect of linear playing. As stated by Chaffee, "because of the lack of layering, if any note is out of place, it will really disrupt the entire feel." (Chaffee, D. 1993:7). This is particularly important, as a disrupted feel will make it difficult for a bassist and other instrumentalists to work together in a musical setting.

B.1.2 History and development of the Linear Concept.

The Linear Concept can be attributed to the experimentation of drummers Mike Clark and David Garibaldi, during the early 1970s. (Payne, J. 1996) Recordings featuring Steve Gadd also demonstrate the concept, however Clark and Garibaldi were the genuine innovators who first utilised the Linear Concept in an inventive and experimental manner.

Clark and Garibaldi were both involved in what Garibaldi described as "a very unique and fertile music scene" (Payne, J. 1996:213) in the Bay Area, San Francisco during the early 1970s. They were even involved in the same group at times, "split[ing] the drum chair in a band called *The Reality Sandwich*" (Payne, J.1996:213). Garibaldi remarks:

As I remember, we took turns getting fired out of it [the band]. The bandleader didn't like the real busy kind of playing we were getting into. I wanted to be in a situation where I could play what I was hearing. I was compelled to do this. I had this drive inside of me to play all these things I was hearing. It was a real experimental time and it was the same for Mike [Clark]. (Payne, J. 1996:213)

Garibaldi went on to record and perform in the commercially successful R&B/funk band *Tower of Power*, and Clark went on to perform and record with acclaimed jazz pianist, Herbie Hancock and jazz/funk group, *The Headhunters*.

Mike Clark

Mike Clark began his career as a child drummer in 1952 at the age of six in New Orleans, performing regularly on television and in numerous venues around his local area. After finishing high school, he spent much of his time away from New Orleans, performing throughout Sacramento, Oakland and the Bay Area, San Francisco, where he met bassist Paul Jackson and "formed a rhythm section partnership which has lasted until today." (Payne, J. 1996:220)

Jackson and Clark performed regularly together and as Clark states, "we were one of the hottest rhythm sections going around." (Payne, J. 1996:227) This period of Clark's career was the beginning of his experimentation with the Linear Concept. Clark remarks:

I don't know whether I'm the first guy on earth who ever did it, but that was part of my deal. I never heard anybody else do that before. That just came out of my practice room. I didn't even know they were calling it linear until I started teaching about ten years ago. I was doing that in 1968 and '69. I didn't record my stuff until '73, but I had been playing that way for a while. (Payne, J. 1996:227)

It is curious that Clark mentions 1973 as his first recording session, as his discography suggests his first session was in 1974 on the album *Thrust* with Herbie Hancock. The album *Thrust*, a landmark recording for Clark, featured the composition 'Actual Proof' which "... signalled a breakthrough in funk." (Payne, J 1996:220) Clark's recording of 'Actual Proof' was not only an example his innovative improvised funk style, but also had a significant degree of linear influence, which can be seen below in figure B.1.3.

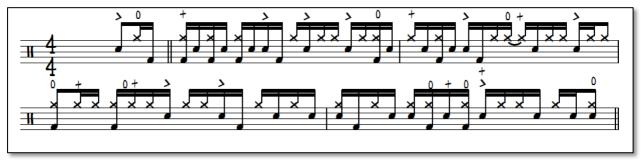


Figure B.1.3 (Hancock, H. 1974 'Actual Proof' Thrust)

As shown in the partial transcription of Clark's performance of 'Actual Proof' there are elements of the Linear Concept in his playing, however it is not strictly linear. There are a number of occasions in each bar where specific voices are duplicated, however the overall shape of the example is still quite linear, specifically the third and fourth bars of the example.

Clark went on to record three more albums with Hancock: *Death Wish* (1974), *Flood* (1975) and *Manchild* (1976). *Flood*, a live recording in Japan, features many of the compositions recorded on the album *Thrust*, including a performance of 'Actual Proof.' The extract in figure B.1.4 is an excellent example of Clark's unique ability to perform in a linear manner.

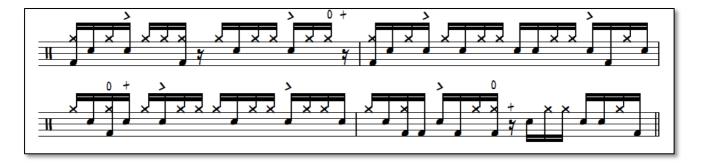


Figure B.1.4 (Hancock, H. 1975 'Actual Proof' Flood)

As shown in figure B.1.4, there are very few occasions where more than one voice is played at the same time. The duplication of voices only occurs six times within the example and on all occasions occurs only between the hi-hat and the bass drum.

