Phrasing and Polyrhythm in Contemporary Jazz Guitar: A Portfolio of Recorded Performances and Exegesis

Volume One

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Abstract

This dissertation examines, through transcription, analysis, and performance, the use of rhythmic devices by two pivotal contemporary jazz guitarists, John Abercrombie and Gilad Hekselman. An in-depth examination of phrasing (Chapter One) and polyrhythm (Chapter Two) are underpinned by transcriptions by the author of Abercrombie’s *Straight Flight* (1979), Hekselman's entire discography as a leader, *Splitlife* (2006), *Words Unspoken* (2008), *Hearts Wide Open* (2011), and *This Just In* (2013), along with selections of Ari Hoenig’s *Bert’s Playground* (2008) (Volume Three: Appendix Seven: pp. 3-231). Interviews with Abercrombie, Hekselman, and Hoenig are also integral to the research (Appendix Five: pp. 135-153).

The transcription and analysis culminated in a comprehensive list of various devices relating to phrasing and polyrhythm (Appendix Four: pp. 132-134). This list was used as a practical application guide, including expansions of concepts and personal explorations that are discussed throughout this exegesis.

The focal point of this performance based dissertation is four CD recordings (Volume Two), a total of four hours of music, in which the findings of the research are applied: CD1: *Retrieval Structure*, CD2: *Abercrombie and Hekselman Duets*, CD3: *Perception*, and CD4: Disc One: *Abercrombie and Hekselman Repertoire*/Disc Two: *Ari Hoenig Session*. These recordings include performances with Gilad Hekselman, John Abercrombie, and Ari Hoenig, all of whom provided the initial focus of the research in the transcription and analysis phase.
Declaration

NAME: ___________________________ PROGRAM: ___________________________

This work contains no material which has been accepted for the award of any other
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Publications

Original Compositions: Lionel Loueke (Mel Bay Publications, Inc)
Polyphony for Jazz Guitar: Gilad Hekselman (Jazz Heaven)
Gilad Hekselman Transcriptions: Splitlife (Aurora Sounds)
Gilad Hekselman Transcriptions: Words Unspoken (Aurora Sounds)
Gilad Hekselman Transcriptions: Hearts Wide Open (Aurora Sounds)
Gilad Hekselman Transcriptions: This Just In (Aurora Sounds)
Retrieval Structure (Aurora Sounds)
Perception (Aurora Sounds)
Each publication included in this submission as an appendix is prefaced by a 'statement of authorship' form, including publications reproduced with the permission of Mel Bay Publications, Inc (Volume Three, pp. 181-205), and Jazz Heaven (Volume Three, pp. 215-231). These publications are not available for photocopying or public dissemination. The same is true for the CD recordings (Volume Two), which are available for loan only through the Elder Conservatorium of Music.

I also give permission for the digital version of my thesis to be made available on the web, via the University’s digital research repository, the Library catalogue, the Australasian Digital Theses Program (ADTP) and also through web search engines, unless permission has been granted by the university to restrict access for a period of time.

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When embarking on this endeavour I was simply a fan of both Gilad Hekselman and John Abercrombie's guitar playing and compositions. I am extremely happy to say that over the years I have developed a strong rapport with both of them and now consider them close friends, colleagues and collaborators. Their impact on both the intellectual research and resulting CD recordings has been invaluable. I am genuinely humbled by this, and look forward to the future of these professional working relationships.

The many, many different musicians involved with the recordings are a constant inspiration and make the entire process of music making worthwhile. A big thanks to: Jo Lawry, Will Vinson, Chad Lefkowitz-Brown, Shai Maestro, Matthew Sheens, Alon Tayar, Linda Oh, Scott Colberg, Or Bareket, Bambam Rodriguez, Kenneth Salters, Ari Hoenig, Yanni Burton, Sarah Koenig-Plonskier, Lavinia Pavlish, Jack Stulz, and Leanna Rutt. I would also like to express my appreciation and gratitude to Jon Gordon, for helping with the artistic framework and production of *Perception*, the third CD submitted in the second volume of this thesis. Thanks is also extended to the outstanding recording,
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Introduction

The past two decades have seen rhythmic innovations move to the forefront of jazz performance (Hoenig/Weidenmueller, 2009: 3). This trend is apparent in the work of many contemporary artists, including Avishai Cohen, Ari Hoenig, Vijay Iyer, Dave Holland, Gilad Hekselman, Bobby Avey, Tigran Hamasyan, Jean-Michel Pilc, Miles Okazaki, and Marc Hannaford. This performance based research project examines this trend by exploring phrasing and polyrhythm in the music of Gilad Hekselman and, equally importantly, his precursor John Abercrombie. It does so through the transcription and analysis of Hekselman’s entire discography as a leader, in conjunction with selected improvisations of Abercrombie, and the application of the findings made through performance. As such, the main product of the study is four hours of recordings (Volume Two) that were directly informed by the research process. All of the CDs are live studio recordings made in New York, and feature many of the world’s most prominent voices in contemporary jazz. This includes performances with Shai Maestro, Linda Oh, Will Vinson, Ari Hoenig, Jo Lawry, and Hekselman and Abercrombie themselves.

The first CD Retrieval Structure consists of entirely original compositions, and represents a snapshot of my compositional and improvisational language towards the beginning of the research project. The second CD is a series of guitar duets featuring Hekselman, Abercrombie, and me, with jazz standards being the main repertoire presented. Perception, the third CD, is an album of almost entirely original compositions. It features fifteen different musicians with varied instrumentation, including two works with a string quintet. The final CD (split over two discs) is comprised of Hekselman and Abercrombie compositions and arrangements which explore the rhythmic devices discussed within this submission (Disc One), along with some original works and arrangements that feature Ari Hoenig (Disc Two).
The study takes as its point of departure the following insight from Hoenig, who cites Jeff ‘Tain’ Watts as his gateway into rhythmic development:


As a framework for this study, some insights into rhythmic development with regard to jazz guitar will be discussed. Abercrombie cites Jim Hall (in particular his work in the 1960s with Sonny Rollins, Bill Evans and Art Farmer) as a major innovator:

Now you hear a lot of players using more sophisticated rhythmic vocabulary. When I was growing up there was Pat Martino, George Benson, Tal Farlow, and Wes [Montgomery]. They played in a very straight way, beautiful though, but if you grew up back then and then you heard Jim Hall you would have been blown away... I think he was the first to start hinting at the new direction of jazz guitar.

[He showed that] you don't have to play long lines of eighth notes, and you can play different chord voicings. They were linked to the tradition, but more modern. A lot of it was rhythmic concepts.

There were some other guitarists who were pushing in other directions like this: Larry Coryell, and Gabor Szabo, but Jim was the first that was heading in a new direction without playing rock jazz or Hungarian gypsy scales. He took the language and found a new way of expressing it. He arrived to show us the way forward (Abercrombie, 2010: personal communication).

Abercrombie cites Jim Hall as a major influence, and was chosen for this study as his sound and approach to improvising provides a natural extension of Hall’s innovations, which he in turn carried through to the following generation of jazz guitarists:

I was always trying to hear melodies and intervallic motions, and rhythm to be the basis of what I played, not lines. I think it's a more natural way of playing. You have to use your ear and compositional talents and it’s also more interactive (Abercrombie, 2010: personal communication).
This more interactive way of playing is argued to be one of the primary outcomes of contemporary developments towards more complex rhythmic language. It has created a new improvisatory platform for communication to take place. Abercrombie elaborates this point with particular reference to his trio from *Straight Flight*:\footnote{Abercrombie's rhythm section for *Straight Flight* (1979) was Jeff Donaldson (Bass), and George Mraz (Drums)}

I need to be able to play with the right people. When no one is completely laying it down, that's when it's the most interesting. When bass and drums are not doing their usual roles [bass walking and drums keeping time], you have enough room to explore. You don't feel boxed in to needing to play constant eighth notes all the time.

We took a lot of risks, but we always kept to the form. For a lot of jazz musicians it has been a game that we play. I have always liked that. Seeing how much you can bend it, twist it, leave it behind, and get away with, but still be able to come back, and know where it is (Abercrombie, 2010: personal communication).

Although Abercrombie is still a major voice in jazz guitar, with a career spanning more than 40 years and 50 albums, his place in the history of the music is firmly established (DiGirolamo, 2009: n.p.).

Since the scope of the research is based around more contemporary developments, it was essential to look to the current generation of jazz guitarists. Gilad Hekselman was chosen, and it is argued that he provides a direct link from Abercrombie’s generation as a current innovator of the more rhythmically sophisticated improvisational style suggested by Abercrombie’s former comments. As the study shows, Hekselman has taken the innovations of Hall and Abercrombie to the next level, helping to establish the most recent paradigm of jazz guitar. This comes as no surprise when discussing the topic with Hekselman, as rhythm has always been the most important part of his approach and musical aesthetic.

You know before I played the guitar I wanted to be a drummer. I couldn't because my neighbours would get annoyed with the sounds and so I wasn't allowed to
practise drums. My second instrument was guitar, and in a way I still want to be a drummer... I'm more interested in rhythm and I've always been more into rhythm than anything else (Hekselman, 2012: personal communication).

Although Abercrombie and Hekselman are referring in broader terms to the concept of rhythmic innovations, this study – in both performance and the current exegesis – breaks the concept down into its component parts, as identified in the title: phrasing and polyrhythm.²

**Thesis Structure and Key Terms**

The thesis is made up of three volumes, the first of which comprises the current introduction, three chapters (as outlined below), the resulting conclusions and outcomes, and appendices subdivided into notes on the submission recordings (Appendix One), recorded extracts from the transcriptions discussed (Appendix Two), glossary of terms (Appendix Three), practical application list (Appendix Four), edited transcripts of interviews with Ari Hoenig, Abercrombie, and Hekselman (Appendix Five), and a bibliography/reference list (pp. 154-159). The four CDs: *Retrieval Structure, Abercrombie and Hekselman Duets, Perception, and Abercrombie and Hekselman Repertoire/Ari Hoenig Session* are found in Volume Two. Volume Three includes a drum notation legend for the transcriptions discussed (Appendix Six), 228 pages of transcriptions (Appendix Seven), lead sheets of the repertoire performed on the recordings (Appendix Eight), and finally, a full transcription of my own improvisation from the submission recordings (Appendix Nine).

The three chapters which represent the main discussion of the exegesis present the results of the research through the transcription, analysis, performance and exploration of approaches to phrasing and polyrhythm. **Chapter One** addresses phrasing.²

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² A complete list of terms and definitions are included in Appendix Three (pp. 129-131)
Phrasing plays a large part in the way that Abercrombie conceptualizes his rhythmic vocabulary, stating in an interview that 'it's all about phrasing' (Abercrombie, 2010: personal communication). As this study will examine, many of the rhythmically inspired devices are better conceptualized as various approaches to phrasing. As to the definition of what a 'phrase' actually is, many draw the link between music and language. This includes the *Harvard Dictionary of Music (Second Edition)* definition of ‘a division of the musical line, somewhat comparable to a clause or a sentence in prose’ (Apel, 1970: 668), or 'borrowed by analogy from the terminology of linguistic syntax. Musical phrases combine to form larger, more complete units' by the *Grove Dictionary Online* (Bellingham, 2013: n.p.). As to a definition of ‘phrasing’, the *Oxford Companion to Music* describes it as ‘the way in which a performer interprets both individual phrases and their combination in the piece as a whole’ (Latham, 2002: 953).

For the purpose of this study, a ‘phrase' will be any structure or idea which can be seen as containing a clear beginning and ending, whether it conforms to the underlying structure of the work or not. ‘Phrasing’ will be the collection of these shorter fragments into larger, more elaborate musical statements. Chapter One explores phrasing according to the subheadings listed below:

1) Phrase displacement
2) Off beat syncopation and on/off phrasing
3) Obscuring hierarchical structures
4) Hierarchical polyrhythms
5) General asymmetry in phrasing

The above are explored through the transcription and analysis of Hekselman, Abercrombie, and selections of my own performances.
**Chapter Two** explores aspects related to **polyrhythm**, which is defined by the *Oxford Companion to Music* as the ‘simultaneous use of different rhythms in separate parts of the musical texture’ (Latham, 2002: 979), and the *Grove Dictionary Online* as ‘the superimposition of different rhythms or meters’ (Grove Dictionary Online, 2013: n.p.). While Hoenig’s book *Intro to Polyrhythms: Contracting and Expanding Time Within Form* (2009) uses the term in the title, the discussion of terms (p. 4) does not include a definition of polyrhythm. Many other studies relating to rhythmic analysis in jazz use the term in a very broad sense (for example, Cynthia Folio’s article: ‘An Analysis of Polyrhythm in Selected Improvised Jazz Solos’ [1995]. See bibliography [pp. 154-159] for other related sources).

The term ‘polyrhythm’ is used here as a general description for the devices listed below, as distinct from the elements of phrasing addressed in Chapter One. Chapter Two explores polyrhythm according to the following subheadings:

1) Metric modulation
   - Compositional metric modulations
   - Improvised metric modulations
   - Implied metric modulations

2) Note groupings
   - Odd groupings
   - Mixing groupings to create larger structures
   - Augmentation and diminution of groupings
   - Tuplet groupings

3) Superimposing other meters
   - Superimposition using on/off phrasing
   - Superimposition using a rhythmic motif
   - Superimposition through phrase structure
4) Multi-layered polyrhythms
   - The grouping structure of a superimposed meter
   - The melodic sequence of a note grouping

5) Augmentation and diminution
   - Augmentation/diminution of note values
   - Augmentation/diminution of note groupings
   - Augmentation/diminution of on/off phrasing
   - Augmentation/diminution into a polyrhythm
   - Augmentation/diminution of superimposed meters

Although transcriptions of Hekselman and Abercrombie are used to help explain the intellectual framework behind each device, transcribed extracts from my recordings (Volume Two) are the main focus of the chapter. This includes the general application of devices to performances, extensions of concepts, and personal explorations.

While phrasing and polyrhythm are the focus of the research, presented in this exegesis through specific examples at the micro level, it should be noted that the examples are almost always extracts of a larger conversational rhetoric. What precedes and follows each example, and their impact on an improvisation as a whole are important considerations.

As such, a broader spectrum of various related considerations are dealt with in Chapter Three. This includes examining the research in relation to my chosen instrument, insights into use within polyphony, along with exploring how the devices are used in relation to the overall structure of an extended improvisation.
The subheadings of Chapter Three are:

1) Instrument specific explorations
   - Open strings (campanella)
   - Same note on an adjacent string

2) Polyphony
   - Devices employed over or under a melody
   - Devices employed over or under an ostinato
   - Devices employed in each individual line

3) Where to use the devices
   - Reference points
   - Connection of devices
   - Interaction

Theoretical Framework

The above parameters, which are consolidated in Appendix Four (pp. 132-134), are explored according to the study’s theoretical framework, which is loosely based on the jazz pianist and scholar Walter Bishop Junior’s observation of how jazz musicians develop throughout their careers: ‘it all goes from imitation to assimilation to innovation’ (Berliner, 1994: 120). As such, each of the three chapters identified previously address the research questions according to the following parameters:

- Analysis and definition
- Incorporation of devices
- Exploration
- Impact on performances
Analysis and definition

This consideration was motivated by a fundamental question: What polyrhythmic and phrasing devices do Abercrombie and Hekselman employ? This was the primary aim of the research, and began with the collation of data through transcriptions, followed by an analysis of that data. After analysing the transcriptions of each individual improvisation, the various devices relating to phrasing and polyrhythm listed at pp. 5-8 were uncovered and categorised. Some of these devices are already well established and documented in jazz literature, some are extensions of these ideas, and others are new observations.

Incorporation of devices

Here the question turned to: How can I incorporate the devices into my performances? The comprehensive list of devices compiled through the 'analysis and definition' process (Appendix Four) was used as a basis for practical application.

Exploration

To ensure the study's exploration beyond Walter Bishop Junior's 'imitation and assimilation', it was important to consider the following two questions: Are there any ways in which the devices can be further developed? Can these devices be used as a framework for a personal exploration? The aim of the 'exploration' phase was to expand upon the devices, using the significantly increased understanding of phrasing and polyrhythm (gained through the previous phases) as a basis for personal developments.
Impact on performances

The primary aim of the research was intended to inform and further enhance my performance practice. As such, the first three chapters include detailed discussions of applications to my submission recordings (Volume Two), while the conclusion of this exegesis includes an examination of the question: How has the research impacted the performances on the submission recordings?

Literature Review

As a performance based study, a thorough examination of the broader genre and historical outline of the devices discussed within this exegesis is beyond the scope of the research undertaken. That being said, a broad yet selective spectrum of literature and publications were considered in relation to the research project. This included PhD dissertations, DMA and DA projects from the US, various Masters research projects, instructional books, articles and other publications. While performance based dissertations, such as Chris Martin’s *A Radical Reconsideration of European Classical Dodecaphonic Principles, Applied to the Extension of a Personal Jazz Style* (2005), and Marc Hannaford’s *Elliott Carter's Rhythmic Language: A Framework for Improvisation* (2012), helped the broader conceptualization of the research, the main literature consulted involved discussions of phrasing and polyrhythm. Studies of particular relevance to this research project have been examined below, and a more complete list of relevant literature is included in the bibliography/reference list (pp. 154-159).

