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Mode Three of the Modes of Limited Transposition: A Model for Application in Jazz Improvisation and Composition

Kevin Field

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Musical Arts, The University of Auckland, 2018
Abstract

This research explores the application of Mode Three from *The Modes of Limited Transposition* within a jazz context. While several of the accompanying modes from this set are very familiar within the jazz world, Mode Three is on the periphery. It is not part of the mainstream canon of jazz scales and there is no clarity on its function or use in relation to chord/scale theory. This thesis aims to provide a how-to-guide for the application of Mode Three and to raise its status to a level comparable with common jazz scales such as Altered or Half-Whole Diminished.

Tension and release are integral ingredients to virtually all the music we listen to. One of the goals of the contemporary jazz musician is to create tension that is new and innovative; that can be controlled and manipulated to varying degrees; that will convey an emotional connection between performer and listener. This research will explore the potential for Mode Three as a vehicle for effective and innovative tension, along with how this tension relates to its immediate context.

Sometimes, in order to have freedom you need to set boundaries and parameters. Mode Three currently has few if any parameters around its usage in jazz. The organisation of Mode Three into a logical system is necessary to fully exploit its potential and for it to be accepted as an improvisational and compositional option. This thesis provides a model for the application of Mode Three, while building on rather than replacing the existing harmonic infrastructure in jazz. By integrating this model into the jazz musician’s oeuvre, the goal is a higher expression of freedom.
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CHAPTER 1: Introduction

1.1 Creative Journey Towards Mode Three

Like most jazz musicians I learnt the conventional method of jazz improvisation based on sounds derived primarily from three scales: major, melodic minor and diminished. My education in this area was perhaps different to many jazz musicians today, in that I did not attend theory or harmony classes in an educational institution but discovered these key tonalities through listening to recordings of jazz artists and then recreating the sounds on my instrument (piano).

A few years later I discovered that scales I had ‘invented’ already existed and had been given technical names such as Mixolydian or Altered. Similarly, I was somewhat disappointed to find the chord/scale relationships I had formulated through intense listening and critical evaluation had been discovered and categorized in textbooks such as The Jazz Theory Book by Mark Levine.¹

This anecdote from my own unconventional jazz education speaks for the existence of some kind of established harmonic language in the jazz I was listening to at the time. With no formal jazz training but by listening to certain jazz artists from the 1940s-1950s era I was able to determine that the foundational ingredients of jazz improvisation (as I knew it at the time) were largely based on major, melodic minor and diminished scales with some chromatic embellishments. To further emphasize this, the first jazz theory book I read, the aforementioned The Jazz Theory Book by Mark Levine, covers major, melodic minor and diminished scales extensively. In contrast, the author devotes a few short passages to the harmonic minor scale and describes it in somewhat disparaging terms as ‘not the sound of jazz’.²

My understanding of what jazz was during this early stage was rather limited. Coming from a classical background I was listening to artists such as Dave Brubeck, Art Blakey’s Jazz Messengers (with Horace Silver on piano), Art Tatum and Oscar Peterson. I was drawn to the strong melodic content and ornamental approach in improvised sections, with harmonic interest provided by sonorities such as 13th chords, along with the formidable technique of these artists. They provided a good ‘bridge’ from my classical background to my first attempts at playing jazz. Also of note, all of these artists had swinging rhythm sections where the pulse and rhythm were clearly articulated with limited variation. Their repertoire included jazz standards such as

² Ibid., 476.
The Girl from Ipanema and Someday My Prince Will Come which they played in an easily recognizable way. These elements together made up my closeted but satisfying view of what constituted jazz.

I recall listening to pianist Chick Corea’s seminal 1968 album Now he Sings Now he Sobs and turning it off after a few minutes as I just couldn’t understand it. Specifically, the harmony was far more ‘modern’ sounding and didn’t fit with what I thought was the established sound in jazz. Also, the melodic phrasing of Corea was far more broken up, angular and less predictable. The rhythm section similarly was playing very differently – far more free and sometimes interacting with the pianist in a daring, possibly even intrusive fashion. The compositions on this album sounded more abstract and non-functional in terms of harmonic content, though I later discovered many of the chord sequences were based on familiar jazz forms such as blues and even jazz standards. It was the highly developed improvising that gave them a harmonic complexity rather than the actual forms themselves.

Whilst my early jazz listening experience exposed me to the foundational elements of jazz harmony, melody and phrasing from the 1940s-1950s era, eventually this was no longer satisfying for me. I gradually warmed to a new generation of players such as Herbie Hancock, Keith Jarrett and yes, Chick Corea! I later discovered many techniques used in jazz improvisation such as sidestepping, anticipation, delayed resolution, imposing dominants, chord substitutions and similar methods to create musical interest and tension. Most of these techniques involve taking an established sound such as a mode from a major or minor scale and manipulating/moving it to create varying degrees of dissonance. This ‘outside’ sound will often then resolve by being moved back ‘inside’.

My interest in developing a language for the use of Mode Three of the Modes of Limited Transposition in jazz stemmed from the idea of having harmonic tension and resolution existing side by side in the same scale or tonal system. Mode Three allows tension, resolution and the overlap and ambiguity between the two, within one tonal system.