After three years with Hancock, both Jackson and Clark left his band joining jazz/funk group, *The Headhunters* where they recorded and toured for many years. Clark also performed and recorded with Jack Wilkins, Jack Walrath, Marc Puricelli and fusion band, *Brand X*, along with some of his own projects with Jackson, *Give The Drummer Some*, *The Funk Stops Here* and *Actual Proof*.

A number of Clark's own recordings provide excellent examples of the Linear Concept. Two of the most significant examples of Clark's exploration into the Linear Concept include 'Spider Man' and 'Four String Drive,' which were both recorded in 1992 on the album *The Funk Stops Here*.



Figure B.1.5 (Clark, M. 1992 'Spider Man' The Funk Stops Here)



Figure B.1.6 (Clark, M. 1992 'Four String Drive' The Funk Stops Here)

Figures B.1.5 and B.1.6, transcriptions of 'Spider Man' and 'Four String Drive,' both demonstrate complete linear patterns, where no more than one voice is played at the same time.

David Garibaldi

David Garibaldi grew up in the Bay Area, San Francisco and began playing the drum kit during high school in 1961, when he was 15 years old. Once he graduated from high school, he then spent a number of years in the Air Force, eventually leaving the Air Force and coming back to the Bay Area, San Francisco in the summer of 1970. It was during this time that he joined *Tower of* Power, a band inspired by the music of *James Brown* and Motown Records. (Payne, J. 1996:213)

During the early 1970s Garibaldi began experimenting with what we now know as the Linear Concept. Garibaldi remarks:

"I started by playing all of the 16th notes with my right hand, while playing patterns with my snare and bass drum at the same time-layered 16th notes. Bernard Purdie's playing was like this, things stacked up on top of one another. During the time of the "East Bay Grease" record I got the thought - what if I could do all of the 16th note patterns, but do them between all my limbs without having the 16th notes going in one hand all the time? I wanted to have the 16th going but I wanted to break it up amongst all of my limbs. At the time I couldn't do it. I just had the idea." (Payne, J. 1996:217)

Garibaldi was clearly inspired by other prominent drummers around that time and had a vision for what he wanted to achieve in regards to linear drumming. He remarks:

After I met Pete DePoe and heard Rick Marotta and Bernard Purdie and Tony Williams, I started experimenting on how to break it up so that I could have the 16th note flow without steady 16ths with one hand. The vision I had for it was a much funkier thing than what I was doing at the time. (Payne, J. 1996:218)

Whilst Garibaldi admits that he was not necessarily executing the Linear Concept to its fullest capacity during the early 1970s, there are numerous recordings during this time, which demonstrate his experimentation with the concept. Figures B.1.7 and B.1.8 are transcribed extracts of Garibaldi's playing on two albums, *Back To Oakland* (1974) and *In The Slot* (1975). Both examples are not completely linear, however they show elements of the Linear Concept.

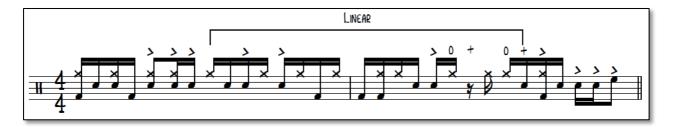


Figure B.1.7 (Tower of Power. 1974 'Squib Cakes' Back To Oakland)



Figure B.1.8 (Tower of Power. 1975 'Ebony Jam' In The Slot)

Figure B.1.7 is an example of an improvised 'fill' (a musical space in which the drummer fills the gap and set up the next phrase), where Garibaldi utilises a linear approach to fill the gap, whereas the example shown in figure B.1.8 depicts a particular rhythmic pattern that is featured throughout numerous sections of the composition.

Garibaldi left *Tower of Power* during the 1980s, however he returned during the latter part of the 1990s and is currently still performing with the band. During Garibaldi's hiatus from the band, he spent much of his time writing drum method books and recording for various artists. When he returned to *Tower of Power*, it was clear that he had still been exploring the Linear Concept during his absence from the band. An example of this evidence can be seen in figure B.1.9 below, which is an extract from the recording of 'You Got To Funkifize.' The first bar of the extract is repeated consistently throughout the performance and the second bar is repeated at times, with a number of variations. Whilst there are some layered notes between the bass drum and hi hat, there is a definite overall linear flavour. Much of the layered notes in the example can be attributed to punctuating the strongest beats in the bar, particularly in a live setting.