Although many instructional books cover rudimentary approaches (including Greg Fishman’s *Jazz Phrasing for Beginners* [2008]), phrasing is a subject seldom discussed within jazz literature. Haruko Yoshizawa, in her PhD dissertation entitled *Phraseology: A Study of Bebop Piano Phrasing and Pedagogy* made the assertion that ‘although jazz
has been a subject for extensive musicological research, none of the studies have been exclusively devoted to a detailed analysis of phrasing techniques in jazz performance’ (Yoshizawa, 1999: 17). Thomas Owens’ PhD dissertation, Charlie Parker: Techniques of Improvisation (1974) discusses the phrasing of Charlie Parker. His study catalogued Parker’s phrases (referred to as ‘motifs’), concluding that he had approximately 100 different motifs which he used as a basis for improvisation (Owens, 1974: 269). Robert Hodson in his book Interaction, Improvisation and Interplay in Jazz (2007) is a more recent study which does briefly discuss phrasing, with particular reference to both Miles Davis and John Coltrane (Hodson, 2007: 75-90). This exegesis expands on the available knowledge in this area by discussing approaches to phrasing that appear to be undocumented (such as phrase displacement, pp. 14-18, and hierarchical polyrhythms, pp. 34-36), while also providing new insights and concepts (such as on/off phrasing, pp. 24-29).

Unlike phrasing, polyrhythm is a subject which has been well documented in jazz literature. Although many of the studies focus on previous generations of jazz, the recent shift of the genre towards rhythmic innovations (the past 15-20 years) is largely undocumented (Hoenig/Weidenmueller, 2009: 3). Relevant literature on the topic includes Keith Waters’ Blurring the Barline: Metric Displacement in the Piano Solos of Herbie Hancock (1996), Polyrhythmic Superimposition in Jazz Hemiola and Implied Meters Before 1965, by Brian Levy (2006), ‘An Analysis of Polyrhythm in Selected Improvised Jazz Solos’ from Concert Music, Rock, and Jazz since 1945: Essays and Analytical Studies, by Cynthia Folio (1995), and Polyrhythm and Meter in Modern Jazz—A Study of the Miles Davis’ Quintet of the 1960‘ies (Danish), by Peter Vuust (2000). While these publications provided a background and clear framework for approaches to analysis, the only recent publications which properly informed the study were Ari Hoenig/Johannes Weidenmueller’s publications Intro To Polyrhythms Contracting and Expanding Time Within Form (2009), Metric Modulations Contracting and Expanding
Time Within Form (2011), and Jerad Lippi’s Masters thesis Time Travels: Modern Rhythm Section Techniques as Employed by Ari Hoenig (2008). These publications helped to further refine the devices and terms of the research, although the ideas presented by Hoenig, Weidenmueller and Lippi are expanded upon, and new considerations have been taken into account.

Publications relevant to the research that included discussions of both phrasing and polyrhythm (among many other considerations) were mainly DMA research projects based around the analysis of specific artists. Examples of this include: An Analysis of the Development of Kenny Dorham’s Jazz Improvisational Vocabulary, by Timothy Malcolm Weir (DMA) (2006), An Analysis of Joe Lovano’s Tenor Saxophone Improvisation on “Misterioso” by Thelonius Monk: An Exercise in Multidimensional Thematicism, by Andrew Richard Dahlke (DMA) (2003), and An Analysis of the Major Aspects of Woody Shaw’s Improvisatory Approach, by Eric O’Donnell (MM [Jazz Performance]) (2009). Since my research is the first study on Hekselman’s playing, and the first in-depth analysis of Abercrombie’s, the research provides an obvious contribution to the discipline in this regard.

Taken as a whole, the current study draws taut the connection between primary and secondary research, transcription/analysis and performance. More importantly, it exemplifies the importance of performance based research, both at a personal and disciplinary level. The study provides a template for improvisational development, with particular reference to phrasing and polyrhythm, through the comprehensive practical application guide (Appendix Four: pp. 132-134). The publication of the Hekselman transcriptions (Volume Three: Appendix Seven: pp. 9-163), the first publications to examine his work, have also made a contribution to the broader knowledge of the discipline. These points, along with many other considerations are more thoroughly examined in the conclusion (pp. 118-121).
The four CD recordings in Volume Two: *Retrieval Structure, Abercrombie and Hekselman Duets, Perception, and Abercrombie and Hekselman Repertoire/Ari Hoenig Session*, are the main product of the research. The three chapters to follow present the results of the research, through the transcription, analysis, application and exploration of phrasing and polyrhythm, which informed and enhanced my personal performance practice. All devices are discussed within an intellectual framework that relates back to various relevant literature, and/or interviews with Hekselman, Abercrombie and Ari Hoenig. Transcriptions (including transcriptions of my own improvisations/compositions to illustrate the application of the devices), are an integral part of each chapter in the exegesis.
Chapter One: Phrasing

Phrase Displacement

Interestingly, the word ‘displacement’ does not exist in the *Oxford Companion to Music* (2002), the *Harvard Dictionary of Music (Second Edition)* (1970), or *Grove Music Online* (2013), although, it is a term regularly used in academic texts that analyse jazz improvisation, and a concept that jazz improvisers are well aware of. In fact, in an interview from the September 1994 issue of *Jazz Magazine*, pianist Herbie Hancock cited rhythmic displacement as the primary focus of his improvisations during his years with the Miles Davis Quintet (Waters, 1996: 19). In recent years displacements have been getting more complex, particularly in the way that rhythm sections interact, as the following example will demonstrate.

Figure 1.1 on the following page consists of two, four bar excerpts of Hekselman playing the melody of the A section to Jerome Kern’s *The Way You Look Tonight*. When comparing these two A sections, one can clearly see that in the latter example, Hekselman displaces his phrasing of the melody two beats earlier than expected, giving the auditory illusion that beat 3 is the beginning of the phrase.
The displacement is continued for the remainder of the form, as illustrated in Figure 1.2 on the following page. Interestingly, both the bass player and drummer pick up on the displacement and join in.

Figure 1.1: A comparison of A sections of *The Way You Look Tonight* (phrase displacement by 2 beats) Transcription by current author (except where indicated all transcriptions are by the current author)
As in the previous example, Hekselman begins his phrase displacement in bar 72 (top line). In bars 73 and 74 (the beginning of the third A section), the bass player and drummer are still accentuating beat one. Hekselman continues this idea (bars 74/75), while the bass player cuts out for one and a half bars. In bar 75, the drummer signals an obvious downbeat on three, lining up with the resolution of Hekselman’s displaced phrase. By bar 76, the bass player has picked up on the displacement and all players (guitar, bass and drums) continue the displacement for the remainder of the form (albeit performing with a half-time feel), giving the auditory illusion that beat three has become beat one.

**Figure 1.2: The Way You Look Tonight (drum and bass interaction of phrase displacement)**
In the transcription that follows (Figure 1.3, bars 77-92) the displacement can be followed through for the remainder of the form. All players are obviously well aware of where beat one is, they are just interacting with Hekselman’s displacement. This is clearly shown when they reach the interlude melody (bar 85, also included at the beginning of the work). All players come out in exactly the right place—accentuating once again beat one as the downbeat. A time code (hereafter TC), referencing a CD recording included in this submission is included in the footer of Figure 1.3, on the following page, in order to provide an aural representation of selected transcriptions.
"Off beat syncopation" and "on/off phrasing" are concepts that were developed through the analysis of the Hekselman transcriptions. They are both essentially 'displacement' techniques. Although, they are used in a very specific manner, and Hekselman often uses 'on/off phrasing' as a fundamental device for building odd meter phrases and rhythmically sophisticated melodic material.

Figure 1.3: (TC: Appendix Two: Track 1 [0:12-0:25]) Remainder of the form of The Way You Look Tonight (guitar, bass and drums)
'Off beat syncopation' provided the genesis for the development of 'on/off phrasing' (pp. 24-29) and was derived from Hekselman's consistent use of long, continuous off beat lines. A crucial element of these lines is that the off beats are not phrased as such. Each note is held for its entire duration, connected seamlessly from one note to the next, giving the aural effect of an eighth note displacement. Figure 2.1 below shows one such example, extracted from Hekselman's performance of Ornette Coleman's *When Will the Blues Leave?*:

![Figure 2.1: When Will the Blues Leave? (off beat syncopation)](image)

The submission recordings explore this device frequently, including organizing the off beat notes into various groupings. An example of this can be found in Figure 2.2 on the following page, taken from my improvisation (top line) over Hekselman’s *Yo Mamma’s Blues* (Volume Two: CD4: Disc One), which was constructed as a direct response to the off beat statement from the drums that preceded it (bottom line).
This device, frequently utilized by Hekselman, usually enhances group interaction and interplay, exciting the rhythm section to join the conversation. The transcription on the following page (Figure 2.3), taken from Hekselman’s *Hello Who Is It?*, illustrates an example of this, where bass and drums metrically modulate to the tempo of the dotted quarter note (bars 56-60) in response to Hekselman’s off beat syncopation (bars 54-60).

**Figure 2.2:** *Yo Mamma’s Blues* (off beat syncopation in six note grouping)
Figure 2.3: (TC: Appendix Two: Track 2 [0:05-0:18]) Hello Who Is It? (band interaction showing dotted quarter note modulation)
The first example that was presented of Hekselman’s off beat syncopation (Figure 2.1, p. 19: *When Will the Blues Leave?*), also includes band interaction, although this example only includes interaction between drums (bottom line) and guitar (top line).

Bars 26-29 show the drums complimentary response to Hekselman, by copying the off beat syncopation he is employing (bars 23-39).

Figure 2.4: (TC: Appendix Two: Track 3 [0:03-0:16]) *When Will the Blues Leave?* (Ornette Coleman) (drum interaction with guitar)
On closer inspection, it becomes apparent that the drums are not only copying the off beat syncopation, they are providing a slightly contrasting accompaniment, as the off beats are actually a displaced drum groove that outlines a 5/4 pattern.

Figure 2.5 below shows bars 26-30 of the drum part above, displaced back on the beat, in order to more easily display the 5/4 pattern employed.

Figure 2.5: When Will the Blues Leave? (5/4 displaced drum pattern)
As mentioned previously, off beat syncopation gave rise to the concept of on/off phrasing. This is achieved by Hekselman’s exploitation of the relationship between on and off beats as a basis for building odd meter phrases. The simplest skeletal examples of this concept (two on, two off [5/4] – three on, three off [7/4] – and four on, four off [9/4]) have been included below:

Figure 2.6: On/off phrasing examples

Examples of this can be found throughout Hekselman’s improvisations, as the following three figures, transcribed from his Purium and Flower show:

Figure 2.7: Purium (5/4 on/off phrasing)
Hekselman uses this device to create more complex phrases by varying the rhythm of each respective on/off fragment. This is achieved through the construction of a specific rhythmic sequence, which is performed on the beat, and then the exact same rhythm repeated off the beat. The following examples, again drawn from improvisations over his own compositions, showcase this:

Figure 2.8: *Flower* (7/4 on/off phrasing)

Figure 2.9: *Purium* (9/4 on/off phrasing)

Figure 2.10: *Summer of Laugh’s and Tears* (5/4 on/off phrasing)
A larger, more complex example of this device can be seen below in Figure 2.12:

Figure 2.12: *Purium (17/4 on/off phrasing)*

Figure 2.13: Rhythmic summary of Figure 2.12
Though essentially a displacement, this concept is the basis of the phrase structure of many of Hekselman’s improvised ideas. It can also be found in use as a compositional device, including the title track to his most recent release, *This Just In* (2013).

![Bass line for “This Just In”](image)

**Figure 2.14:** *This Just In* (bass line)

The same basic idea is used by Hekselman in a more general sense, in his arrangement of John Coltrane’s *Countdown*, shown on the following page. A recording of my performance of this arrangement can be found in Volume Two: CD4: Disc One: *Abercrombie and Hekselman Repertoire*, Track 1. Many other examples of this device can be found throughout the submission recordings, notably on *Particular, Peculiar*, from CD3: *Perception.*
Countdown

John Coltrane Arranged Gilad Hekselman

Fast Jazz $j = 240$

Drum Solo: Play Twice, then Open

Figure 2.15: (TC: Volume Two: CD4 : Disc One: Abercrombie and Hekselman Repertoire, Track 1) Countdown arrangement
When asked about my conceptualization of his on/off phrasing, Hekselman stated:

The on/off concept you [Current Author] have developed could be thought of as a displacement, or I also think of it as dividing the bar in half. Then it can also sound like two against the underlying time. My arrangement of *Nothing Personal* does exactly that (Hekselman, 2012: personal communication).

Made famous by Michael Brecker’s performances of it, Don Grolnick’s *Nothing Personal* is originally in common time.

![Figure 2.16: Nothing Personal (bass line)](image1)

Hekselman’s arrangement uses the same bass line, but transferred to 5/4, using the concept of dividing the bar in half (on/off phrasing), giving the composition a completely different sound and feel.

![Figure 2.17: Nothing Personal (bass line of Hekselman’s arrangement)](image2)
Symmetry

Before discussing this category, some further background information will be presented, beginning with a quote from Leonard Bernstein's *The Unanswered Question: Six Talks at Harvard* (1976):

*Symmetry*… is a universal concept, based on our innate symmetrical instincts, which arise from the very structure of our bodies. We are symmetrically constituted, dualistically constituted, in the systole and diastole of our heartbeats, the left-rightness of our walking, the in-and-outness of our breathing… This dualism invades our whole life, on all levels: in our actions (preparation/attack, tension/release) and in our thinking (good and evil, yin and yang)… and all [of] these find musical expression in such oppositions as downbeat versus upbeat, half note versus quarter note, and especially in the elementary musical structure principle of 2+2=4+4=8+8=16 (Bernstein, 1976: 91)

As suggested by Bernstein, music obeys this symmetrical structure principle (of 2+2=4, etc) and many studies have been made on the structures present in music. It is common knowledge that in common time, beats 1 and 3 are strong while 2 and 4 are weak (Waters, 1996: 22).

![Figure 3.1: Strong and weak beats](image)

This concept can be extended to bars, again 1 and 3 being strong and 2 and 4 being weak. This is the structure of the common four bar phrase, illustrated in Figure 3.2 on the following page.
Lerdahl and Jackendoff, in *A Generative Theory of Tonal Music* (1983) take this concept involving macro structures further and discuss how metrical hierarchy is upheld at higher levels. The term 'hypermeter' is used when analysing structures in such a manner, allowing for large structures to be represented by a reduction to a one measure example, coined a 'hypermeasure'. The larger symmetrical bar groupings which make up these extended structures are labelled 'hyperbeats'. This highlights the fact that symmetrical structures operate on far higher levels than the common four and eight bar phrase, as Figure 3.3 below displays (Lerdahl/Jackendoff, 1983: 27).
Obscuring hierarchical structures

Phrasing in a way that adheres to the aforementioned underlying symmetrical structures is something that Hekselman and Abercrombie certainly do, although interest is created when they do not. This can be achieved through obscuring hierarchical structures by playing over them. The following example shows two choruses of Hekselman's improvisation over his Yo Mamma’s Blues, clearly obscuring the transition from one chorus to the next (bars 119-123):

Figure 3.4: (TC: Appendix Two: Track 4 [0:05-0:24])
Yo Mamma’s Blues (obsuring hierarchical structures)
In contrast to this example of Hekselman, Timothy Weir, in his DMA dissertation *An Analysis of the Development of Kenny Dorham’s Jazz Improvisational Vocabulary* (2006) describes a very different approach to creating improvisatory material that overlaps hierarchical structures:

Although Dorham demonstrates the use of phrases longer than four measures, he continues to delineate the overall form of each chorus. While he may play a phrase that overlaps from one section to the next, he is consistent in presenting material that distinguishes each section. To avoid any possible ambiguity of form he outlines each new section by playing strictly diatonically (Weir, 2006: 48).

The previous example (Figure 3.4, p. 32) not only shows melodic material taken over an important hierarchical structure (as Weir explains in relation to Dorham’s playing), Hekselman’s improvised line does not outline the underlying harmony, nor does it outline the form melodically or rhythmically. The line (bars 119-123) is based on the interval of a perfect fourth, and is transposed down in tones, with a quite irregular rhythmic pattern. It bears no obvious relationship to the underlying structure, and hence creates an ambiguity of form by obscuring a hierarchical structure.
Hierarchical Polyrhythms

Through the research process, it became apparent that polyrhythms can be constructed with the aforementioned 'hyperbeats', from Lerdahl and Jackendoff’s *A Generative Theory of Tonal Music* (1983).

![Figure 4.1: Hyperbeats](reducing each bar to a single beat)

The concept of 'hyperbeats' has been used here to conceptualize polyrhythms at larger hierarchical structures. This can be achieved by grouping the ‘hyperbeats’ themselves into different polyrhythmic patterns. The example below shows a 3/4 over 4/4 polyrhythm at the hierarchical level of bars:

![Figure 4.2: 3/4 over 4/4 with hyperbeats](bars: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1)
To give another visual representation of this, if the same example (Figure 4.2, p. 34) was presented without the use of ‘hyperbeats’, it would look like this:

![3/4 polyrhythm of ‘hyperbeats’ re-expressed as bar lengths](image)

**Figure 4.3**: 3/4 polyrhythm of ‘hyperbeats’ re-expressed as bar lengths

At this hierarchical level, rather than a polyrhythm, a better practical conceptualization of this approach would be to think of it as an interesting approach to phrasing. During improvisation, this would mean the organisation of melodic material into large, three bar structures (such as Figure 4.3 above) that do not follow the natural form, phrase structure, or harmony of a song. An example of this in an improvisation of Hekselman’s (from his *One More Song*) is provided on the following page.
Figure 4.4: (TC: Appendix Two: Track 5 [0:05-0:18]) One More Song (3/4 hierarchical polyrhythm)
General Asymmetry in Phrasing

An observation made through the transcription and analysis phase of the research was that Abercrombie and Hekselman, even when not exploiting a specific, categorizable device, improvise with a level of freedom and abandon that previous generations of jazz guitarists simply did not.

Abercrombie shares an insight into how this approach to phrasing may have evolved:

I played a lot of music that had no meter, and that obviously influences the way you play. I started with people like Jack DeJohnette and Dave Holland, and we’d play a little melody, usually just a melody and bass line, and after that you were completely free. You could play in the tempo of the song, or anywhere you wanted. There were no rules. This will also influence the way you play a standard song, or something with a with a structure, one influences the other, and playing structurally influences free playing, because if you improvise freely without any coherent matter, then it would just sound weird (Abercrombie, 2010: personal communication).