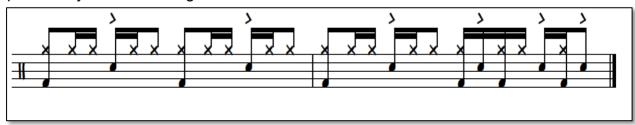


Figure B.1.9 (Tower of Power. 1998 'You Got To Funkifize' Soul Vaccination Live)

Steve Gadd

Whilst Clark and Garibaldi were instrumental in the evolution of the Linear Concept, session drummer Steve Gadd also began to use the concept in a number of recordings during the mid 1970s, such as Paul Simon's, '50 Ways To Leave Your Lover' and Chick Corea's, 'Lenore'.



Figure B.1.10 (Simon, P. 1976 '50 Ways To Leave Your Lover' Still Crazy After All These Years)



Figure B.1.11 (Corea, C. 1976 'Lenore' The Leprechaun)

Figures B.1.10 and B.1.11, transcriptions of '50 Ways To Leave Your Lover' and 'Lenore,' are both excellent examples of complete linear patterns, where no two voices are played at one time. Whilst both examples are true to the linear style, they occurred after the initial, innovative recordings of Clark and Garibaldi. Although Gadd's contributions to the Linear Concept are important, Clark and Garibaldi are considered to be the most influential drummers as the Linear Concept was a major part of their overall style.

Track 1: (06:55)

B.2 Commentary on DVD 1

B.2.1 'Actual Proof'

'Actual Proof' was originally recorded in 1974 on the album *Thrust*, Herbie Hancock's 15th album (Hancock, 2011). Musicians on the album included Hancock (keys), Bennie Maupin (flute/saxes), Paul Jackson (electric bass), Mike Clark (drums) and Bill Summers (percussion), however Summers did not record on 'Actual Proof.' The performance of 'Actual Proof' highlights Clark's use of linear based ideas, which can be seen on the transcription in figure B.1.3 and heard on the album (0:00-0:08).

The performance of this piece in the first recital was designed to demonstrate to the listener, the difference between performing in a layered manner as opposed to a linear manner. This was done by performing the first half of the piece in a layered manner, and the second half, commencing where the saxophone solo (04:50) begins, in a linear manner. This process of performing the piece with two different techniques adequately demonstrated the contrasting concepts. Aiming to perform the piece in a musical, rather than specifically technical way, may have made deciphering the difference between the two techniques a little difficult for the audience. However, when comparing the author's playing whilst accompanying the first solo, Leske's guitar solo (01:31), as opposed to McMahon's saxophone solo (04:50), there is a definitive difference between the playing techniques. The use of the Linear Concept allowed the author to approach accompanying the saxophone solo with more rhythmical freedom and creativity.

One notable limitation through applying the Linear Concept during the performance of 'Actual Proof' was the lack of dynamic range. Drummers generally rely on two options to increase their volume. The first option being the dynamics within each individual stroke, such as the volume of the snare or bass drum. This is very much applicable in the Linear Concept. The second process however, is the layering of sounds and limbs to increase the overall volume. This is obviously not achievable whilst utilising the Linear Concept as the concept is based on individual strokes rather than layered stokes and hence, limits the dynamic range of the drummer.

Track 3: (07:42)

B.2.2 'Lenore' Track 2: (04:44)

'Lenore' was originally recorded in 1976 on Chick Corea's album, *The Leprechaun*, after a break from his fusion group, "Return to Forever." The album had a "slightly more jazz-oriented" feel (Yanow, S, 2012) and featured a number of musicians including Corea (piano), Joe Farrell (saxophone), Bill Watrous (trombone) Eddie Gomez (bass) and Steve Gadd (drums). Gadd's drumming on 'Lenore' in specific areas provides a clear example of the Linear Concept in use. As shown in figure B.1.11, (a transcription of the rhythmic pattern Gadd repeats from 0:07-0:28 in the recording), there are no two voices which play at the same time, indicating this groove is demonstrably linear.

During Gadd's performance of 'Lenore' he played the linear pattern, as transcribed in figure B.1.11 during 0:07-0:28 of the performance, however at 00:58 he then performed a groove with a layered feel. The author's performance of 'Lenore' was perhaps, the most obvious and interesting example of the application of the Linear Concept during the first recital performance. The author utilised the Linear Concept throughout the entirety of the piece, including the solo section at 00:57 and 2:06. The ability to perform the solo sections utilising the Linear Concept once again opened up the rhythmical possibilities and interactivity between the soloist and the drummer.

B.2.3 'Four String Drive'

'Four String Drive' was originally recorded in 1993, by bassist Paul Jackson and drummer Mike Clark; also featuring Kenny Garrett on soprano saxophone and Jeff Pittson on keys. Clark's performance features the use of the Linear Concept, (as shown in figure B.1.6) and is one of the clearest examples of the concept in use as he not only utilises a linear groove as the basis of his performance of the piece, but also interacts with the soloists in an improvised manner utilising the Linear Concept.

The author's performance of 'Four String Drive' is very similar to that of Clark's, utilising the same distinctive linear pattern as the original recording. There are some differences in the accents and emphasis on certain notes, which give the author's performance a point of difference to that of Clark's, however the general idea of utilising the Linear Concept is apparent in both recordings.

Track 4: (08:27)

Track 5: (06:17)

Once again, the main limiting factor in the author's performance was the lack of layering to create a more expressive dynamic range. The challenge of the 16th note linear pattern also made it difficult to diverge from without sounding un-musical and somewhat 'forced'. Sometimes in conjunction with the lack of harmonic diversity in the composition, this made the music seem repetitive.

B.2.4 'Jazz Crimes'

'Jazz Crimes,' originally recording in 2002 and written by Joshua Redman, features drummer Brian Blade, organist Sam Yahel and Redman, on saxophone. The unique compositional aspect of this piece is the underlying eighth note rhythmic pattern played by the rhythm section. This pattern is punctuated by Blade with various accents on both the snare and bass drum with an underlying eighth note rhythm on the hi-hat, which is often varied with 16th note embellishments.

The author's performance of 'Jazz Crimes' utilised the main feature of the composition, the eighth note rhythmic pattern, and punctuated the accents through the use of the Linear Concept. The author utilised an underlying 16th note feel, accentuating the main rhythms using either the bass drum or snare drum, even utilising the cross stick on the snare drum to create some sonic variation. The piece was a perfect composition to showcase the application of the Linear Concept in a contemporary jazz setting as it featured many interesting rhythms throughout the arrangement in which the drums could contribute in a more involved and interactive fashion.

B.2.5 'Pinzin Kinzin'

The creators of Pinzin Kinzin, The Avishai Cohen Trio, composed a piece of music which has the rhythmic complexities of odd note groupings, such as groups of four and five (essentially nine) and yet the simplicity of a common time signature. The trio consists of Mark Guiliana (drums), Shai Maestro (piano) and Cohen (double bass). Guiliana performs this piece with an energetic funk groove, emphasising the groups of nine with accents on the bass drum. Whilst Guiliana emphasises the ninth note groupings with his bass drum, he also still keeps the snare hits on two and four, and provides a connective tissue, eighth notes on the hi-hat, to cement the overall feel of this piece.

The author's performance of 'Pinzin Kinzin' utilises the complexity of the odd note groupings to showcase the effectiveness of the Linear Concept in this funky, contemporary jazz setting. The author's linear groove ideas are based on the accents played by the double bass, which are punctuated on either the bass drum or snare. The remainder of the groove is filled with a variety of 16th notes orchestrated between the hi-hat, snare and bass drum. This use of the Linear Concept is yet again a technically effective example of its application in a contemporary jazz setting. Below, in figure B.2.5 is an example of a particular linear groove the author utilised to punctuate the irregular note groupings.



Figure B.2.5 (Thomas, H 2012)

B.2.6 'Slinky' Track 6: (06:22)

'Slinky' was originally recorded in 1993 with musicians Paul Jackson (bass), Mike Clark (drums), Kenny Garrett (soprano saxophone) and Jeff Pittson (keys) on the album *The Funk Stops Here*. Clark's performance prominently features the use of the Linear Concept, just as it did on the recording of "Four String Drive". During Garrett's saxophone solo at 03:05, Clark deviates from the prominent linear feel, introducing a constant eighth note hi-hat foot rhythm, enhancing the texture of the overall performance.

The author's performance of 'Slinky' is similar to that of Clarks' performance. The primary linear pattern used by Clark is the basis for the author's groove throughout the piece, however the author does not change to a layered feel during the various solo sections. Throughout the instrumental solos the author develops the original linear pattern and also utilises it as a basis to provide rhythmic accompaniment and interaction with the soloists.

Track 7: (06:10)

Track 8: (06:28)

B.2.7 'Common Ground'

Concept.

'Common Ground', composed by New Orleans based drummer, Stanton Moore, features Charlie Hunter (eight string guitar) and Sherik on saxophone. The piece incorporates a number of odd bar lengths throughout the main melody, however once arriving at the solo section, the meter changes to common time. Moore performs in a funky manner, however does not incorporate the use of the Linear

The new performance of Common Ground included here retains the funk style of the original, but adjusts it subtly in order to incorporate the Linear Concept within the performance dimension. The other instrumental roles remain essentially unchanged. One observation that can be made in connection with this particular piece is that the funk idiom seems to suit the Linear Concept perfectly, in part because of the prominent presence of the two accented back beats in each bar.