Given that this approach to improvisation is a major stylistic development for jazz guitar, it has been included in the study and categorized as a device, simply coined ‘general asymmetry in phrasing’.

In order to express this point, the following pages compare the phrase structure of Abercrombie and Kenny Burrell.

Both examples are taken from improvisations over the blues form, with Kenny Burrell's improvisation following a typical antecedent/consequent (question/answer) phrase structure, shown in Figure 5.1 on the following page.
If this improvisation were to be represented to showcase the underlying phrase structure, as provided on the following page (Figure 5.2), the symmetry is obvious and easily recognizable.
Comparing this to the first three choruses of an improvisation by Abercrombie over John Coltrane's *Bessie’s Blues*, which is also a standard (12 bar) blues form, a very different, asymmetrical pattern emerges (Figure 5.3 on the following page).
Figure 5.3: Bessie’s Blues (Abercrombie’s phrase structure)
Chapter One Summary

The preceding transcriptions and analyses explored the various phrasing devices listed at Appendix Four (pp. 132-134). Although the main transcriptions presented were of Hekselman and Abercrombie, all of the devices discussed have been incorporated into my performances and can be found on the submission recordings (Volume Two). General asymmetry in phrasing can be heard in my improvisations over Hekselman's *Yo Mamma's Blues*, and Coltrane's *Countdown* (CD4: Disc One: Tracks 1, 7), and hierarchical polyrhythms are also utilized on *Yo Mamma's Blues*. Obscuring hierarchical structures, phrase displacement, and in particular off beat syncopation and on/off phrasing, are integral parts of almost all of my improvisations and/or compositions on the submission recordings. The following chapter shifts in focus from phrasing to polyrhythm, presenting material in a similar manner through the presentation of transcriptions and analysis.
Chapter Two: Polyrhythm

Chapter Two, the longest and most involved chapter of this exegesis, explores devices from the polyrhythm section of the practical application list (Appendix Four). Although transcriptions of Hekselman and Abercrombie are used to help explain the intellectual framework behind each device, the main focus of this chapter is transcribed extracts from my improvisations and compositions, included in the submission recordings (Volume Two).

Metric Modulation

Similar to the term ‘displacement’ (discussed on p. 14), a definition of metric modulation does not appear in the Harvard Dictionary of Music (Second Edition), however, the Oxford Companion to Music describes it as:

A technique introduced by Elliott Carter, by which changing time signatures effect a transition from one meter to another, just as a series of chords can effect a harmonic modulation from one key to another (Latham, 2002: 769).

While this definition describes a classical composer with what Marc Hannaford describes as a ‘highly developed rhythmic language’ (Hannaford, 2012: ii), definitions of metric modulation and its near neighbour, ‘superimposed metric modulation’, relevant to this study are adopted from Ari Hoenig and Johannes Weidenmueller’s Contracting and Expanding Time Within Form:

‘Metric Modulation’ signifies changing the tempo of a piece so that the new tempo has some kind of mathematical relation to the original tempo. This is achieved by making a note value from the first tempo equivalent to a note value in the second.
The definition of a ‘Superimposed Metric Modulation’ is simply applying a 'Metric Modulation' over a form, in which the original harmonic structure and time feel stay intact. Therefore we are actually superimposing one time feel or pulse over another (Hoenig/Weidenmueller 2009: 4).

Since both these definitions are expressing the same concept, albeit one relating to an underlying from and the other not, the generic term ‘metric modulation’ will be used to describe all examples in this study.

Hekselman and Abercrombie employ metric modulation throughout their improvisations, and also use the device compositionally. As is shown below, I have identified nuances in the ways in which metric modulation is employed, according to the following subheadings: compositional metric modulations, improvised metric modulations and implied metric modulations.

**Compositional metric modulations**

Compositional metric modulations are pre-planned metric modulations. This includes either an actual shift in tempo (Hoenig/Weidenmueller’s 'metric modulation'), or a modulation within the framework of a form ('superimposed metric modulation').

An example of this is included on the following pages, in Hekselman’s composition *The Bucket Kicker*. Bars 8-12 of the composition metrically modulate to the tempo of every fifth eighth note. This is achieved by the bass playing every fifth eighth note (bottom line), while the drums play a swing pattern based off of the superimposed time (outlined above the staff). The melody of the work (top line) is also phrased in the superimposed time during bars 8-10, but in bar 11, the melody outlines the original time to signify the return of the previous tempo. My performance of this composition is included on CD4: Disc One: *Abercrombie and Hekselman Repertoire*, Track 3.
Figure 6.1: (TC: Volume Two: CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 3) The Bucket Kicker
Improvised metric modulations are the same as compositional metric modulations, although they occur spontaneously. They are unplanned modulations that show an advanced level of interaction within the rhythm section.

An example of this type of metric modulation is provided on the following page, and has been taken from an improvisation of Hekselman’s over Sammy Cahn’s *I Should Care*, from his debut album *Splitlife* (2006).

In bar 59, Hekselman begins phrasing off of the quarter note triplet pulse, and interestingly, both Joe Martin (bass), and Ari Hoenig (drums), join Hekselman in the new, superimposed tempo in the exact same place. This occurs on the third triplet of beat two, in bar 60. The modulation is continued from bars 60-63, followed by a transitional bar (64), before eventually returning to the original tempo at bar 65.
Figure 6.2: (TC: Appendix Two: Track 6 [0:03-0:18]) I Should Care (improvised metric modulation)
Implied metric modulations are the same as improvised metric modulations in that they occur spontaneously, although they do not include interaction from the rhythm section. The soloist is the only band member suggesting the modulation.

Some short examples of Hekselman using this device are provided on the following pages (see Figures 6.3-6.5):

**Figure 6.3: April in Paris** (Vernon Duke) (implied metric modulation to the dotted quarter note)
When discovered, the final example (6.5 above) gave rise to two different devices. One is related to tuplet note groupings (discussed pp. 66-69), while also providing a doorway into understanding more complex metric modulations.

Figure 6.5 (above), an example of 10 over 7, is mathematically speaking the accenting of every seventh dectuplet.

When discussing this modulation with Hekselman, he stated that:

It is on purpose, but it just happens to be that rhythm. I don’t think those notes are exactly even, I would say it’s just a phrasing thing. I probably picked it up from playing with other people (Hekselman, 2012: personal communication).
Even though Hekselman does not seem to be conscious of this particular example, he is correct that the notes are not ‘exactly even’, that it is a ‘phrasing thing’, and that he picked it up from playing with other people. It seems most likely that he picked up the technique from his extensive work as a sideman with Ari Hoenig.

Through listening to Hekselman performing with Hoenig during his Monday night residency at *Smalls Jazz Club* (NYC), it became apparent that shifting between 5 over 7 and 7 over 5 was a language that they had developed and used regularly.

A more accurate description for this type of modulation (10 over 7, Figure 6.6) would be 5 over 7, which is mathematically speaking, accenting every seventh quintuplet:

![Figure 6.7: Time After Time (accenting every seventh quintuplet creating 5 over 7)](image1)

Accenting every seventh dectuplet, or rather 10 over 7 (as with the previous Hekselman example), would simply be playing eighth notes at this new superimposed tempo. Though this way of thinking (accenting every seventh quintuplet), or the opposite for 7 over 5, accenting every fifth septuplet (Figure 6.8 below), does not provide an easy way to actually apply the modulation in a performance setting.

![Figure 6.8: Accenting every fifth septuplet creating 7 over 5](image2)
As Gilad’s previous statement suggests ‘I don’t think those notes are exactly even’, and after discussing a practical solution to this modulation with Ari Hoenig, my observations of how they were actually thinking about the transition between each time zone was confirmed. The practical application of the modulation is based around a simple clave, included below:

![Clave Diagram]

**Figure 6.9:** 7 over 5 and 5 over 7 clave

As evident in the above example, Hoenig’s practical solution is to keep the same clave for both time zones, even though the mathematical relationships of the first part and second part of the bar (3/4 and 2/3) are not the same. At a medium/fast tempo this fractional ambiguity is almost imperceptible, and certainly is a better solution than thinking of every seventh quintuplet as the new tempo. It is so unnoticeable in fact, that Hoenig discovered this modulation purely by chance:

I discovered that the relationship worked pretty well when I was playing a tune with Jean Michel [Pilc], we were sound checking and he started playing a tune and I joined in. When we stopped I said ‘were you playing in five?’ and he replied ‘no, I was playing in seven’. Neither of us realized that we were playing in different time signatures; we were just playing off of the basic clave [included above]. I still noticed something was not quite lining up, and when we discussed it we realized what it was. But from then on, I knew that I could move between
them quite seamlessly, and incorporated it into my playing (Hoenig, 2013: personal communication).

Although Hoenig is an advocate of the mathematically incorrect practical solution to this modulation, he is still well aware of the actual relationship of the tempos:

When I first started doing 7 over 5, I would think of it as 4 over 3 and 3 over 4 [which splits the bar in two], even though the tempo of each is not exact. I knew that the 4 over 3 was a little faster and would play it that way. I think it’s important to have both. To understand the mathematics of it, and how it works, but also to have a practical way of actually using the technique in an improvised manner. A way that you can really hear it (Hoenig, 2013: personal communication).

This way of thinking turns a complex modulation into something that is easily achievable and a viable option for use in an improvised setting.

Figure 6.10 on the following page shows how this modulation has been applied to the submission recordings. This particular modulation is also implied and utilized by the band during the improvisation and ‘head out’ sections in the recording of my arrangement of All the Things You Are (Jerome Kern). This can be found on CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 5.
The original example of this metric modulation (Figure 6.5, p. 48 [10 over 7]), can also be heard in Hoenig's improvisation over my original composition *Happy*, from Volume Two: CD4: Disc Two: *Ari Hoenig Session*, Track 1 (1:49-1:52).
Following this discovery of mathematically incorrect modulations, I decided to explore the concept of creating metric modulation illusions in a compositional context. An example of this is a 4 over 5 metric modulation illusion, which can also be heard on *Happy* (CD4: Disc Two: *Ari Hoenig Session*). Technically speaking, 4 over 5 is achieved by accenting every fifth sixteenth note:

![Figure 6.11: Accenting every fifth sixteenth note (4 over 5)](image)

Similar to Hoenig’s conceptualization of 7 over 5 and 5 over 7 (p. 50), *Happy* achieves the auditory illusion of a 4 over 5 metric modulation, using the clave rhythm included below in Figure 6.12.

![Figure 6.12: Clave to create 4 over 5 illusion](image)

Bars 69-98 of *Happy*, along with a time code, have been provided on the following page to illustrate this (Figure 6.13), with the metric modulation illusion taking place in bars 81-83.

If the fractional relationship between each note remains rudimentary (3/4 or 2/3), as with Figure 6.9 (p. 50), or Figure 6.12 (above), the human brain seems to accept the slight ambiguity, and the modulation illusion is easily achieved. This could be due to the fact that the listener perceives the new tempo as being swung, or that at a fast tempo, the notes are close enough, in the same way that the simpler the mathematical relationship to the fundamental in the harmonic series, the more harmonious. We are
also very used to digesting these simple fractions aurally. The hemiola polyrhythm in fact permeates almost all jazz recordings made in the past century (discussed p. 70).

![Musical notation]

**Figure 6.13:** (TC: Volume Two: CD4: Disc Two: *Ari Hoenig Session*, Track 1 [2:00-2:40]) *Happy* (Current Author) (4 over 5 illusion)

By contrast, Figure 6.14 on the following pages shows use of a mathematically sound compositional metric modulation in *Outro*, another original work of mine (CD4: Disc
In bars 15-16 (the B section), the band modulates to the tempo of every fourth sixteenth note triplet (implied by the melody line). This quickly resolves (end of bar 16), and is then repeated (bars 7-18), before returning to the original tempo at bar 19.

Figure 6.14: (TC: Volume Two: CD4: Disc Two: *Ari Hoenig Session*, Track 3 [0:30-1:35]) *Outro* (Current Author) (metric modulation to every fourth sixteenth note)
Note Groupings

In order to obscure the regularity of an improvised line within a particular subdivision, Abercrombie and Hekselman melodically group notes into patterns that do not directly relate to the underlying note value. In Figure 7.1, my transcription of Hekselman’s improvisation in his *New York Angels*, provides one such example, in which sixteenth notes are grouped in six:

![Figure 7.1: New York Angels (sixteenth notes in groups of six)](image)

Many other studies explore this basic conceptualization of note groupings, such as Keith Waters’ exploration of Herbie Hancock’s frequent use of triplets grouped in fours, with transcribed examples of his improvisation over *Oliloqui Valley* from Hancock’s *Empyrean Isles* (Waters, 1996: 19-37).

While initially an innovation, this contribution of Hancock’s to the jazz idiom (grouping triplets in fours) has become extremely common among improvisers. Abercrombie discusses this point:

I would try playing eighth note triplets, and accenting every fourth one, which is a very common thing. I heard Herbie Hancock doing it on a record and then everyone was doing it (Abercrombie, 2010: personal communication).

While Abercrombie states that he ‘never got really deeply into playing other groupings’, Hekselman is well aware of this device, and has certainly explored it further. As he notes:
I've worked on it, it's always been a passion of mine. I'm able to do any of them. If you give me a number I could improvise a line based off of that grouping (Hekselman, 2012: personal communication).

I have identified four different categories of note groupings and, as the discussion will demonstrate, it seems Hekselman and Abercrombie generally only explore the first concept on the list below:

Note grouping categories

- Odd groupings
- Mixing groupings to create larger structures
- Augmentation and diminution of groupings
- Tuplet groupings

Odd groupings

As with the aforementioned examples of Hekselman and Abercrombie, 'odd groupings' are simply the accenting, or melodic grouping of notes into asymmetrical patterns in relation to their underlying note value. Another example of Hekselman, extracted from his improvisation over George Gershwin's *How Long Has This Been Going On?* has been included on the following page.
Notes are not always arranged in succession, the odd grouping can be organized in anyway the improviser likes. This includes rests, holding notes, grouping variations or mixing durations, as the following examples from Hekselman demonstrate:

**Figure 7.2:** *How Long Has This Been Going On?* (sixteenth note triplets in groups of five)

**Figure 7.3:** *Flower* (Hekselman) (triplets in groups of five, holding the first note of the grouping)
Figure 7.4 below provides an example of grouping variations, while keeping the overall structure of triplets in fours; Hekselman achieves this by swapping between four note groupings of three triplets and one rest, and two quarter note triplets.

![Figure 7.4: April in Paris (Vernon Duke) (variations of triplets in groups of four)](image)

Mixing groupings to create larger structures

Following the rather basic application of this device to my performances through odd groupings, other concepts were developed to expand the idea, including mixing groupings to create larger structures.

Rather than playing a single grouping (five, seven, nine, etc), the concept here is simply to combine groupings into larger, repeating sequences as a basis for creating improvisatory material. An example is included below:

![Figure 7.5: Mixing groupings of five, seven and three to create a larger 15/4 structure](image)
Figure 7.5 on the previous page displays three different groupings (five, seven and three), which together add up to an odd number (fifteen). This number, which is not directly divisible by its note value (eighth notes) affords more rhythmic tension and improvisational interest than an even number. When using eighth notes, the recapitulation of the pattern begins off the beat, creating further tension before the pattern resolves on the third repeat (after fifteen quarter notes).

Mixing groupings to create larger structures has been used as an improvisatory device in my own performances, as the following extract from my rendition of Abercrombie’s *Ralph’s Piano Waltz* demonstrates:

![Figure 7.6: Ralph’s Piano Waltz (mixing groupings of five, three and seven to create a larger 15/4 structure)](image-url)
Augmentation and diminution of groupings

The augmentation and diminution of groupings is a fundamental aspect of many Indian and Brazilian approaches to organizing rhythms. One such example can be found in the so-called ‘2-1 series’, which forms the backbone of *Ritmica* by Jose Eduardo Gramani. The 2-1 Series is based on an additive process whereby, in the example below, the sixteenth note groupings are augmented successively so that an eighth note (two sixteenth notes value) is followed first by a single sixteenth note, then in the next group, by two sixteenth notes, the next, three sixteenth notes, etc:

![Figure 7.7: *Ritmica* (2-1 Series)](image)

The 2-1 series is not restricted to sixteenth notes, and can be played with a different pulse or ostinato behind it. For example, if the above exercise was performed with a dotted eighth note as the pulse, it could be conceptualized as comprising triplets. The beat/note type is not the point, rather, it is the additive mathematical process that generates the material, and the idea is to be comfortable hearing these rhythms against a wide variety of ostinati or pulses.
Allusions to the augmentation and diminution of note groupings can be found in the improvisations of Hekselman (presented in Figures 7.8 and 7.9 below). Although, as he notes, he does not employ it deliberately or self-consciously:

I’ll be honest with you, a lot of this stuff, I mean most of this stuff, I don’t think at all. Of course I’ve thought about note groupings, and I’m able to do any of them, but it’s always been a passion of mine. So I worked on it, and now it’s like a language. You talk, you don’t think about it. I never decide, OK this is going to be a descending number of notes in the grouping, and I have not practised that (Hekselman, 2012: personal communication).

![Figure 7.8: I Should Care (Sammy Cahn) (augmentation of triplet groupings 7-8-9)](image)

![Figure 7.9: Ga’agua (Heksleman) (diminution of triplet groupings 7-6)](image)

Iterations of the note grouping devices described here have been applied to my performances on the submission recordings (Volume Two) in both a compositional sense, and as a basis for creating improvisational material. Displayed in Figure 7.10,
transcribed from my improvisation on Jerome Kern’s *All the Things You Are*, additive note groupings are employed:

![Figure 7.10: All the Things You Are (augmentation of eighth note groupings 2-3-4-5-6-7)](image)

Figure 7.10: *All the Things You Are* (augmentation of eighth note groupings 2-3-4-5-6-7)

Figure 7.11 (on the following page), shows use of note grouping diminution as a compositional device for *Coltrane Matrix*, an original composition of mine included on CD1: *Retrieval Structure*, Track 1. Bar 30 uses descending groupings (5-4-3) for the end of an eighth note melody line, which leads into the B section that follows. These groupings are also outlined by the rhythm section.
Figure 7.11: (TC: Volume Two: CD1: Retrieval Structure, Track 1 [1:00-1:50])
Coltrane Matrix (Current Author) (diminution of eighth note groupings 5-4-3)
A tuplet is any rhythm that incorporates non-conventional subdivisions, for example, quintuplets, septuplets, and nontuplets\(^3\) (Humphries, 2002: 266). 'Tuplet groupings' are therefore, asymmetrical in relation to any given tuplet's original structure. For example, grouping septuplets in fours:

![Figure 7.12: Septuplets grouped in fours](image)

This accent pattern also implies a seven over four metric modulation, as follows:

![Figure 7.13: Septuplets grouped in fours implying a metric modulation of 7 over 4](image)

In fact, there is a very simple mathematical equation that can be used to calculate any complex fractional relationship and coinciding metric modulation. The superimposed figure (in this case 7) designates the tuplet grouping (septuplets), and the accent pattern (in this case groups of four) is taken from the time signature (4/4). Another example of this concept is provided on the following page, this time showing how five over four is constructed.

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\(^3\) Tuplets of nine and above have an alternate spelling, without a 't', of 'nonuplets' (9) and 'decuplets' (10), etc, which Humphries publication favours.
Figure 7.14 above shows the superimposition (5) designating the tuplet grouping (quintuplets), while the accent pattern (4), is taken from the time signature (4/4).

This calculation works for any desired superimposition. An example of nine over eleven follows, with the superimposition (9) designating the tuplet grouping (nontuplets), and the accent pattern (11) taken from the time signature (11/4).

While tuplets are discussed by some authors, such as Gary Chaffee (*Rhythm and Meter Patterns* [1976]), Ari Hoenig/Johannes Weidenmueller (*Metric Modulations Contracting and Expanding Time Within Form* [2011]), and Jerry Bergonzi (*Melodic Rhythms* [2007]), tuplet groupings are not. Jazz guitarists in particular have not properly explored their potential. Even Ari Hoenig, who favours quintuplet groupings on the drum set, is reticent about using them extensively:

It would definitely catch people off guard, but that’s not a reason not to do it... It’s something the music is growing towards, and it’s definitely something that I use, but I use it pretty sparingly. Not all the time. Yea, I like it, sure. [But] it’s... I don’t want to say less useable, but I would say that it is less commonly used, much less commonly used in fact (Hoenig, 2013: personal communication).

As Hoenig’s statement suggests, in order for successful use of a rhythmic device there needs to be a shared language (what Hannaford calls a ‘common ground’) between the
members of a given ensemble (Hannaford, 2012: 1). Hoenig and his band members have developed many innovative rhythmic devices, but it seems this kind of rhythmic exploration is still in the early stages of its development. While, as Hoenig notes, heavy metal groups such as Car Bomb use tuplet groupings in a compositional sense, their application in an improvisatory setting is much less common. Although used in a different manner and taken from different source material, some Melbourne-based Australian musicians (including Hannaford and Scott Tinkler) have been using this kind of rhythmic language as a basis for improvisation in recent years.

The transcription on the following page (Figure 7.16), taken from the submission recording of Hekselman's *The Bucket Kicker* (CD4: Disc One: *Abercrombie and Hekselman Repertoire*, Track 3) shows two examples of tuplet groupings which I applied in an improvisational manner. The first, quintuplets grouped in seven, implies a 5 over 7 metric modulation (bars 5-8), while the second groups quintuplets in six, implying a 5 over 6 metric modulation (bars 17-19).
Figure 7.16: (TC: Volume Two: CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 3 [1:42-2:01]) The Bucket Kicker (Hekslaman) (quintuplets grouped in seven and six, implying 5 over 7 and 5 over 6)
Superimposing Other Meters

Jazz improvisers have been superimposing one meter over another since the days of Louis Armstrong, who made frequent use of the simplest example of the device, the hemiola (Lippi, 2008: 15). The hemiola has always been, and still is the most common superimposition in jazz improvisation. It is so common in fact, that Brian Levy in his article *Polyrhythmic Superimposition in Jazz, Hemiola and Implied Meters Before 1965*, states that:

> It may not be possible to find a single recording from that time [before 1965] that lacks elements of implied 3/4 meter juxtaposed with the 4/4 meter in improvised solos or accompaniment (Levy, 2006: 55).

Abercrombie confirms this observation:

> You will find them on all the recordings. People I was playing with did it all the time. 3/4 over 4/4 and 4/4 over 3/4 are easy to hear and the most common (Abercrombie, 2012: personal communication).

Beyond the hemiola, the transcription and analysis undertaken as part of this study identified three means of superimposing one meter over another: superimposition using on/off phrasing, superimposition using a rhythmic motif, and superimposition through phrase structure.

Superimposition using on/off phrasing

The technique of on/off phrasing described in Chapter One (pp. 24-29) can also be applied to meter superimposition. This is in fact the main way that Hekselman constructs odd meter phrases, as shown in the transcription extract on the following page.
The overall rhythm resulting from the procedure can be summarised as follows:

Figure 8.1: 5/4 over 4/4 *Summer of Laughs and Tears* (Hekselman) (superimposing other meters using on/off phrasing)

Figure 8.2: Rhythmic summary of Figure 8.1

Figure 8.4 on the following page shows an example of the application of this device in the submission recordings, and the resulting interaction (*CD2: Abercrombie and Hekselman Duets*, Track 8).
The top line (me), in bars 16-23 shows use of on/off phrasing to create a 5/4 over 4/4 idea, using the rhythmic pattern of Figure 8.3, summarised as follows:

After my 5/4 idea is first implied (bar 16), Hekselman interacts by copying the superimposition. His comping pattern changes at bar 18 to outline the 5/4 idea, and he continues until bar 23. Both my improvised line and Hekselman's accompaniment are

Figure 8.3: (TC: Volume Two: CD2: Abercrombie and Hekselman Duets, Track 6 [3:20-3:32]) Anthropology (5/4 on/off phrasing interaction)

Figure 8.4: Rhythmic summary of Figure 8.3

After my 5/4 idea is first implied (bar 16), Hekselman interacts by copying the superimposition. His comping pattern changes at bar 18 to outline the 5/4 idea, and he continues until bar 23. Both my improvised line and Hekselman's accompaniment are
made up of two identical 5/8 parts, constructed through the use of on/off phrasing to create a larger 5/4 superimposition.

Figure 8.6 on the following pages provides a more complex example of this device, taken from the same duet performance of Charlie Parker's *Anthropology* by Hekselman (bottom line), and me (top line). Bars 57-66 (top line) show use of this device to create a 13/4 superimposed meter. The rhythm employed through on/off phrasing to create the 13/4 superimposition detailed in 8.6 can be summarised as follows:

![Figure 8.5: Rhythmic summary of Figure 8.6](image)

It is worth noting the interaction and interplay before the above on/off rhythm is employed. Bars 35-41 are the remainder of a more conventional section of the improvisation, where Hekselman uses a very abrasive, almost country inspired four-to-the-bar comping pattern. Bars 42-49 show my use of a 5/4 superimposition (top line), while Hekselman (bottom line) simultaneously begins a chromatic 'power chord' (that is, lacking a third) run (bars 43-53), which creates a 6/4 superimposition.

Hekselman's concept wins over as the prominent idea, and in bar 50 a complementary chromatic line is begun by me in a higher register. This dialogue is then continued for another 6 bars (51-56). Bar 57 sees the emergence of the previously discussed 13/4 on/off rhythm, while Hekselman decides to outline the form quite directly, starting at the bridge (bar 59) with long, legato chords on beats one and three.
Figure 8.6: (TC: Volume Two: CD2: Abercrombie and Hekselman Duets, Track 6 [4:05-4:38]) Anthropology (Charlie Parker)
This performance of *Anthropology* showcases many different examples of interaction and interplay, most of which relate back to the devices discussed in this exegesis.
Superimposition using a rhythmic motif/superimposition through phrase structure

Further examples of superimposing other meters can be achieved through either the structure of a phrase which outlines a superimposed meter, or the repetition of a rhythmic motif. Figure 8.8 below provides an example of the latter:

![Figure 8.7: Purium (Hekselman) 5/4 over 4/4 using a rhythmic motif](image)

Hekselman creates a 5/4 over 4/4 superimposition through the motivic repetition of the rhythmic summary presented in Figure 8.8 (below). The rhythm stays constant, while melodic material is developed using the repeating rhythmic pattern below as a framework:

![Figure 8.8: Rhythmic summary of Figure 8.7](image)
Figure 8.9 below shows Hekselman achieving a similar effect through simply phrasing in a way that outlines the superimposed meter. In the case of the following example, 7/4 is being superimposed over 5/4.

![Figure 8.9: April in Paris (Vernon Duke) (7/4 over 5/4 through phrase structure)](image)

When improvising in meters other than common time, 4/4 rhythms are often used as superimpositions, as the following example of Abercrombie demonstrates:

![Figure 8.10: Ralph’s Piano Waltz (4/4 over 3/4 using a rhythmic motif)](image)

Figure 8.11 on the following page provides another example, taken from an improvisation of mine over All the Things You Are.
As with the other devices, superimposing other meters improves interaction and interplay within the group. Figure 8.12 on the following page (taken from CD4: Disc One: *Abercrombie and Hekselman Repertoire*, Track 7) shows one such interaction. Using a repeating rhythmic motif, I create a 5/4 over 4/4 superimposition (top line). This is interacted with by the drums (bottom line), which joins after three bars by playing hits on the cymbals to outline the dotted quarter note section of each superimposed 5/4 bar.

**Figure 8.11**: *All The Things You Are* (Jerome Kern) (4/4 over 7/4 using a rhythmic motif)
Figure 8.12: (TC: Appendix Two: CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 7 [1:50-2:03]) Yo Mamma’s Blues (Hekselman) (5/4 over 4/4 guitar and drum interaction)
Multi-Layered Polyrhythms

The concept of multi-layered polyrhythms was developed through observations made in the transcription and analysis process, with relation to relevant literature consulted for the research, particularly Lerdahl and Jackendoff’s *A Generative Theory of Tonal Music* (1983). Multi-layered polyrhythms are simply musical statements that include layered polyrhythms. In other words, examples that include more than one polyrhythmic device occurring simultaneously. Rather than being taken to imply polyphony (discussed pp. 105-108), these examples are single lines that can be conceptualized as containing more than one polyrhythm. The initial discovery created the basic concept, described below as the grouping structure of a superimposed meter, and following this, a re—conceptualization of the idea created an additional category which turns on the melodic pattern of a note grouping.

The grouping structure of a superimposed meter

The transcription on the following page shows Hekselman superimposing 5/4 over the underlying time signature of 4/4 (bars 1-15). When taking into account the shape of the melodic line and the superimposed harmony (included in brackets above the underlying harmony), a repeating three bar pattern of F, Eb and Db emerges. This is in fact an example of the previously discussed hierarchical polyrhythm device (see pp. 34-38), one which in this instance creates a 3/4 polyrhythm at the hierarchical level of the bars themselves.

Figure 9.1 which follows includes two, simultaneous layered polyrhythms. Firstly, the 5/4 superimposition at the level of beats, and the second, a 3/4 hierarchical polyrhythm layered on top at the level of bars.
As discussed in pp. 57-59, asymmetrical note groupings can be produced by melodic patterns that do not adhere to the their metric division (see, for example, the triplets grouped in fours in line one of Figure 9.2 on the following page). Regardless of the melodic structure, the same effect can be provided by simply placing a rest as part of the note grouping (see line two, Figure 9.2). More rests can be added, and the note grouping can be organized in any desired formation (one additional formation is provided on line three of Figure 9.2).
This particular rhythmic pattern creates a 3 over 4 polyrhythm (as the superimposed pattern takes three repeats, and four beats to resolve). If a melodic pattern is created within this structure, for example, one that that resolves after four repeats, then a new layered polyrhythm is created.

In the case of the example on the following page (Figure 9.3), a 4 over 3 rhythm is layered on top as the rhythmic pattern (triplets grouped in fours) resolves after every third repeat, but the melodic pattern is organized to do so after every fourth note grouping. This creates a multi-layered polyrhythm of 3 over 4 and 4 over 3, thus creating a larger structure which resolves after sixteen beats (or four bars, as Figure 9.3 on the following page demonstrates).
The following page provides a multi-layered polyrhythm of 3 over 4 and 2 over 3 (Figure 9.4), through the melodic pattern of a note grouping, the larger structure of which resolves after eight beats, or two bars.
This concept, developed by me, has been applied to performances throughout the submission recordings (Volume Two). For example, two different uses of the device are present in my improvisation over One More Song (CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 9). The first shows use of 3 over 5 and 4 over 3. This is achieved by grouping triplets in fives (3 over 5), and melodically organizing them to resolve after every fourth grouping (4 over 3). Since the underlying time signature is 3/4, it also creates a 5/4 over 3/4 effect.

Figure 9.4: Multi-layered polyrhythm

Figure 9.5: (TC: Volume Two: CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 9 [8:12-8:19]) One More Song (Heksleman) (multi-layered polyrhythm)
The second example shows the same multi-layered polyrhythm concept as Figure 9.3 (p. 83), consisting of 3 over 4 and 4 over 3. This is achieved through grouping triplets in fours (3 over 4), and melodically organizing them to resolve after every fourth grouping (4 over 3). As with the previous example, the underlying time signature is 3/4, so an additional 4/4 over 3/4 polyrhythm is created.

Figure 9.6: (TC: Volume Two: CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 9 [7:25-7:32]) One More Song (Hekselman) (multi-layered polyrhythm)
Augmentation and Diminution

The *Oxford Companion to Music* describes augmentation and diminution as follows:

Augmentation: A compositional procedure in which the note-values of a musical statement are lengthened (usually doubled), as in the climactic presentation of certain fugue subjects (e.g. Bach’s C major Fugue for organ BWV547) (Latham, 2002: 70).

Diminution: A melodic device, often found in fugal compositions, in which the time-values of the melody notes are proportionally shortened. For example, a melody moving in minims [half notes], crotchets [quarter notes], and quavers [eighth notes] could undergo diminution to move in crotchets [quarter notes], quavers [eighth notes], and semiquavers [sixteenth notes] (each value diminishing by half) (Latham, 2002: 366).

Examples of the two procedures also abound in jazz, where they were used initially as a basis for compositional and improvisational development (Ferguson, 1994: 114). Since then, the procedures have been evolving alongside other aspects of jazz improvisation. Their use can be deliberate, such as we find in Hoenig’s arrangement of *Stella by Starlight* (Victor Young) from Jean Michel Pilc’s *Welcome Home* (2002), or otherwise, as Abercrombie explains:

I don't know if I've ever specifically worked on it [augmentation and diminution]. It just seems to make sense to me. Usually these things would happen on a gig, or a recording, in relation to what was happening in the music (Abercrombie, 2010: personal communication).

Identified through the current research process, and included on the following pages are six different categories of augmentation and diminution.
Augmentation/diminution of note values

This is simply the augmentation and diminution of various note values, and can be used in relation to a phrase (Figure 10.2 and 10.3 on the following pages), or simply moving through successions of progressively smaller/larger note groupings (Figure 10.1, below).

**Figure 10.1:** *Will the Song Ever End* (Hekselman) (diminution of note values)

Figure 10.2 below shows Hekselman using an augmentation of note values in relation to a phrase. Rhythmically speaking, it is not an exact augmentation, but a phrase is stated, and then augmented to quarter note triplets. Melodically speaking, the phrase is repeated verbatim, albeit transposed down a minor 6th.

**Figure 10.2:** *The Bucket Kicker* (Hekselman) (augmentation of a phrase)
This device has been applied to performances on the submission recordings, including the compositional structure of my original work entitled *Phrygia* (Volume Two: CD1: *Retrieval Structure*, Track 6) (Figure 10.3 on the following page). Since the use of the device is planned, the band metrically modulates to the new tempo, though it still represents an augmentation of note values in relation to a phrase. The phrase in the coda (bars 62-67) is augmented initially from eighth notes to quarter note triplets (64-65), which is followed by a diminution back to the original tempo (66-67).
Figure 10.3: (TC: Volume Two: CD1: Retrieval Structure, Track 6 [5:55-6:14]) Phrygia (Current Author) (augmentation/diminution of a phrase)
This point was covered extensively when 'note groupings' were discussed (pp. 62-65), with relation to Indian and Brazilian music, Hekselman's improvisations, and personal explorations. A further example of Hekselman using this device has been included below.

Figure 10.4: *I Should Care* (Sammy Cahn) (diminution of triplet groupings)
Augmentation/diminution of on/off phrasing

Augmentation/diminution can be combined with the on/off phrasing device outlined in pp. 24-29, giving rise to interesting improvisatory material. This adaptation of the original device shows how a simple idea can be used to create a very sophisticated and intriguing musical statement. The following example provides a transcription of Hekselman employing this device over John Coltrane’s *Countdown*:

![Music notation image]

**Figure 10.5:** (TC: Appendix Two, Track 8 [0:11-0:21]) *Countdown* (John Coltrane) (diminution of on/off phrasing)
Augmentation/diminution into a polyrhythm

When used creatively, augmentation/diminution can transform a regular phrase or idea into a polyrhythm, increasing the possibility of interaction for the band, while providing a direct relationship to the material that preceded it.