B.2.8 'Oatmeal Bandage'

Written by Australian born, US-based bassist, Tal Wilkenfeld, 'Oatmeal Bandage' features a number of highly acclaimed musicians, such as Keith Carlock (drums), Wayne Krantz (guitar), Geoffrey Keezer (piano) and Seamus Blake (tenor saxophone) (Kelman, 2009). Carlock's approach to playing 'Oatmeal Bandage' is very typical of his own personal style. In some ways, his drumming often sounds quite linear, as he tends to break up the main groove of the piece and place many different notes and rhythms on the drums. He still accents the main notes of importance within the groove or the arrangement, however he plays a constant 8th note rhythm on either the ride cymbal or hi-hat foot, giving it a layered feel and sound. This can be heard especially during the recording at 02:01, in his accompaniment during the piano solo.

The author's performance of 'Oatmeal Bandage' once again features the adaptation of a groove in which the original performance of the piece is not performed in a linear manner, to apply the Linear Concept to the composition. The concept is successfully applied to 'Oatmeal Bandage' because the piece was performed with a similar groove emphasis to the original. There does not appear to be many limitations on the performance due to the use of the Linear Concept, except for the reduced dynamic range and sound, typically associated with the concept. Oatmeal Bandage also featured a time signature change to 6/8 which enabled the author to apply the concept across a two different feels, highlighting the versatility of the concept.

B.3 Commentary on DVD 2

B.3.1 'Train' Track 1: (09:55)

'Train' was originally performed and recorded in 2007 at The Village Vanguard in New York and features a host of highly acclaimed jazz musicians, including Adam Rogers (guitar), Craig Taborn (Fender Rhodes), Nate Smith (drums) and Chris Potter (saxophone), who lead the band and composed the piece. The 'A' section of the piece utilises the 3/4 time signature and features an open section, which allows the soloist to build their improvisation. The 'B' section of the piece is built around a rhythm section melodic pattern, which includes one bar of 9/8 and the following bar of 7/8, which is repeated and improvised over by the soloists. In the 'B' section Smith performs a funky 16th note layered groove, which outlines the odd time of the melodic pattern.

In the author's performance of 'Train' the different sections of the composition are given a similar treatment to that of Smith's performance of the piece in *Follow The Red Line: Live At The Village Vangard*, however, the 'B' section, in particular is played utilising the Linear Concept to form the basis of the groove played. Performing and improvising in odd time signatures often provide their own challenges, however in this case, it was found to be even more difficult to apply the Linear Concept, due to the lack of constant rhythm provided by one voice (typically, hi-hat foot or hi-hat).

To overcome the challenge of performing in odd time signatures, the author created and utilised a variety of backing tracks in which she could practice along with in order to get comfortable with the performing freely in odd time signatures. This was of great use as practicing and rehearsing with the band was not particularly achievable until closer to the recital performances. The author would use these backing tracks to methodically practice endless varieties of linear combinations, then apply them in an improvised manner to replicate performance type situations.

B.3.2 'Softly As In A Morning Sunrise'

Track 2: (07:24)

'Softly As In A Morning Sunrise' was originally written by Sigmund Romberg and Oscar Hammerstein II in 1928 for the musical "New Moon," which premiered in New

Track 3: (05:42)

York at the Imperial Theatre on September 19 of that year. (Tyle, C. 2005) Japanese pianist, Hiromi Uehara, re-arranged the composition on her fifth studio album, *Hiromi's Sonicboom: Beyond Standard* in 2008. (Winbush, J. 2008) The arrangement features the use of numerous odd time signatures, ranging from 7/4 to 13/8. Musicians, David Fiuczynski (guitar), Tony Grey (bass), Martin Valihora (drums) and Uehara, herself on piano, perform the piece, as Winbush describes with "undeniable proficiency and technique" (2008)

The author's performance of Uehara's arrangement of 'Softly As In A Morning Sunrise' applies, the Linear Concept, to this complicated piece. Whilst the performance was mostly successful, one of the main limitations noted during the performance, was the inability to provide sustained sounds throughout the slow 7/4 section of the piece. Cymbals washes were utilised, however the use of layered drumming in this section of the piece, would have been more effective.