An extract taken from an Abercrombie improvisation has been used to express this concept (Figure 10.6 below). The transcription begins with a three note motif, comprising eighth notes, with the idea continuing for five bars. Bars 6-9 show a diminution of the three note motif into sixteenth notes. As with the previous example of Hekselman (Figure 10.2, p. 87), this is not an exact rhythmical diminution of the original melodic idea, as a quarter note still separates each three note grouping.

![Figure 10.6: There is no Greater Love (Isham Jones) (diminution of motif into polyrhythm)]
Through the diminution of the three note motif to sixteenth notes (keeping a quarter note rest between each grouping), a displaced 3/4 over 4/4 metric superimposition emerges. The resultant displaced 3/4 rhythm, which could also be described as a hemiola, is provided below:

![Hemiola Pattern](image)

**Figure 10.7:** Hemiola arising from motif diminution

By contrast, an example of augmentation into a polyrhythm can be found in an improvisation of Hekselman’s, over Jerome Kern’s *The Way You Look Tonight* (Figure 10.8 on the following page).
Again, this example does not provide a mathematically exact augmentation. Bar 1 provides the basic cell (marked 'phrase') which is then manipulated by Hekselman. The phrase is displaced, repeated, displaced, repeated, and displaced, before a final augmentation. Hekselman augments the phrase by taking each individual note (whether quarter or eighth note), and expands them all into dotted quarter notes (resulting in another hemiola superimposition, displayed in Figure 10.9).

Figure 10.8: The Way You Look Tonight (Jerome Kern) (phrase augmentation)

Figure 10.9: Hemiola arising from motif augmentation
Another example of this device, this time utilizing an exact rhythmic augmentation from one musical statement to the next, can be found on CD2: *Abercrombie and Hekselman Duets*, in the submission recordings. The transcription extract from Jerome Kern's *Long Ago and Far Away* (Track 6) performed as a duet between Abercrombie and I, shows my diminution of a three note motif from eighth notes to triplets. The resulting rhythm (Figure 10.11) creates a 3 over 4 polyrhythm (as the triplets are grouped in fours).

![Figure 10.10: Long Ago and Far Away (Jerome Kern) (motif diminution)](image1)

![Figure 10.11: 3 over 4 polyrhythm arising from motif diminution](image2)
The final category is a concept developed by me, and is essentially a hierarchical adaptation of the note grouping augmentation/diminution on p. 90. It has not been observed in the improvisations of Hekselman or Abercrombie, nor has it surfaced in my own improvisations, yet it is a possible adaptation of augmentation and diminution. Figure 10.12 below combines superimposed meters (pp. 70-79) with augmentation. Diminution could also be used to create a similar effect, or a combination of both.

Figure 10.12: Augmentation of superimposed meter
Chapter Two Summary

Through transcription and analysis this chapter presented the findings of the research with relation to polyrhythm, touching on metric modulation, note groupings, superimposing other meters, multi-layered polyrhythms, augmentation and diminution, and their respective sub-categories. Helping to frame the ideas were personal insights from Hekselman, Abercrombie and Hoenig, while the overall focus of the chapter was transcribed examples to showcase the application of each device in the submission recordings (Volume Two). This discussion covered established concepts and ideas, new insights, and original observations and developments, providing an extensive collection of polyrhythmic devices. Following the current chapter's focus on polyrhythm, and the previous chapter's discussion of phrasing, the third and final chapter to follow consolidates the findings and considers broader aspects of their implications.
Chapter Three: Other Considerations

The final chapter of Volume One briefly examines the research in relation to my chosen instrument. It also provides an insight into use within polyphony, along with exploring how the devices are used in relation to the overall structure of an improvisation.

Instrument Specific Explorations

When describing the practice of rhythmic devices, Hekselman states:

> It’s not a guitar thing, it’s about getting the concept down. The guitar is just technique or harmony. Ideas have nothing to do with guitar, that’s why you can take them from different places (Hekselman, 2012: personal communication).

Although Hekselman is quite justified in saying this, as a guitarist it is essential to be aware of the possibilities contained within the instrument itself. Whether it is the range, material, size, shape, or type, every instrument has its own particular uniqueness. Even within its infinite diversity in comparison to other stringed instruments, the guitar still provides instrument specific nuances that can be exploited to create unique and personalized sounds, and Abercrombie certainly makes use of this fact (Gruhn, 1996: 176).

Although most are generally not applicable to the jazz idiom, a general insight into the plethora of different electric guitar techniques can be found in the preface of Carl Culpepper’s transcription book of Joe Satriani’s *Flying in a Blue Dream* (1990).
Culpepper’s quite broad and detailed list includes twenty nine different techniques, the majority of which are unique to the guitar.\textsuperscript{4}

While in-depth studies do exist on particular instruments, such as Kimi Coaldrake’s research into mapping the tonal colour of the Japanese koto, or Mark French’s \textit{Technology of the Guitar} (2012), formal studies into instrument specific techniques in relation to performances are seldom explored.

With specific consideration as to stylistic appropriateness, this study provides two different categories of guitar specific techniques (neither of which are found in Culpepper’s book). These techniques – the use of campanella or adjoining open strings, and the sounding of the same note on a different string, have here been combined with various rhythmic devices uncovered throughout the research project.

**Campanella**

'Campanella', Italian for 'little bell' (Scholes, 1975: 150), is a classical guitar technique that utilizes open strings in combination with fretted notes to create a cascading, bell like effect. It is most commonly used as an alternative to more traditional scale and arpeggio fingerings (Stanton, 1999: 120). An example of campanella, as applied to the fingering of a G Lydian scale is included on the following page. The lower staff – known as tablature in guitar circles – identifies the exact position of each note on the fretboard. This is essential in ensuring the campanella effect.

\textsuperscript{4} Ranging from bends to palm muting, harmonics, tapping, tremolo bar, vibrato and many more
This effect is distinct from the use of open strings as the basis of chord voicings, such as we find in the work of Bill Frisell and Ben Monder (Stowell, 2011: 25). These types of voicings can also be heard in the submission recordings, particularly the melody to *The Heights*, found on CD1: *Retrieval Structure*, Track 4.

Rather than scale or arpeggio runs, campanella has been employed in a more general sense in the submission recordings. This includes using open strings as part of a larger improvised line. Figure 11.2 on the following page shows an eighth note line from my improvisation over John Coltrane’s *Countdown*, with regular use of open b and e strings (marked with an 'o' above each, and indicated in the tablature staff). Note that this technique has also been combined with the note grouping device discussed on pp. 58-59, creating a 9/4 polyrhythm.
Figure 11.2: (TC: Volume Two: CD4: Disc One: Abercrombie and Hekselman Repertoire, Track 1 [2:51-3:02]) Countdown (campanella within note groupings)
Apart from open strings, another characteristic of the guitar is that the same note can be found on adjacent strings. This is due to the intervallic relationships between the strings. Although it is the exact same pitch, shifts in position – both across strings and up and down the fretboard, result in timbral contrasts that are useful in their own right. This is broadly equivalent to saxophonists using alternate fingerings in the production of the same note. Michael Brecker is widely recognized as the first to properly explore the sound and approach as a fundamental improvisational technique in the jazz idiom. Since then contemporary jazz saxophonists such as Rudresh Mahanthappa have continued developing the technique (Giddins, 2009: 74). Jazz guitar greats such as Wes Montgomery and Jimmy Raney used the same notes on adjacent strings in very basic ways, but contemporary guitarists like Kurt Rosenwinkel, Wolfgang Muthspiel and Charles Altura have taken it further, although even their use is rather sparing.

Figure 11.3 below provides an example of my application of this technique to the previously discussed note grouping device, creating a long eighth note line in six note groupings. The extract is taken from my improvisation over an original arrangement of Miles Davis' *Nardis* (CD3: *Perception*, Track 3), and the repeated notes marked with arrows are all played using an adjacent string fingering (as the tablature illustrates).

**Figure 11.3:** *Nardis* (same note on an adjacent string with note groupings)
The score extract on the following page (Figure 11.5) shows my application of this technique in a compositional context, in my original work *Falling* (CD4: Disc Two: *Ari Hoenig Session*, Track 4). Bars 5, 7, 8 and 10 have arrows marking where the technique is used in the guitar part (top line), while the technique is again clearly articulated in the tablature staff. Coincidentally, the same guitar part highlights the use of a hierarchical polyrhythm (moving in three bar phrases), which was discussed on pp. 34-36.

Another original composition that explores the hierarchical polyrhythm, *Happy*, from CD4: Disc Two: *Ari Hoenig Session*, Track 1, does so through a 5/4 time signature grouped in 3 bar phrases (Figure 11.4 below).

![Happy](image)

**Figure 11.4**: (TC: Volume Two: CD4: Disc Two: *Ari Hoenig Session*, Track 1 [0:05-0:27]) *Happy* (Current Author) (hierarchical hemiola used as compositional device)
Figure 11.5: (TC: Volume Two: CD4: Disc Two: Ari Hoenig Session, Track 4 [0:14-0:28]) Falling (Current Author) (same note on adjacent string)
As well as rhythmic innovations, Hekselman is one of the first jazz guitarists to incorporate what might be termed genuine polyphony into his playing. That is, rather than creating contrapuntal lines, Hekselman executes truly independent voices, and this can be heard throughout his recordings. One example of this is included below, taken from his improvisation over George Gershwin’s *Someone to Watch Over Me*.

Although the use of polyphony throughout his albums is certainly present, aspects of polyrhythm are not included within these examples. However, Hekselman’s aptly titled DVD, *Polyphony for Guitar* (Jazz Heaven), does explore this combination.

Transcriptions to accompany the DVD were completed for Jazz Heaven by me as an offshoot of this research project (Provided in Volume Three: Appendix Seven: p. 215-231). Discussed on the following pages are three adaptations of polyrhythm within polyphony.
Devices employed over or under a melody

Figure 12.2 below shows Hekselman repeating a four bar phrase (top line), while simultaneously improvising a melody under it that contains a polyrhythmic eighth note grouping in fives below (bottom line).

Figure 12.2: Eighth notes grouped in fives under a melody
Hekselman also makes use of ostinati, or repeated phrases, set against another voice to create a polyrhythm. Figure 12.3 below shows use of an ostinato (bottom line) below, while Hekselman improvises a line of dotted eighth notes on top (top line).

**Figure 12.3:** Dotted eighth notes over an ostinato

In contrast to the previous examples of Hekselman is a creation of my own, in which both independent lines make use of contrasting rhythmic devices. It is in effect an extension of the on/off phrasing device discussed earlier (pp. 24-29). Figure 12.4 on the following page shows the combination of on/off phrasing with polyphony, the top line outlining 5/4, while the bottom contrasts with a 7/4 idea.
Figure 12.4: Devices employed in each individual line

Figure 12.5 below shows the exact same example (Figure 12.4), although applied to triplets, and extracted from my improvisation over Hekselman’s *Suite for Sweets* (CD4: Disc One: *Abercrombie and Hekselman Repertoire*, Track 6).

Figure 12.5: *Suite for Sweets* (Hekselman) devices employed in each individual line
When transferred from eighth notes to triplets, each rhythmic pattern (or rather displacement) takes three repeats to resolve. They still however, result in a bar of five and a bar of seven, as Figure 12.6 below summarises:

![Figure 12.6: Rhythmic summary of Figure 12.5 (p. 108)](image)

**Where to Use the Devices**

An important consideration with any musical device is when and how to use it. This is especially relevant with regard to the devices discussed within this submission, and several different considerations have been taken into account. This includes who you are playing with, and what you are playing.

As Hekselman discusses in relation to his performances with two different drummers, Ari Hoenig (as a sideman), and Marcus Gilmore (as a band leader):

I always try to play with the people that I play with. It’s different, if someone takes it somewhere, then I have to go with the flow and not resist it, you know. Ari will almost always take it there and Marcus will hardly take it there. So that [playing with Marcus] allows me to go to a different place. Ari has a different game and he has roads to his game and Marcus has different rules to his game. Every drummer has slightly different rules, but I would say that they are two extreme opposites as drummers (Hekselman, 2012: personal communication).
Another important observation arising from the transcription and analysis process was that the devices were almost never used by Hekselman or Abercrombie in a ballad. Melody, touch, feel and dynamics became the most important considerations when improvising in this setting. The opposite end of the spectrum can be seen on fast, energetic works where rhythmic superimposition, displacement and interaction become the focal point of the improvisation.

What follows is a reflection – not intended to be definitive – regarding considerations as to when to employ the techniques and devices outlined in this study. The first concerns the ways in which the points of rhythmic and/or melodic tension are resolved by the ensembles at pivotal points in a given improvisation. This entails the use of what I call reference points. The second concerns what precedes and follows each device, and the third consideration turns on the degree of interaction between the players.

Reference points

I never wanted to play the downbeat. I always tried to keep away. Part of the game was can I play and keep away from always emphasising the downbeat, but what I realised was what made this sound great was that after you play some of these types of phrases, you did emphasise the downbeat. You came back to the downbeat and emphasised that, and played something that was more in, right in the time, and not so whacked out, so to speak... or over the time. Because it was the relationship between the two that really made everything sound good to me (Abercrombie, 2010: personal communication).

This approach to the use of rhythmic devices can be observed in both Abercrombie and Hekselman's improvisations. The rhythmic resolutions Abercrombie suggests, where he 'came back to the downbeat and emphasised that' constitute improvisatory reference points for the more sophisticated material each guitarist explores.

Figure 13.1 on the following pages provides an example of this. It is an extension of an example previously discussed within this dissertation, when covering off beat
syncopation and band interaction (p. 22), taken from Hekselman’s improvisation over Ornette Coleman’s *When Will the Blues Leave?*. Bars 17-22 are comprised of conventional melodic material, drums keeping time, bass walking, and guitar phrasing in predictable, symmetrical statements. In bars 22-30 Hekselman employs a long line of off beat syncopation (pp. 19-23), and in bars 26-29 Ari Hoenig (drums) provides a complimentary response to Hekselman, by providing a slightly contrasting accompaniment, through a displaced drum groove that outlines a 5/4 pattern (discussed in detail on pp. 22-23). After this interaction of rhythmic sophistication, bars 31-36 provide a gradual journey back to more conventional material, and by bar 37, drums are keeping time, bass is walking, and Hekselman is once more phrasing in predictable, symmetrical statements, a so called reference point for the improvisation.

![Figure 13.1](TC: Appendix Two: Track 10 [0:00-0:25]) *When Will the Blues Leave* (Ornette Coleman) (improvisatory reference point)
Aside from reference points such as these, which occur in the middle of an improvisation, a high percentage of the beginnings and endings of solos by Hekselman and Abercrombie contain standard material that clearly outlines the form. This approach has the effect of a metaphorical frame of a painting, and helps to provide a context for the more complex ideas explored throughout their improvisations.
Connection of Devices

Although many of the devices discussed within this submission are isolated examples, what precedes and follows each device, and how ideas are connected from one statement to the next are extremely important considerations. Ari Hoenig is well aware of this and can seamlessly integrate complex ideas without them ever feeling forced.

An example of this can be found in Hoenig's drumming while performing an original composition of mine entitled Juncture (CD4: Disc Two: Ari Hoenig Session, Track 6, Figure 13.2 below). On the 3 'and' of bar 4, Hoenig begins a metric modulation, playing off of the dotted eighth note tempo (marked above the staff). This initially outlines the melody at bar 4, and then builds tension through bar 5 as the melody does not fit the modulation. When arriving at bar 6, the modulation and the melody line up once again (on the 1 'and'), providing a pleasing aural resolution to the rhythmic tension provided by Hoenig.

![Figure 13.2: Juncture](image)

Figure 13.2: (TC: Volume Two: CD4: Disc Two: Ari Hoenig Session, Track 6 [0:16-0:31]) Juncture (current author) (connection of devices)
Interaction

All of the devices discussed within this submission, whether isolated examples or not, are almost always responses to, or statements made which increase interaction and interplay. Examples of this type of musical dialogue can be found throughout the submission recordings (for example Anthropology, discussed on pp. 72-75 [CD2: Track 8], One More Song [CD4: Disc One: Track 9], and Happy [CD4: Disc Two: Track 1]).

Figure 13.3 on the following page provides another example of the interaction created through the use of rhythmic devices, with an extract from my duet performance of Beautiful Love (Victor Young) with Abercrombie (CD2: Track 7). The transcription begins with Abercrombie (top line) using off beat syncopation and augmentation (bars 61-64). I respond to this by using 5/4 comping, built using on/off phrasing (bars 70-71). Abercrombie then implies a metric modulation to the dotted quarter note (bars 73-74), but my accompaniment contrasts by outlining the time and ‘walking’ (bars 74-78). This spurs Abercrombie on to play faster, more technically inspired runs while the harmony and form is clearly being outlined (bars 77-78).
Figure 13.3: (TC: Volume Two: CD2: Abercrombie and Hekselman Duets, Track 7 [3:53-4:19]) Beautiful Love (Victor Young) (interaction)
Chapter Three Summary

After exploring in detail phrasing and polyrhythm (Chapters One and Two), Chapter Three has consolidated the findings by considering a broader context for the research. This includes an explanation of how the research has informed my improvisational language in relation to the guitar itself (pp. 98-104), a brief discussion of Hekselman's innovative use of polyphony in jazz guitar (pp. 105-109), and finally, a bird's eye view of how to incorporate the various devices in an extended improvisation (pp. 109-116).
Conclusion

Through transcription, analysis, application, exploration and performance, this research project has resulted in a significantly increased understanding of the current trend in contemporary jazz towards further rhythmic sophistication, in particular as it applies to the guitar. As a performance based study, the CDs and accompanying exegesis provide a detailed and thorough case study of the application of Walter Bishop Junior’s tripartite model of imitation, assimilation, and innovation (discussed p. 8). As has been demonstrated throughout, these steps are an important and essential part of the artistic process, although due to the rather unnatural marrying of performance and a formal academic pursuit, it is unfortunately largely undocumented (Martin, 2005: 84). The subject matter of this study: phrasing and polyrhythm, seem to be at the core of what helped Abercrombie achieve the final 'innovation' part of this process: 'I'm always looking for something that is a little more personal... something unique... and I'd say, aside from sound, the main way I was able to develop that was by creating displaced, odd phrases, and rhythmically sophisticated vocabulary' (Abercrombie, 2010: personal communication).

The introduction provided the context in which the research was undertaken, justified the methodology and theoretical framework, and through a detailed literature review, the need for the research and its place within jazz scholarship was established. An important feature of the dissertation is the scholarly interplay between critical analysis and the articulation of the findings in the CD recordings.

Chapter One covered phrasing, presenting transcriptions and analyses of Hekselman and Abercrombie, covering general asymmetry in phrasing, hierarchical polyrhythms, obscuring hierarchical structures, phrase displacement, off beat syncopation and on/off phrasing. Chapter Two explored polyrhythm, presenting transcribed extracts from my
improvisations and compositions, with reference to the submission recordings. Devices
discussed in this chapter include metric modulation, note groupings, superimposing
other meters, multi-layered polyrhythms, augmentation and diminution, and their
respective sub-categories. The final chapter consolidated the findings by considering
broader aspects of their application and importance. This was achieved through the
examination of the research in relation to my chosen instrument, a brief discussion of
polyphony, and an exploration of how the devices are used in relation to the overall
structure of an improvisation. Taken from interviews conducted throughout my
candidature, personal insights from Hekselman, Abercrombie and Hoenig helped to
frame the research presented.

The devices presented in this study include established concepts and ideas, new
insights, and original observations and developments, providing an extremely broad
and detailed analysis of the current state of rhythmic developments in jazz. The
Appendices highlight the large amount of data consulted to inform the research,
collected through original transcription and analysis (Volume Three: Appendix Seven:
pp. 3-231). Edited transcripts of the Abercrombie, Hekselman, and Hoenig interviews
(Appendix Five: pp. 135-153), lead sheets of the repertoire performed on the
submission recordings (Volume Three: Appendix Eight: pp. 232-363), and
transcriptions of my own improvisations (Volume Three: Appendix Nine: pp. 364-371)
are also provided to further support the research.

In addition to insights into transcription, analysis and theoretical concepts, the research
has helped me to establish a clear and refined method for developing contemporary
approaches to phrasing and polyrhythm, resulting in a far larger improvisational
vocabulary, and has significantly enhanced my performance practice. This impact is
evident in a variety of different settings, including duos, trios, small groups and larger
ensembles, and a variety of different repertoire, including standards, Abercrombie and
Hekselman compositions, and a plethora of original compositions. Broadly speaking, the research has resulted in a more contemporary, artistically relevant sound and aesthetic, and has significantly increased interaction and interplay when used in an improvisational manner.

Overall, this study is simply a reflection of my personal experience in the current contemporary jazz climate. It is a direct response to what I regard as the defining features of the modern jazz idiom, with particular reference to the guitar. The submission recordings are firmly placed within this ideal and have been well received with international audiences. They feature many of the world’s most prominent voices in jazz, and were recorded, mixed and mastered by highly regarded, established engineers in New York (full details provided on the cover of each CD (Volume Two), and in Appendix One: pp. 123-125).

The accompanying CDs along with the Hekselman transcriptions are the main products of the research process, although I anticipate the thesis as a whole will be of benefit to collegiate candidates, professional performing musicians, teachers, theorists, musicologists and jazz enthusiasts. The practical application list (Appendix Four: pp. 132-134), could easily be used by others who are also seeking to advance their rhythmic vocabulary, and augurs well for future research on the topic by providing a detailed framework which can be added to, manipulated and expanded. This list provides one of the first large scale organizations of rhythmic devices in jazz, as Ari Hoenig states: ‘Sometimes it’s hard to classify and codify all these different ideas and devices. It’s really at the beginning stages of actually categorizing and really defining the different possibilities in contemporary rhythmic language in jazz’ (Hoenig, 2013: personal communication).
This study presents the first academic examination of Hekselman’s highly innovative, modern and rhythmically sophisticated improvisations, and Abercrombie’s idiosyncratic approaches to phrasing and polyrhythm. The transcriptions of Hekselman’s entire discography as a band leader (Volume Three: Appendix Seven: pp. 10-163) have been published, contributing to knowledge in the discipline, and leading to other publications for Mel Bay (Volume Three: Appendix Seven: pp. 180-205). The devices presented and discussed in the three previous chapters (pp. 14-117) provide an extension of the literature currently available on polyrhythm, while offering a unique examination of phrasing, a much less documented topic in jazz (Yoshizawa, 1999: 17).

Although rhythmic developments are the current focal point for many modern jazz improvisers and composers, there is still a long way to go, and we are really just at the beginning stages of this paradigm. When discussing advanced tuplet groupings with Hoenig (p. 66-69), his statement of ‘It's something the music is growing towards’ clearly supports this assertion. There are still many avenues for further developments in this regard, and although the research questions, aims and objectives of this study have been achieved and answered, creating a far deeper and grounded understanding of phrasing and polyrhythm, I look forward to observing and hopefully being involved with, the future developments of this music.
**Appendices**

The appendices on the following pages provide a detailed selection of support material to accompany the written exegesis. There are nine different appendices, five included in this first volume, and the remaining four in the third volume.

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Appendix One: CD Recording Information

The four CD recordings which present the main product of the research process: CD1: *Retrieval Structure*, CD2: *Abercrombie and Hekselman Duets*, CD3: *Perception* and CD4: Disc One: *Abercrombie and Hekselman Repertoire*/Disc Two: *Ari Hoenig Session*, are provided in the second volume of this thesis. All relevant information relating to the recordings (catalogue number, track listings, musicians, engineers, mixing, mastering and studio information) can be found on the CD covers themselves, although a summary of each CD has been included below.

**CD1: *Retrieval Structure***

**Recording Date:** August 15th 2011  
**Recording Studio:** Acoustic Recording, Brooklyn, NY, USA  
**Musicians:** Quentin Angus- Guitar, Chad Lefkowitz-Brown- Saxophone, Matthew Sheens- Piano, Scott Colberg- Bass, and Kenneth Salters- Drums  
**Catalogue Number:** QAQNO11  
**Recording Engineer:** Michael Brorby  
**Mixing:** Michael Brorby  
**Mastering:** Alan Silverman  
**Producer:** Quentin Angus  
**Short Description:**  
Retrieval Structure was a commercially released and distributed recording, containing completely original compositions.
CD2: Abercrombie and Hekselman Duets

Recording Dates: May 3rd 2011 (Abercrombie Duets), and September 28th 2012 (Hekselman Duets)

Recording Studio: Studio A (Purchase College), New York, NY, USA (Abercrombie Duets) and Peter Karl Studios, Brooklyn, NY, USA (Hekselman Duets)

Musicians: Quentin Angus- Guitar, John Abercrombie- Guitar, and Gilad Hekselman- Guitar

Catalogue Number: NA

Recording Engineer: Ben Goldstein

Mixing: Ben Goldstein

Mastering: Simen Solvang

Producer: Quentin Angus

Short Description:
This recording was completed for research purposes, and has not been commercially released or distributed. It comprises renditions of standard jazz repertoire.

CD3: Perception

Recording Dates: January 30th and 31st 2013

Recording Studio: Peter Karl Studios, Brooklyn, NY, USA

Musicians: Quentin Angus- Guitar, Jo Lawry- Voice, Will Vinson- Saxophone, Chad Lefkowitz-Brown- Saxophone, Shai Maestro- Piano, Matthew Sheens- Piano, Linda Oh- Bass, Or Bareket- Bass, Kenneth Salters- Drums, and the Yanni Burton String Quintet (Yanni Burton [bass], Sarah Koenig-Plonskier [violin 1], Lavinia Pavlish [violin 2], Jack Stulz [viola], and Leanna Rutt [cello])

Catalogue Number: AS-QA001

Recording Engineer: Michael Perez
Mixing: Michael Perez

Mastering: Alan Silverman

Producer: Jon Gordon and Quentin Angus

Short Description:
Perception was a commercially released and distributed recording, containing six original compositions, an original by Matthew Sheens, and an arrangement of Nardis (Miles Davis).

CD4: Disc One: Abercrombie and Hekselman Repertoire/Disc Two: Ari Hoenig Session

Recording Dates: April 22nd 2013 (Abercrombie and Hekselman Repertoire), and December 4th 2013 (Ari Hoenig Session)

Recording Studio: Peter Karl Studios, Brooklyn, NY, USA

Musicians: Quentin Angus- Guitar, Alon Tayar- Piano, Or Bareket- Bass, Bambam Rodriguez- Bass, Kenneth Salters- Drums, and Ari Hoenig- Drums

Catalogue Number: NA

Recording Engineer: Michael Perez

Mixing: Michael Perez

Mastering: Michael Perez and Alan Silverman

Producer: Quentin Angus

Short Description:
These recordings were completed for research purposes, and have not been commercially released or distributed. The sessions comprise renditions of standard jazz repertoire, Abercrombie and Hekselman compositions, and some original compositions. Outro, and Falling are additional original compositions, taken from the January 30th session, originally recorded for inclusion in Perception.
Appendix Two: Recorded Extracts of Hekselman Transcriptions

With permission from Hekselman (see 'statement of authorship' on the following page), a sample CD of his recordings has been provided below. Only small snippets of larger recordings have been included, provided to give an aural reference to the transcription extracts discussed within this submission. Following the statement of authorship is a track listing, though specific track numbers are referenced throughout Chapters One, Two and Three. The CD itself is provided below.

NOTE:
This appendix is on a CD included with the print copy of the thesis held in the University of Adelaide Library.
Statement of Authorship

Title of Publication
Splitlife, Words Unspoken, Hearts Wide Open and This Just In (Hekselman)

Publication Status

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Publication Details
Four CD Recordings. Short snippets have been cut from the original recordings in order to provide aural examples of the transcribed extracts discussed within this dissertation.

Author Contributions
By signing this Statement of Authorship, on the 29th day of December 2013, each author certifies that their stated contribution to the publication is accurate and that permission is granted for the publication to be included in the candidate’s thesis.

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CD Track Listing
(Recorded Extracts of Hekselman Transcriptions)

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Appendix Three: Glossary

Provided below is a summary of different terms used throughout the exegesis, with their accompanying definitions. Terms with references indicate definitions that have been adopted verbatim from relevant literature, while those without have a general description, followed by a page number reference to a fuller explanation. The majority of these terms can be found throughout the larger discussion, usually with specific reference to a particular device.

**Phrase**: Any structure or idea which can be seen as containing a clear beginning and ending, whether it conforms to the underlying structure of the work or not (p. 5).

**Polyrhythm**: A general, non specific description for the rhythmic devices discussed within the exegesis (p. 6).

**Displacement**: 'A rhythmic displacement is any rhythm or musical phrase that begins on a different part of the beat than its original starting point' (Hoenig/Weidenmueller, 2011: 5) (p. 14).

**Metric Modulation**: 'Changing the tempo of a piece so that the new tempo has some kind of mathematical relation to the original tempo' (Hoenig/Weidenmueller, 2011: 5) (pp. 42-56).

**Syncopation**: 'The displacement of the normal musical accent from a strong beat to a weak one' (Latham, 2002: 1235). 'The regular shifting of each beat in a measured pattern by the same amount ahead of or behind its normal position in that pattern' (Sadie, 1980: 469) (pp. 19-23).
**Motif [Motive]**: 'A melodic, rhythmic musical unit which brings unity, relationship, coherence, logic, comprehensibility and fluency to composition, by means of its repetition and varied recurrence. A motif is the main building-block for themes and melodic lines' (Latham, 2002: 803)

**Tuplet**: A tuplet is any rhythm that involves dividing the beat into a different number of equal subdivisions from that usually permitted by the time-signature (pp. 66-69).

**Meter**: 'The pattern of regular pulses (and the arrangement of their constituent parts) by which a piece of music is organized. One complete pattern is called a bar’ (Latham, 2002: 769)

**Campanella**: A guitar technique that utilizes open strings to create a cascading, bell like effect (pp. 99-101).

**Counterpoint**: 'Counterpoint is the coherent combination of distinct melodic lines in music' (Latham, 2002: 315).

**Polyphony**: 'Musical texture in two or more (though usually at least three) relatively independent parts' (Latham, 2002: 978).

**Augmentation and Diminution**: The lengthening and shortening of time values (pp. 86-96).

**Ostinato**: 'A fairly short melodic, rhythmic, or chordal phrase repeated continuously throughout a piece or section’ (Latham, 2002: 916).
Clave: 'A fairly short melodic, rhythmic, or chordal phrase repeated continuously throughout a piece or section' (Latham, 2002: 916).
Appendix Four: Practical Application List

Through the process of transcription, analysis and categorization, a list of various devices was compiled for use as a comprehensive practical application guide. This list was then expanded upon by combining devices, extending concepts, and some personal explorations. The resultant practical application list has been included on the following pages and is split into three different categories: 'phrasing', 'polyrhythm', and 'other considerations'.

Phrasing

1) Phrase displacement
2) Off beat syncopation and on/off phrasing
   - Off beat syncopation
   - On/off phrasing
3) Obscuring hierarchical structures
4) Hierarchical polyrhythms
5) General asymmetry in phrasing

Polyrhythm

6) Metric modulation
   - Compositional metric modulations
   - Improvised metric modulations
   - Implied metric modulations
7) Note groupings
   - Odd groupings
   - Mixing groupings to create larger structures
   - Augmentation and diminution of groupings
   - Tuplet groupings

8) Superimposing other meters
   - Superimposition using on/off phrasing
   - Superimposition using a rhythmic motif
   - Superimposition through phrase structure

9) Multi-layered polyrhythms
   - The grouping structure of a superimposed meter
   - The melodic sequence of a note grouping

10) Augmentation and diminution
    - Augmentation/diminution of note values
    - Augmentation/diminution of note groupings
    - Augmentation/diminution of on/off phrasing
    - Augmentation/diminution into a polyrhythm
    - Augmentation/diminution of superimposed meters

   Other considerations

11) Instrument specific explorations
    - Open strings (campanella)
    - Same note on an adjacent string
12) Polyphony
   - Devices employed over or under a melody
   - Devices employed over or under an ostinato
   - Devices employed in each individual line

13) Where to use the devices
   - Reference points
   - Connection of Devices
   - Interaction
Appendix Five: Edited Transcripts of Interviews

Interviews were conducted with Abercrombie, Hekselman and Hoenig, to gain insights into their opinions and thoughts on the research contained within this thesis. The Abercrombie interview (pp. 135-142) was completed in 2010, on the 16th of November, Hekselman (pp. 143-147) in 2012 on the 13th of August, and Hoenig (pp. 148-153) in 2013 on the 13th of May.

**John Abercrombie**

**Quentin (hereafter Q):** A question?

**John Abercrombie (hereafter J):** An answer

**Q:** Do you have any comments about ‘general asymmetry in phrasing’? Are you aware of this type of phrasing? [This question was asked after explaining this concept, which is discussed in detail on pp. 37-40 of this dissertation]

**J:** I'm very aware of it, and I've practised some things, most of the times it's just, I'm trying to feel a phrase... and play all the different rhythms with a metronome and try to develop ideas, very simple things like that... or I would try playing eighth note triplets, and accenting every 4th one, which is a very common thing. I heard Herbie Hancock doing it on a record and then everyone was doing it. I never got really deeply into playing other groupings such as 5 or 7 or 9... I found it to be a little too 'heady' for me, you know, I'm just not that kind of person, I'm not saying it's a bad thing to do... it's probably a great thing to do... it's just, my way of thinking was a little more natural, with the exception of some triplet phrasing, but I never wanted to play the downbeat. I always tried to keep away. Part of the game was can I play and keep away from always emphasising the downbeat, but what I realised was what made this sound great
was that after you play some of these types of phrases, you did emphasise the
downbeat. You came back to the downbeat and emphasised that, and played
something that was more in, right in the time, and not so whacked out, so to speak... or
over the time. Because it was the relationship between the two that really made
everything sound good to me.

I played a lot of music that had no meter, and that obviously influences the way you
play. I started with people like Jack DeJohnette and Dave Holland, and we’d play a
little melody, usually just a melody and bass line, and after that you were completely
free. You could play in the tempo of the song, or anywhere you wanted. There were no
rules. We started to play ‘pulse’ oriented music, but you may not be playing the same
pulse as the other members of the band... this will also influence the way you play a
standard song, or something with a structure, one influences the other, and playing
structurally influences free playing, because if you improvise freely without any
coherent matter, then it would just sound weird.

Also, my influences, like Jim Hall, Bill Evans, Miles... people that did phrase across the
bar line... would play things that would sort of suspend... with Miles it was never
worked out... it was like someone throwing paint on a canvas... where ever the notes
landed was not precise... whereas Bill [Evans] obviously worked on displacements and
specific ideas... triplets and ideas... very intellectually, but when he played it never
sounded that way... he played it until it sounded right... it depends on what you listen
to, what you practise and who you played with. I could sound like Kenny Burrell if I
wanted to, lots of my early phrasing lined up very evenly.

When this version of this tune was recorded [Bessie's Blues, p. 40] I was young... it
was in the 70s. This particular album was recorded on a trip back from Japan with my
Quartet... we recorded it in LA before returning in NYC... I was 30 years old... I hadn't
developed a concrete way to play... this take was played on a mandolin guitar... a very high instrument... a four string instrument... it sort of sounds like someone playing high on the guitar, I still have the instrument... fender made it... and it was called the electric mandolin... I played it for a couple years and on a few records... it was like having a soprano saxophone... you couldn't play the full range of the instrument as the frets get very small... it was a certain timbre you couldn't get on the guitar. I was still very young and was still trying a lot of things... playing freely and fast over Bessie's Blues with an electric mandolin... it was kind of crazy, and the whole record has an energy to it as we were all very young and energetic... keep that in mind too... I was learning how to play... it was my first band... writing my own tunes... it was a very liberating experience.