B.3.3 'A Slippery Slope'

'A Slippery Slope' was written by Holly Thomas in August of 2012. The idea came to fruition after a drum lesson with Gordon Rytmeister, in which Rytmeister made reference to the unique nature of the "Purdie Shuffle," which can be heard on 'Home At Last' on Steely Dan's album, *Aja* (transcription of the Purdie Shuffle shown below in figure B.3.3) and how it might be possible to replicate a similar style groove using the Linear Concept. With this groove in mind, a composition featuring the half-time shuffle example of the "Purdie Shuffle" was created. (Home at last)



Figure B.3.3 (Payne, J. 2010 'The Purdie Shuffle' Modern Drummer)

'A Slippery Slope' was perhaps one of the most difficult pieces to perform in the second recital. Whilst the piece had the simplest time signature variations and harmonic progressions, the linear adaptation of the "Purdie Shuffle" proved to be one of the hardest grooves to master of perhaps even both recitals.

Track 4: (07:10)

Track 5: (06:30)

The unique character of the "Purdie shuffle" can be attributed to the combination of complex accents and intricate note sequences. Replicating this feel using the Linear Concept proved quite challenging requiring strict control on accents and ghosted notes, yet still maintaining a smooth progression.

The performance of 'A Slippery Slope," the author's original composition, was able to assist in the development of the Linear Concept as performing the "Purdie Shuffle" groove in a linear fashion enabled the concept to be explored in new grounds. Applying the Linear Concept to a very iconic groove, highlights the versatility of the Concept and its application across many styles of music.

B.3.4 'Streams Of Consciousness'

'Streams Of Consciousness' was written and recorded in 1996 on the album *Freedom Of The Groove*, by Joshua Redman. The recording features musicians, Peter Bernstein (guitar), Peter Martin (piano), Christopher Thomas (double bass), Brian Blade (drums), and of course, Joshua Redman (saxophone). The piece utilises a complex time signature combination of 5/8, 5/8 and 4/8 (14/8) to form the basis of the groove and melody. However, the piece does relax into a 4/4 swing feel, perhaps allowing the listener a little relief from the complexity of the piece.

The author's performance of 'Streams Of Consciousness' features a somewhat different approach to the composition of Blade's on the album *Freedom Of The Groove*. Rather than performing the piece with a light, modern jazz approach, the author performed the piece with orientation in funk and fusion music styles, applying the Linear Concept to the complex time signature configuration, utilising 16th notes and accents to match the flow and rhythm of the bass line and melody. The limitation with this approach meant the performance was not as dynamic as the original, and the variations and improvisational approach to accompanying the soloist was also constrained.

B.3.5 'The Crunge'

'The Crunge' was originally written and recorded on the album, *D'yer Mak'er* by rock group, Led Zeppelin, in 1973, however saxophonist and composer Joshua Redman, arranged a version of the piece on his album *Momentum* in 2005, which features a jazz/funk version of the piece. Redman's arrangement of 'The Crunge' features

Track 6: (05:04)

musicians, Sam Yahel (keys), Brian Blade (drums), Michael Balzary (bass) and Redman (saxophone).

The author's performance of 'The Crunge' maintains a similar feel to that of Blade's performance of the arrangement, however the author approaches the piece utilising the Linear Concept as the basis of the groove. The author's approach showcases a 16th note orientated groove, whereas Blade's approach is performed with the basis of an 8th note feel. This main difference is due to the nature of the Linear Concept and its basis of using 16th notes and accents to create an overall feel.

B.3.6 'Luigi's Lament'

The author composed 'Luigi's Lament' after her trip to Europe in May 2012. The piece was inspired by the interesting scenery she observed and the many people she met whilst on her travels. The piece has a number of different sections in which the author purposefully utilised different feels and time signatures to explore the adaptability of the Linear Concept. The main objective with this piece was to work with an original composition that had a slow tempo and long, lush sounds, which are difficult to work with utilising the Linear Concept.

'Luigi's Lament' features three distinct sections. The first section, 'A', is written in 7/4, similar to the feel of Uehara's arrangement of 'Softly As In A Morning Sunrise,' the second section, 'B' features a floating 6/4 feel and then the solo section features both a straight-eighths 5/4 feel and the floating 6/4 feel once again. With so many variations of time signatures and feels, the piece is a perfect vehicle to apply the Linear Concept across the varying sections and explore the strengths and weaknesses of the concept.

The author's performance of 'Lugi's Lament' applied the Linear Concept across the different time signatures and feels with varying degrees of success. The solo section appeared to work quite well with the use of the Linear Concept, as it was rhythmically busy. The arrangement of the different time signatures and harmonic progression also contributed to the effectiveness of the solo section. The most difficult section of the piece to work in with the Linear Concept was most certainly the 'A' section with the 7/4 time signature. The open feel, created by the 7/4 time signature exposed the sonic space that a layered feel would effectively occupy.