Q: That has answered a lot of the other questions I was going to ask, but how about we talk about polyrhythm specifically? Through my research I found that the hemiola rhythm [discussed on p. 70] is the most common. Do you have any thoughts about this? Or other polyrhythms?

J: You will find them [hemiola rhythms] on all the recordings. People I was playing with did it all the time. 3/4 over 4/4 and 4/4 over 3/4 are easy to hear and the most common. Also playing 3 against 4 and 4 against 3, a metric modulation. For example playing a dotted quarter against 3/4 and then building a tempo from that... turning it into double time 4/4.... you can play off of that... subdividing things are very helpful... depends on tempos and feelings... when you are playing slow, triplets are great to use... it's very easy to hear how something is subdivided... if you play in triplets and start accenting in odd places, you get some very interesting sounds.

Also when I would play really fast tempos, quite often I could not cut eighth notes, so I would play off of the quarter note triplet and concentrate on different groupings and
rhythmic things, they say necessity is the mother of invention... and when you need to do something and can't, you will find a way of doing it... this is what I had to do.

I was always trying to hear melodies and intervallic motions, and rhythm to be the basis of what I played, not lines. I think it's a more natural way of playing. You have to use your ear and compositional talents and it's also more interactive. I need to be able to play with the right people. When no one is completely laying it down, that's when it's the most interesting. When bass and drums are not doing their usual roles [bass walking and drums keeping time], you have enough room to explore. You don't feel boxed in to needing to play constant eighth notes all the time... it also felt more personal... I might play a series of intervals through chords and liked the sounds.

Q: Have you explored any of these concepts in a compositional context?

J: Definitely. I mean, most of my compositions have something. Also, I write 80% waltzes... 3/4 sits really well with me. Bill played a lot of waltzes and most of the people around the place played them... they were also not usually played too fast... it was more lyrical... like Someday my Prince Will Come. The original Miles recording... I found myself more attracted to that, it was simpler to hear than the faster jazz. I incorporate the concepts of 4 against 3 everywhere in my compositions. A Nice Idea... etc... I find it such an interesting way to play... I don't like going to 9s and 13s, it seems too complicated... it would be an interesting study though. It would be more an intellectual pursuit rather than an aesthetic. What usually happens is I sit down and play... and then I find things that I like, I don't think about it... you can practise too much... your intuition needs to work as well... follow your intuition... you will find yourself in some interesting places... sometimes it's hard to get into that mind set... I have enough licks to plug in if I'm not feeling inspired... it's all vocabulary... it's just how you use it.

Q: Do you have any opinions about where this new rhythmic vocabulary came from?
Jim Hall was one of the first people to point the way to a different way of playing the guitar... [He showed that] you don't have to play long lines of eighth notes, and you can play different chord voicings. They were linked to the tradition, but more modern. A lot of it was rhythmic concepts.

Now you hear a lot of players using more sophisticated rhythmic vocabulary. When I was growing up there was Pat Martino, George Benson, Tal Farlow, and Wes Montgomery. They played in a very straight way, beautiful though, but if you grew up back then and then you heard Jim Hall you would have been blown away.... I think he was the first to start hinting at the new direction of jazz guitar. There were some other guitarists who were pushing in other directions like this: Larry Coryell, and Gabor Szabo, but Jim was the first that was heading in a new direction without playing rock jazz or Hungarian gypsy scales. He took the language and found a new way of expressing it. He arrived to show us the way forward.

If you listen to his early records though... he sounded exactly like Charlie Christian. It was right down the middle... it was very deliberate, swing guitar. His innovations were with Sonny Rollins, Bill Evans and Art Farmer, those different groups. When I first heard those recordings in the 1960's it was very modern... that arrived to show us the way... not in any way flashy... he had another quality that was an acquired taste for some.

**Q:** Augmentation and diminution? Do you have any comments or insights? [This question was asked after explaining the concepts presented in pp. 86-96 of this dissertation]

**J:** I don't know if I've ever specifically worked on it [augmentation and diminution]. It just seems to make sense to me. Usually these things would happen on a gig, or a
recording, in relation to what was happening in the music and then I would remember it... and I would like it, and use it again... that sounds like it comes from somewhere [example on p. 92], perhaps from Lennie Bro [another jazz guitarist]... he could play single not lines but then could also be 'chordy', he did a version of there is no greater love as well... it's a live record from California... there might have been something in that version that influenced me... it's not all original... but who knows... maybe check out that recording and see if there is anything similar in our renditions of the song.

He [Lennie] was around all the time, an underrated player, lots of problems with drugs and alcohol, he was murdered by his wife, very tragic, bizarre ending to his life. Joey Barron [one of Abercrombie's favourite drummers] used to play with him... he was free but he played tunes... no rehearsals... no arrangements... you should listen to the record... it's called The Velvet Touch of Lennie Bro. Very hard to get a hold of these days, it's out of print, so you'd have to buy a collector's edition from Amazon at a large price... then convert it to mp3 or something.

To directly answer your question, diminution just seems like a natural, and easy way to develop a musical idea, without losing the essence of what it is. I don't think I've checked out augmentation though.

Q: Phrase displacement? Comments or insights? [This question was asked after explaining the concepts presented in pp. 14-18 of this dissertation, and Abercrombie's phrase displacement found on p. 179 in Volume Three, Appendix Seven]

J: Well that's sneaky [the displacement in Volume Three, Appendix Seven, p. 179]... I think I remember playing that idea. About this concept, I heard Bill Evans say... try to play ahead of time... play the bar ahead of where you are... sometimes I will do that... I'll play the next chord before it arrives, anticipate the chord, you jump the gun. On
purpose... but as long as you know where you are in the form it is an interesting sound to go for. Bill was working very hard on that kind of thing... for me though, it needs to happen in a very natural way, it would take me longer to figure out if I did it intellectually... things happen when you play from purely intuition... and then... can you remember what it is? You then build up a vocab of odd phrasing... at least that is how I did it. I'm always looking for something that is a little more personal... something unique... and I'd say, aside from sound, the main way I was able to develop that was by creating displaced, odd phrases, and rhythmically sophisticated vocabulary. I can't sound like my idols, it's impossible, so why not create your own sound?

I also never disregarded the song to fit my special little ideas... I also still wanted to make the changes in some way or another... the idea of trying to get the ideas to fit in makes your playing more special, recognizable and more 'right'... I used to take some ideas from Sonny Rollins... and it's all about phrasing.

Phrasing is the key to make everything work... sometimes it works and sometimes it doesn't... for me to be able to play what I want I need to be able to play with the right people. We took a lot of risks, but we always kept to the form. I liked that take of [There is] No Greater Love [from Straight Flight, in Volume Three, Appendix Seven, pp. 165-169]. It was very mysterious... we avoided playing the melodies at the start of a song... we played standards without the melody... to make it interesting and so that people didn't know what we were doing... but we would play the melody at the end... we called them 'headless standards'. We always played over the form but we would see how much you can do with it... seeing how much you can bend it, twist it, leave it behind, and get away with, but still be able to come back, and know where it is. For a lot of jazz musicians it has been a game that we play. I have always liked that... making the tune a little more mysterious, without re-harmonizing, or putting it in an odd meter, or changing the form. It's just more like disguising how you are playing. That's where a lot
of this phraseology comes from, from trying to fool around with the rhythm, and the structure of standard tunes, and trying to make them more 'open' sounding.
Gilad Hekselman

Quentin (hereafter Q): A question?

Gilad Hekselman (hereafter G): An answer

Q: Can you comment about note groupings? And also augmentation and diminution within note groupings? Are you aware of this, have you practised it, etc?

G: I've worked on it, it's always been a passion of mine. I'm able to do any of them. If you give me a number I could improvise a line based off of that grouping. I'll be honest with you, a lot of this stuff, I mean most of this stuff, I don't think at all. Of course I've thought about note groupings, and I'm able to do any of them, but it's always been a passion of mine. So I worked on it, and now it's like a language. You talk, you don't think about it. I never decide, OK this is going to be a descending number of notes in the grouping, and I have not practised that.

Q: What about more advanced note groupings, such as tuplet groupings? Is playing 10 over 7 something that you have practised? Was this on purpose? [Example discussed on pp. 66-69 of this dissertation]

G: It is on purpose, but it just happens to be that rhythm. I don't think those notes are exactly even, I would say it's just a phrasing thing. I probably picked it up from playing with other people. I'm not thinking at all when I play... I really separate practicing and playing. I'm never thinking when I play, and I'm not trying to display things that I've been working on, or have any kind of agenda. I work on things at home and I keep it separate from when I'm playing a gig... I just play music with other people, and react to the other musicians and their flow of thought, I never think about it too specifically.
There are some people who would do that, and it's a different school of thought. Preparing things to play on the bandstand.... I guess I do it to an extent. I work on the 'how' of things rather than the 'what'. I would work on hearing a certain rhythm... not a specific phrase, but I want to be able to do the rhythm... or I want to play polyphony. I would not practise a specific thing to play, but rather a way to be able to improvise off of that concept... 'how' to do something, rather than 'something' to do... you know what I mean?

Q: I do, definitely. That's a nice way of thinking of things. Could you please comment on on/off phrasing? I've also found you using the concept in combination with diminution; were you aware of either of these devices?

G: The diminution of on/off phrasing was unintentional, but the concept you have developed, the thing you just described with on the beat, off the beat could be thought of as a displacement... or I also think of it as dividing the bar in half. If you subdivide the bar in half... then that's what happens... then it can also sound like two against the underlying time. I'm not sure if you have heard, but my arrangement of Nothing Personal does exactly that... [splitting 5/4 into 2 halves]. I do that with the bass line, and made it in 5/4... check it out, it's on You Tube, the arrangement is subdividing the 5/4 bars into half.

Q: Could you comment on this phrase displacement? [Discussed on pp. 14-18]

G: This thing you're asking me about... where things move... I think about it more as a displacement... that's a language thing again, I've worked a lot on displacements... just like taking whatever... a song... and being able to play it in a different place... for example, Mary Had a Little Lamb... starting the melody on beat 1, the 'and' of one, beat 2... etc, and still being able to hear where you are in the form... I've done it on bebop
tunes... *Confirmation*... etc... it's almost like a game for me. It was very enjoyable for me to try see what I could do with them... my arrangement of *Countdown* is essentially that.

And... it's also Ari's thing [Ari Hoenig], he kinda' works with stuff like that a lot, drummers are very different in that sense... Ari is the extreme of that... if I play something... most likely he will go with it... that's kind of his thing too, it's a really big part of his language.

**Q:** Does your playing change when you are playing with someone like Ari?

**G:** Just because the ideas go to a different place... I always try to play with the people that I play with. It's different, if someone takes it somewhere, then I have to go with the flow and not resist it, you know. Ari will almost always take it there and Marcus will hardly take it there. So that [playing with Marcus] allows me to go to a different place. Ari has a different game and he has roads to his game and Marcus has different rules to his game. Every drummer has slightly different rules, but I would say that they are two extreme opposites as drummers.

**Q:** In your view are there any particular guitarists that have lead to this type of playing, or other instrumentalists?

**G:** Mainly from other instruments and music in general, I don't think anything that I play is extremely unique, I guess perhaps the fact that I am playing it on the guitar, and in the context of jazz, I might be somewhat unique, but I still think not... there is a massive amount of that going around these days... with jazz and Indian music and African music, and classical music... nothing is 'ours' anyway.
Q: There aren't that many guitarists who have influenced you in this regard?

G: I try not to listen to guitarists. You know before I played the guitar I wanted to be a drummer. I couldn't because my neighbours would get annoyed with the sounds and so I wasn't allowed to practise drums. My second instrument was guitar, and in a way I still want to be a drummer... I'm more interested in rhythm and I've always been more into rhythm than anything else.

Q: Do you still practise this stuff on the drums? Do you still play them?

G: I have a drum set at home and I still practise, I just work on getting a good sound and on technique because I already have this stuff down [the rhythmic devices discussed in this dissertation]... so it will come out naturally once I can play the instrument properly.

Q: I have some friends that study at the New School, where you did your degree, and they said there was an advanced rhythm class there; did you take that class? And did that influence your playing?

G: That would be Rory Stewart's class... well, I did do the class, but that stuff was easy! It was a good class, for sure... but the only things he showed that I had never dealt with before were the rhythms from other countries... anything that was polyrhythmic or cross rhythmic, I already had down.

Q: OK. We are running out of time, but I'd like to ask you about a personal concept I've developed, called Multi-Layered Polyrhythms. And the concept's genesis can be found in one of your improvisations, over *The Way You Look Tonight* from Ari's album, where you play 5/4 over 4/4 but phrase in 3 bar fragments [showed him the transcription].
G: Yes that's what it is.

Q: Have you ever practised that?

G: Not that specifically... again, I've practised 5/4 over tunes, and being comfortable to hear that... the grouping for me is easy, once you feel comfortable on the superimposition... as long as you can do the superimposition over the entire form, then it doesn't matter what the grouping is... it could be anything... so I never worked on that specifically... rhythmic practise is all about being able to hear things and not get lost, or thrown off and to always be comfortable. I have practised singing melodies and clapping polyrhythms [he sings *The Way you Look Tonight* and claps 5/4 behind it]... it's a very practical thing [does 7/4 as well], if I make a mistake then I find out why, maybe two rhythms land at the same time... or that something would be confusing... or it's on a weak beat, all of those things... I then isolate it and then once I hear it I never have to practise it again... it's more like a practical practice, I try to find things that I can't do and get it so I can do them by the end of the practice... all this practise can be done without the guitar... It's not a guitar thing, it's about getting the concept down. The guitar is just technique or harmony. Ideas have nothing to do with guitar, that's why you can take them from different places.
Quentin (hereafter Q): A question?

Ari Hoenig (hereafter A): An answer

Q: 5 over 7 and 7 over 5. I've heard you employing this technique in live situations, and also transcribed examples [showed him transcription examples], but the mathematics behind it, and the practical application seem to differ [discussed p. 50]. Could you please comment about this?

A: Well first of all, I discovered that the relationship worked pretty well when I was playing a tune with Jean Michel [Pilc]. We were sound checking and he started playing a tune and I joined in. When we stopped I said 'were you playing in five?' and he replied 'no, I was playing in seven'. Neither of us realized that we were playing in different time signatures; we were just playing off of the basic clave.

I still noticed something was not quite lining up, and when we discussed it we realized what it was. But from then on, I knew that I could move between them [5 and 7] quite seamlessly, and incorporated it into my playing. I arranged Summertime [Gershwin] to use this concept. It changed between five, seven and three.

When I first started doing seven over five, I would think of it as 4 over 3 and 3 over 2 [which splits the bar in two], even though the tempo of each is not exact. I knew that the 4 over 3 was a little faster and would play it that way... I didn't want to think about playing septuplets and grouping them in fives while improvising, I knew I was not really going to think like that. At a fast tempo that simply is not going to happen and the other way of thinking presents an easier way to do it.
I think it’s important to have both. To understand the mathematics of it, and how it works, but also to have a practical way of actually using the technique in an improvised manner. A way that you can really hear it. 5 over 7 was more difficult for me to get down than shifting from 7 to 5. When shifting back I often just think of what the original tempo was. Eventually you just get it in your head, it becomes a sound. It becomes like moving between sixteenth notes and triplets, you just remember what that relationship sounds like and can move between them freely.

Q: Could you discuss phrase displacements? How you think about them? [Showed him the transcribed example included on pp. 14-18 of this dissertation and explained the concept]

A: It's a way of thinking... the first time I heard someone do this was Tain [Jeff 'Tain' Watts], using displacement in a way, and he talked about it, I remember when he was playing with Wynton [Marsalis], the Standard Time records [Vol. 1, 1987, Vol. 2, 1991]. Those and Live At Blues Alley [1988] were extremely influential to me in terms of displacements and different rhythmic ideas. I don't know if you've checked out those records, but he was saying that one way to interact with the other musicians, for instance a soloist, it wasn't just about repeating back what they were playing, it was also about taking what they were playing, but repeating it back in a different way, or a different part of the beat. So that became a way that I would interact with people. And I would immediately be thinking, if someone played something, what it would sound like somewhere else. It's an illusion that you're creating. Just because you've created the illusion doesn't mean that you have fallen into the illusion. You're still hearing the song. With the Wynton albums I would listen to them and I would always sing the tune, and try to hear what the musicians were playing over the song, just with the song, and how that would sound, and so that started getting me into it.
And so with Gilad I was very open with that when I was teaching him at the New School, I talk a lot about displacements with all of my students. None of it is rehearsed, it's more about what we have done on our own, it's language, and Orlando [LeFleming, bass] picked it up more aurally, playing with us, seeing what we were doing, and interacting with that and doing a little work on his own to figure stuff out. But for all of those things there are no real arrangements. Maybe the little hits at the beginning and end, that little vamp, but as far as the language, there is a lot of depth within the language itself. Kind of anything can happen in that way.

Q: Do you listen to the harmony or melody when working out where you are in the form when using various rhythmic concepts?

A: I listen to both. If I just listened to the harmony, for example, if I was playing *C Jam Blues*, as opposed to *Au Privave*, or another blues, I wouldn't get the whole picture. Taking the melody as a guide would mean that I improvise completely differently because the melodies are different. I also do a lot of clapping and singing. Singing a melody and clapping a polyrhythm over the top of it and seeing how it sounds. That really helps, and when singing with a melody, it has to be really clear where the rhythms come, with respect to the melody. That's why I use both. The other way I do it, is just thinking of phrase lengths. Eight bar phrases, sixteen bar phrases, etc.

Q: I've developed a displacement concept from observing Gilad's improvisations [I explain the on/off phrasing concept, pp. 24-29], do you have any comments about this?

A: Yes. I've noticed that in his playing. It's a nice easy way to develop a motive and communicate with the band. You can also play an idea in half time, double time, or displace it and put it in double time... the possibilities are endless. There is more meaning when you use this kind of rhythmic development, as you are playing
something for a reason, and developing ideas. You're not just displaying techniques, they make sense. It's not random. They are called for in a conversational sense. You don't want to have a conversation with someone and have them talk for ages about something that has nothing to do with what you are saying... you want to communicate. It gets boring. I'm sure everyone has been in that situation before, when someone talks and doesn't make sense! There should be a reason for everything you play, to the point where if you stop playing and someone says, 'why did you play that?', you would have an answer.

Q: Cool. So it's a communication thing?

A: Yep. It's a language.

Q: Could you comment on tuplet groupings? [pp. 66-69] Do you use them? Or do you mainly stick to triplet groupings, sixteenths and eighths to use with displacements, and other rhythmically sophisticated material?

A: Yea, I like it, sure. Grouping quintuplets in different groupings. I've done it in the same way that I've explored triplets and sixteenth notes. [But] it's... I don't want to say less useable, but I would say that it is less commonly used, much less commonly used in fact.

Q: As a drummer, would this catch people off guard if you used it?

A: It would definitely catch people off guard, but that's not a reason not to do it... It's something the music is growing towards, and it's definitely something that I use, but I use it pretty sparingly. Not all the time. But you know, taking quintuplets and grouping
them, it's definitely the same thing [starts patting quintuplets on his legs in different groupings].

Q: Hierarchical polyrhythms? Could you comment on this? [Explained my concept development, discussed in pp. 34-36]

A: I mean, I think I understand what you are saying. I think this would be difficult the larger the hierarchical structure. You could do it at the level of bars... but I've never checked it out. I think though, this would be fantastic for arrangements of songs, compositions, or planned sections of songs, it would sound really cool. The difficulty in an improvised setting is that fact that there are other band members involved, and even a three or five bar phrase could be a bit too long of an idea to play, depending on how the band interacts to it or where it goes. Thinking in shorter phrases is much better for communication. As a drummer particularly, I think it would be hard. I'd say it would certainly work though, but you have to be willing to change mid-idea. It's just like if I was telling you a story, and you reacted badly to it, I would stop talking about it! It would be rude to continue without considering what you had said, or how you reacted to it.

Q: Speaking of arrangements, do you have any in particular that you have used these concepts with?

A: Yes. Quite a few. There is one in particular over Stella [by Starlight] that I recorded a while back. Let me play it for you [searches for CD and plays it/explains arrangement].

Q: Multi-layered polyrhythms? Do you have any comments? [I explain my concept development, included on pp. 80-85 of this dissertation]
A: You know... Not any particular comments. It's interesting though, and I see what you mean. I'd think of it as a larger scale grouping. A grouping of sixteen. Sixteen triplets. But I do see how you have a layered polyrhythm with this example and way of thinking. If I was to practise this, I'd do it at different tempos, and also practise displacing it, think of other ways to develop it, but I like the idea. If you took my interpretation of thinking of it as sixteen triplets, you could then play other rhythms, like seven notes spaced evenly over the duration, or eleven, you can do anything.

Sometimes it's hard to classify and codify all these different ideas and devices. It's really at the beginning stages of actually categorizing and really defining the different possibilities in contemporary rhythmic language in jazz.

Improvisational music right now. In the last fifteen years, it's been growing rhythmically more than anything else. It's more on the side of rhythm than harmony or anything else and it's just what's happening now. There is a lot of stuff happening in metal and other genres are making headways into this kind of development. You should check out Car Bomb. They're a band. It's not about improvisation. It's all written out, it's all arranged, it's all tight and it's also quite clear, though can be hard to decipher. They are developing their own language, and that's how new languages develop, sometimes it has to be really specifically thought out.
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Phrasing and Polyrhythm in Contemporary Jazz Guitar: A Portfolio of Recorded Performances and Exegesis

Volume Two

Quentin Angus

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M.Mus. 2012 (Purchase College Conservatorium of Music)

Submitted in fulfilment of the requirements for the degree of

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Elder Conservatorium of Music
Faculty of Humanities and Social Sciences
The University of Adelaide

January 2014
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- Five Ahead
- What the Future Holds
- Sentient

CD2: Abercrombie and Hekselman Duets
- Den Haag

CD3: Perception
- Particular, Peculiar
- Perception
- Nardis
- Red and Yellow
- Chernobyl
- Restoration
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Figure 14.1: Crash/Ride

![Drum Legend Figure 14.1](image1)

Figure 14.2: Ride

![Drum Legend Figure 14.2](image2)

Figure 14.3: Open High Hat

![Drum Legend Figure 14.3](image3)

Figure 14.4: Closed High Hat

![Drum Legend Figure 14.4](image4)

Figure 14.5: High Tom

![Drum Legend Figure 14.5](image5)

Figure 14.6: Snare

![Drum Legend Figure 14.6](image6)

Figure 14.7: Stick Shot Snare

![Drum Legend Figure 14.7](image7)

Figure 14.8: Low Tom

![Drum Legend Figure 14.8](image8)

Figure 14.9: Kick

![Drum Legend Figure 14.9](image9)

Figure 14.10: High Hat Foot Open

![Drum Legend Figure 14.10](image10)

Figure 14.11: High Hat Foot Closed

![Drum Legend Figure 14.11](image11)
Appendix Seven: Transcriptions

Appendix seven provides full transcriptions of the smaller extracts included throughout the first volume of this thesis. This includes 179 pages of Hekselman transcriptions (a total of 34 transcriptions, selected full band transcriptions, and an instructional DVD on Polyphony, pp. 9-163, 206-213, and 214-231), including transcriptions from his entire discography as a band leader\(^1\). Other relevant transcriptions of Abercrombie (pp. 164-179), and Lionel Loueke (pp. 180-205) have also been provided.

Many of the transcriptions included in this volume have been published by Mel Bay, Jazz Heaven, or by me, and therefore, a 'statement of authorship' form and title page is provided before each section that has been published.

In order to meet editorial standards, the published transcriptions have been notated with detail and precision. The following pages provide a legend outlining the various techniques to show exactly how the transcriptions have been notated. Apart from the Loueke transcriptions, where notation and tablature have been included (a requirement of Mel Bay Publications), the rest of the transcriptions include traditional notation only.

\(^1\) At the time of this submission Hekselman's discography as a leader comprised four albums: Splitlife (2006), Words Unspoken (2008), Hearts Wide Open (2011), and This Just In (2013)
Legend

Figure 15.1: If an improvised line is ascending and two notes are connected with a line, it signals a ‘hammer on’ into the following note

\[ \text{Fm}^7 \]

Figure 15.2: If an improvised line is descending and two notes are connected with a line, it signals a ‘pull off’ onto the following note

\[ \text{A}^7 \]

Figure 15.3: An ‘S’ between two notes means ‘slide’

\[ \text{G}^7 \]

Figure 15.4: An ‘h/a’ between two notes signals a ‘hammer on’ to a note, while also ‘articulating it’, by plucking the string when the second note it sounded

\[ \text{Am}^3 \text{ h/a} \]

Figure 15.5: An ‘s/a’ between two notes means a ‘slide’ to a note, while also ‘articulating it’, by plucking the string when the second note it sounded

\[ \text{s/a} \]
Figure 15.6: A zigzag line after a note is a ‘fall off’ (a ‘fall off’ is a slide down the neck, to an indistinct tone, and the volume fades out as you slide down)

![Zigzag line example](image)

Figure 15.7: The words ‘Lay back’, and a zigzag line over a group of notes means exactly that, 'laying back' on the time (NB- As the time is being manipulated by the improviser, an exact rhythmic transcription of these segments would be impossible. The notation in these instances has therefore been approximated to display the rhythm as accurately as possible)

![Lay back example](image)

Figure 15.8: ‘tr’ above a note means a ‘tremolo’ (a note or grouping of notes repeated at a rapid speed)

![Tremolo example](image)

Figure 15.9/15.10: A ‘crush note’ is always a short and abrupt ‘slide’ from one note to the next, unless a ‘h’, or ‘p’ is also present above the note. Then it becomes either a ‘hammer on’ or ‘pull off’

![Crush note example](image)

Figure 15.11: A note with an ‘X’ as a note head is a note that is implied rather than played, or a note that does not cut through very loudly, but is none-the-less still played and evident in the recording

![Implied note example](image)
Figure 15.12: Notes with ‘O’ on top are notes played with the ‘open string’ (for example, and open E, B, G, D, A or E)

Figure 15.13: ‘VS’ means volume swell
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By signing this Statement of Authorship, on the 31st day of December 2013, each author certifies that their stated contribution to the publication is accurate and that permission is granted for the publication to be included in the candidate's thesis

| Name of Principal Author (Candidate) | Quentin Angus |
| Contribution to the Publication | Sole Author of Publication |

Signature
Gilad Hekselman Transcriptions

By Quentin Angus
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ALBUM: ‘This Just In’

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NOTE:
This appendix is included on pages 125-157 of the print copy of the thesis held in the University of Adelaide Library.
Ari Hoenig: Bert's Playground
In Your Own Sweet Way- John Abercrombie

Fast Jazz \( \times = 250 \)  
Transcribed- Quentin Angus- 2009  
Dave Brubeck

In Your Own Sweet Way- Phrase displacement

Chordal Vamp (open feel)

\( \text{A}7\text{Bb13} \quad \text{0:29mins of original recording} \)

Repeats phrase

\( \text{A} \)  Resolution of phrase at the start of a four bar phrase (bass and drums begin 'regular' time)
# Statement of Authorship

## Title of Publication

Original Compositions by Lionel Loueke

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Original Compositions

by Lionel Loueke
NOTE:
This appendix is included on pages 182-205 of the print copy of the thesis held in the University of Adelaide Library.
Gilad Hekselman: Full Band Transcriptions

The following pages include original full band transcriptions (guitar/bass/drums) from selected tracks of Hekselman's album *Splitlife*.

**When Will the Blues Leave?**
Suite for Sweets
I Should Care

Cmaj7

Bm7(b5)

E7

(with brushes)

Am7

D7
Hello Who Is It?
Statement of Authorship

Title of Publication
Polyphony for Guitar by Gilad Hekselman

Publication Status

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Publication Details

Instructional DVD by Gilad Hekselman for Jazz Heaven. The accompanying transcriptions for each example were all completed by the current author. Since the DVD is currently unpublished, a title page has not been possible to include.

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| Contribution to the Publication | Publisher |
| Signature                        |               |
NOTE:
This appendix is included on pages 215-231 of the print copy of the thesis held in the University of Adelaide Library.
Appendix Eight: Lead Sheets of the Repertoire Performed

Lead sheets are provided on the following pages for any original compositions, arrangements, or Abercrombie and Hekselman compositions performed on the submission recordings (Volume Two). Most of the jazz standards from CD2: Abercrombie and Hekselman Duets (Mohawk, Solar, Beautiful Love, Long Ago and Far Away, Nardis, How Deep Is the Ocean, and Anthropology) along with A Weaver of Dreams, from CD4: Disc One: Abercrombie and Hekselman Repertoire, were performed spontaneously, without any preconceived arrangement. This, combined with the fact that they are all 'standard' jazz repertoire, resulted in their exclusion from this appendix. The only exception to this is arranged standard repertoire, lead sheets of which have been included.

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NOTE:
This appendix is included on pages 235-257 of the print copy of the thesis held in the University of Adelaide Library.
Quentin Angus: Abercrombie and Hekselman Duets
After Last Solo- Head out/ Vamp last 4 bars and Fade
Quentin Angus: Perception

Featuring: Jo Lawry, Wil Winson, Shai Maestro, Linda Oh, Kenneth Salters, Matthew Sheens, Or Bareket, Chad Lefkowitz-Brown, and the Yama Burton String Quintet.
NOTE:
This appendix is included on pages 262-312 of the print copy of the thesis held in the University of Adelaide Library.
Quentin Angus: CD4: Disc One
Abercrombie and Hekselman Repertoire

Disc One:
Abercrombie and
Hekselman Repertoire

Disc Two:
Ari Hoenig Session
Countdown

John Coltrane Arranged Gilad Hekselman

Fast Jazz $\downarrow$ = 240

Transcribed Quentin Angus 2012

Drum Solo: Play Twice, then Open
You Don't Know What Love Is Arrangement

Gene de Paul

Waltz/ Ballad \( \text{I} = 198 \)
Intro. Repeat 4 Times

\[
\begin{align*}
&\text{Fm}^1, \text{Eb}^1, \text{Db}^1, \text{Fm}^7, \text{C}^7, \text{Fm}^7, \\
&\text{Gm}^7(\text{bb10}), \text{C}^7, \text{Fm}^7, \text{Ab}^7(\text{bb10}), \text{Db}^7, \\
&\text{Gm}^7(\text{bb10}), \text{C}^7, \\
&\text{Bbm}^7, \text{Eb}^7, \text{Amaj}^7, \\
&\text{Bbm}^7, \text{Eb}^7, \text{Amaj}^7, \\
&\text{Dm}^7, \text{G}^7, \text{C}^7, \\
&\text{Db}^7, \text{Gm}^7(\text{bb10}), \text{C}^7, \\
&\text{Db}^7, \text{Gm}^7(\text{bb10}), \text{C}^7, \\
&\text{Db}^7
\end{align*}
\]

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Arranged Quentin Angas 2013
FORM:

Intro/ Head/ Interlude
Guitar Solo over form (AABA), with modulations
Last Chorus of Guitar Solo, play melody over LAST A, then
Repeat Interlude... jam on it and we'll fade the recording
Ralph's Piano Waltz

Transcribed Quentin Angus 2009

John Abercrombie

Med Waltz \( \text{= 120} \)
Guitar intro- played freely

Intro Groove- Repeat 3 times (or until cue)- Open bass solo

Am\(^7\)  \( \text{E-48} \)

Am\(^7\)  \( \text{E-48} \)
All The Things You Are

Jerome Kern

Fast Jazz \( \text{j} = 250 \)
Intro (Open Vamp)

\[
\begin{align*}
&\text{Dm7} \\
&\text{C7} \\
&\text{Dm7} \\
&\text{C7} \\
&\text{Dm7} \\
&\text{C7} \\
&\text{Dm7} \\
&\text{C7} \\
&\text{Fm7} \\
&\text{Tag up a tone (Bbm7 Eb7/ Cm7 F7/ Bbm7 Eb7/ Abmaj7)}
\end{align*}
\]
Suite For Sweets (Lead Sheet)

Even 8ths

Gilad Hekselman

INTRO

E PEDAL RUBATO

A/E G/E F/E F#m/E B7/E E E7

INTRO

Amaj7 C#7/F F#7 F - E7 A7 Dmaj7 Cmaj7 F# F - E A7

Amaj7 C#7/F F#7 F - E7 A7 Dmaj7 Cmaj7 F# F - E A7

Ballad

D/A C/A Bb/A B/A E7/A Amaj7 Bm7

D/A C/A Bb/A B/A E7/A Amaj7 Bm7

Rubato

E D/E C/E F#m/E B7/E E E7 A/E G/E

E PEDAL RUBATO

F/E = 120 F#m/E B7/E Em Guitar Sets up groove Tumbav-ish bass line.

Even 8ths X4

Fine

G, Hex ©
Yo Mamma's Blues

Fast Swing 3-260
Solo's on regular 'jazz' blues chord progression

Ensemble hits-

Ensemble hits-

Transcribed Quentin Angus 2009
Gilad Hekselman
Interlude/Ending:

50  E major  Bmaj7sus4  B7  A major 4th

54  E major  A6  G9  F6  F7sus4  G9sus4  A9sus4  B9sus4

58  E major  A6  G6  F6  D6  B6  A6

62  Fine (head out):  G7susadd3

Solos over regular form... head out from D.S. -to- Fine
Outro

Swung Funk  \( \frac{\text{b}}{\text{3}} = 80 \)

\[ \text{PIANO} \]

Copyright © 2012
*NO DRUMS*

N/C (Piano and Bass double bass line)

DRUM FILL

ENSEMBLE HITS

Cm7

Am7♭5

Ab7

B/G7

Cm7

Am7♭5

346
Falling

Acoustic Guitar

Breakbeat (Straight) \( \text{j} = 225 \)

Intro

A

B

C

Copyright © 2012

V.S.

Voice Chord Where Symbols are placed:
Falling

Breakbeat (Straight) = 225

Intro

Voice Chord Where Symbols are placed:

Copyright © 2012

F.S.
*PIANO SOLO FIRST (A SECTION ONLY PIANO)*
Solo Form (A-B repeated, and C on CUE)

NB: REPEAT 4 X

A

B

C

ON CUE (end of each solo)

After Last Solo: D.S. Al Coda
Dreamscape

Medium Straight 8ths Funk \( j = 115 \)

Quentin Angus

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29 Bm7 [D]

33 Bm7

37

40 E F#m7 E Dmaj7

42 F#m7 E Dmaj7

44 F#m7 E Dmaj7

TO CODA F#m7 E Dmaj7

Sosos

48 F#m7 E Dmaj7

52 F#m7 E Dmaj7

56 Cmaj7

60 Cmaj7

64 Bm7

68 Bm7

After Last Solo: DC Al Coda
CODA

72  F\textsuperscript{#7}  E  Dmaj7  Cmaj7  Bmaj7  Dm\textsuperscript{#6}
Juncture

Straight \( \text{\#} = 115 \)

Quentin Angus

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Solo Section (Start Soft... Eventually Build to Rhythm Below):

On Cue (Solo Continues) [Ease into the Bass Line]
Appendix Nine: Transcriptions of my own Improvisations

In addition to the many transcription extracts included in chapters 1-3 (Volume One, pp. 14-117), a full transcription of one of my own improvisations has been provided on the following pages. This was notated from my rendition of Hekselman's *One More Song*, from Volume Two: CD4: Disc One, *Abercrombie and Hekselman Repertoire*, Track 9.