Track 7: (06:30)

Track 8: (06:50)

B.3.7 'The Wheel'

'The Wheel' was composed by saxophonist, Chris Potter and originally recorded on his album *Underground* in 2006. The musicians featured on the recording included Adam Rogers (guitar), Craig Taborn (Fender Rhodes), Nate Smith (drums) and himself, on tenor saxophone. The composition features sections in both 15/8 and 3/4. Smith approached the 15/8 section with a funky, layered feel, which he utilised as a base to both improvise and accompany solos. The 3/4 section is approached with a more open feel which he eventually develops into a funky groove, leading back into the 15/8 section.

The author's performance of 'The Wheel' features a similar approach to that of Smith's, however the author utilises the Linear Concept to form the basis of the groove. 'The Wheel' is a particularly good example of the positive uses of the Linear Concept in a contemporary jazz as it showcases how Linear Concept application can sculpt both melody and the bass lines through the use of the accented 16th notes.

B.3.8 'London'

'London' was written by Perth based musician Tom O'Halloran and recorded on the album *VOID* in 2005. The album features a quartet of Australian musicians, Troy Roberts (saxophone), Dane Alderson (bass), Andy Fisenden (drums) and O'Halloran (keys). The piece has many different sections and is quite rhythmically intricate for all instruments. Fisenden's approach is extremely complimentary to the composition and features the drums at the forefront of the performance.

The author's performance of 'London' is very similar to that of Fisenden's performance, however the author utilises the Linear Concept throughout the piece to showcase its use. Use of the Linear Concept during the performance really complimented the rhythmic complexity of 'London' as many of the intricate rhythms featured in 'London' are based on 16th notes, the core rhythm structure of the Linear Concept. The performance of 'London' is a good example of the application of the Linear Concept in a contemporary jazz setting.

Conclusion

The primary aim of this project has been to develop a conceptual originality, enriching the author's style of musical performance through the use of the Linear Concept of jazz drumming. In pursuit of this aim the investigation has been guided by the four key research questions given in the Introduction.

At this point of critical reflection, when one is able not only to look back over the developmental process but also to attempt an evaluation of the performance outcomes, the project appears to have been reasonably successful. This is not to say that every possible aspect of the linear technique has been tested to its fullest. Obviously, there remain many other stylistic and ensemble contexts to which the linear technique could be applied, and it is hoped that future performer-investigators will wish to explore the potential of the technique and take it in new directions. But within the necessarily limited focus of the present study there have been several achievements.

Firstly, the author has been able to re-conceptualise her playing technique by questioning, analysing and reconfiguring the mental processes and deeply ingrained physical reflexes associated with many years of performing according to the traditional 'layered' technique. This was not at all easy to do. Once a performer's physical reflexes are programmed into the brain it becomes rather difficult to change them. Obviously, the reflexes are part of a very complex network of unconscious thought processes. It proved necessary to bring these processes and reflexes within the conscious workings of the mind so that they could be re-engineered.

Two of the undoubted difficulties during this process of mental and physical reengineering were that the playing went through an intermediary stage of feeling rather awkward, and the player went through a stage of feeling too self-conscious about physical gestures that had previously been automatic. One could summarise this in a humorous manner by referring to the cautionary tale about the centipede: when asked whether he put his 50 left legs first, or his 50 right legs first, he responded that he had never really thought about it, then lost his balance and fell over. Reference to this anthropomorphic tale is not intended to be flippant. The jazz drummer may only have two arms and two legs, but the complex co-ordination between them is controlled by only one brain. So a certain degree of sympathy and identification with the predicament of the centipede may perhaps be excused.

After de-constructing the physical reflexes programmed by many years of playing according to the layered technique, the author then moved into the stage of reconstructing according to the linear technique. Initially, the mental processes had to be acutely conscious, and it look quite some time for a new set of reflexes to become established in the unconscious levels of the mind. This is not the place to engage in deep psycho-analytical reflection. Suffice it to note that one of the surprises of the investigation was the extent to which mental processes - not only the physical gestures and reflexes - had to be confronted and changed.

Once the linear technique had been mastered, to the point where it began to feel comfortable, natural, and even automatic, a further - unanticipated - stage of selfdiscovery presented itself. This was the stage where one might switch effortlessly between the two techniques. The word 'effortlessly' may be slightly misleading. Of course there was a lot of mental effort required before reaching anything resembling 'effortlessness'. The process of switching between the two techniques might be compared with a computer configured in such way that it can switch in a second between the Mac OSX and Windows operating systems. Each of these systems has its enthusiastic adherents, many of whom are prone to denigrate the opposite system. It is relatively rarely that one encounters a computer user who has both systems installed in parallel and regularly switches between them in order to exploit the advantages of both and their respective system-specific applications. The author now has both the layered and the linear 'operating systems' of jazz drumming installed on her mental 'hard-drive', and hopes that - over time - the process of switching between them, either between songs or even within songs, will become effortless.

Secondly, the decision to differentiate the content of the two recitals (in the ways explained in the Introduction) seemed to work fairly well with the other members of the ensemble. One benefit of the decision to differentiate the two sets of material by types of metre (regular metres in the first recital, irregular metres in the second) gave the ensemble members some interesting challenges of their own, unconnected with the author's understandable obsession with linear drumming. By diverting their creative attention to those metrical matters, it was possible to carry out the linear drumming 'tests' with the other musicians being almost unaware that this was happening. The success of this collaborative aspect of the project has been gratifying, because at the outset it seemed there might be a risk of the other musicians becoming over-conscious of the drumming tests being carried out, and thus to some degree inhibited in their own contributions to the music making.

Fortunately, no such barriers appeared, and the collaborative dimension did not seem to be affected adversely.

Thirdly, the author found that she was able to test the capacity of the linear technique in ways that exposed not only strengths but also some weaknesses and limitations of the concept.

One of the main strengths identified in this study is the fact that the linear technique seems to be able to enhance the rhythmic complexity of certain compositions (more so than standard layered drumming), because it requires the drummer to be much more rhythmically and musically active, especially with the use of accents to punctuate important parts of the melody.

The study also exposes some limitations of the linear technique as applied in a contemporary jazz setting. One of the main restrictions encountered was that the performances were not necessarily as dynamic as desired. This seemed to be a consequence of the fact that no layering was available to build up the sound. The latter tactic is a common one for drummers who seek to build an impression of volume by rhythmic 'presence' without necessarily playing louder.

A significant limitation of the linear technique was encountered when applying it in a contemporary jazz setting to pieces with slower tempos and more relaxed 'feels'. Unduly busy rhythmic activity would have sounded inappropriate, but one was left with some rather exposed sonic spaces that could have benefitted from conventional layering. This problem can perhaps be solved in the future by the process of 'switching' between systems, discussed above.

A most welcome - but not fully anticipated - benefit of including two of the author's own song compositions was that the members of the ensemble (including the present author) were able to explore the tempos, the metres and the rhythmic relationships without feeling influenced by any prior performances or recordings. These two pieces provided pieces of 'blank slate' on which fresh performances could be written. The musical freedom provided by this lack of existing models was refreshing and somewhat exhilarating. In the other pieces there was always a certain amount of memory playing its part, with each member of the ensemble aware - in a slightly different way - of the original published recording. The strong advantage of such awareness is that it connects the music to the jazz tradition. But sometimes it is refreshing to establish a creative distance from awareness of the

tradition. The two original pieces provided a certain amount of distance and liberation, and were thus creatively worthwhile and rewarding.

This project has addressed the four central research questions identified in the introduction (p.10), and these questions have permeated the discussions presented in this exegesis. Although the practical application of the Linear Concept considered here has been that of the contemporary jazz setting, there remains considerable scope for further investigation of the technique in sheer musical contrasts, both within the broad church of the jazz tradition and across many other styles and traditions of music. There is also much more to explore in the application of the Linear Concept to collections of percussion instruments that are not positioned according to the conventions of the jazz drum kit layout. These and other areas of investigation have been beyond the scope of the present study, but it is to be hoped that future performers may become sufficiently intrigued by the potential of the Linear Concept to take it in other innovative directions and on artistically adventurous journeys.

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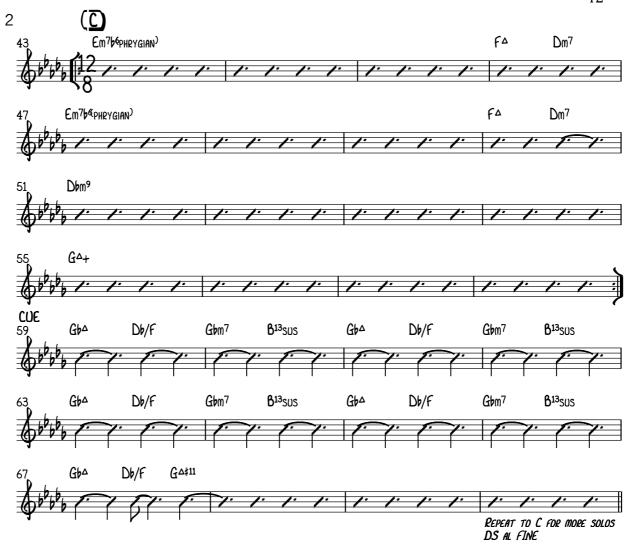
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Appendix A:

A SLIPPERY SLOPE





Appendix B:

LUIGI'S LAMENT