---

1.2 Overview of The Modes of Limited Transposition

The Modes of Limited Transposition are scales, derived from the 12-note chromatic system, that are symmetrical in nature. The French composer Olivier Messiaen (1908-1992) compiled these modes and published them in his book *The Technique of my Musical Language* (1956). Messiaen describes how his ‘prized’ modes are ‘in the modal atmosphere of several keys at once and contain in themselves small transpositions’. The ambiguity and overlap of tonalities mentioned here are principally what defines them – they are extracts of several scales, grouped together with the resulting sound being a blurring of traditional harmony. Paul Griffiths hails Messiaen as the first great composer who departed from western tradition. Claude Samuel describes Messiaen’s music as exhibiting a certain melodic-harmonic stasis due to its pitch origins in the symmetrical modes of limited transpositions. Traditional linear development by way of harmonic means is absent. His melodic-harmonic stasis, combined with his particular rhythmic elaboration of it, presents a musical time free from any sort of measurement.

This defying of measurement links Messiaen’s work and motivation with my own research. Though none of the concepts described in this document are derived directly from Messiaen’s music, the use of the shared tonal system has a similar goal of freedom from measurement. This does not, however, mean the process to achieve this freedom is not in itself highly organised.

The seven modes are characterised by certain symmetrical groupings with the last note of each grouping being in common or ‘overlapping’ with the first note of the next group. The ‘limited transposition’ label refers to the fact that these scales can only be transposed a certain number of times (between 2-6 depending on the scale) compared to major and minor scales which each have 12 transpositions.

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The Seven Modes of Limited Transposition
(integer notation above, scale degree notation below)
1.3 Narrowing Down the Modes

Messiaen described the modes as possessing the ‘charm of impossibilities’ and that hearing them leads to a ‘theological rainbow’ that could even be the reflection of God in music.\(^7\) Messiaen further stated that the first three modes were of most interest to him because of their limited number of transposition (two, three, or four times). With regard to modes four to seven he mentioned these are transposable six times and present less interest, for the very reason of their too great number of transpositions.\(^8\) By increasing the number of transpositions the modes get closer to major and minor scales, thereby diluting their richness and individuality.

The first two scales from the Modes of Limited Transposition are familiar sounds in jazz. This statement could not be made about the remaining five modes which are not in common use in jazz and generally are not mentioned in jazz theory or harmony books. The reason for this is there are no established chord/scale relationships for the use of Modes Three to Seven in jazz.

Mode Three is the primary focus of this research. The reason for this is that Mode Three within a jazz context has an attractive balance between the spectrum of major/minor scales at one end and chromaticism at the other. The inherent ambiguity of this tonality holds enormous potential for a new and colourful harmonic language in jazz.

As they are already prevalent in jazz, I will briefly mention Mode One and for Mode Two I will go into some detail on possible usage. Subsequently, Mode Three and my new model for its application in jazz will be the main focus for this thesis and my final recital. I will be approaching Mode Three as a theoretical concept that can then be applied to practical improvisation and composition. This research does not include Messiaen’s use or application of Mode Three in great detail as my introduction and interest in Mode Three has not come via Messiaen’s music but through my own experimentation within a jazz context. However, the relationship between Messiaen’s concepts and this research is discussed in Chapter Two.

\(^7\) Messiaen, *The Technique of my Musical Language*, 21.
\(^8\) Ibid., 58
1.4 Research Aims and Methods

The primary intent of this research is to create a model for the use of Mode Three as an improvisational system in both contemporary and traditional jazz repertoire. This model needs to be universal so the improviser can use it successfully over virtually any harmonic chord sequence - from jazz standards written in the 1930s to contemporary compositions utilising non-functional harmony, through to one or two chord vamps on jazz funk repertoire. As will be explored more fully in Chapter Two, there is ambiguity around the application of Mode Three from a chord/scale perspective. This research addresses this ambiguity and provides clarity around the use of Mode Three in jazz improvisation. A secondary and subsequent aim is the use of the aforementioned Mode Three model as a compositional system. I have relied on my own subjective assessment to define the use of Mode Three over different chord qualities.

Relatable Tension

Jazz educator and saxophonist Jamey Aebersold when assessing scales describes how scales tones are made up of either tension and relaxation. The improviser’s ability to control the amount and frequency of tension and release will, in large measure, determine whether the improvisor is successful in communicating to the listener.\(^9\)

This research is largely centred around the concept of relatable tension and how this can be utilised to communicate various emotions to the listener. There are two axes to this definition. The first is concerned with tension within its immediate context and how progressive degrees of tension, in relation to each other, can be utilised to evoke emotional responses. A basic concept is that a given tension should fit within its immediate context and alongside neighbour tensions, cohesively. Once this is satisfied then a series of tensions collectively, become a ‘whole that is greater than the sum of its parts’. Saxophonist and jazz educator David Liebman breaks the concept of tension and release into three possible stages - activity leading towards a goal, the feeling between activity and repose, and finally a place of rest. Once the consonance-dissonance level of a particular musical area is established, these three basic functions should be discernible in relation to each other along with the many possible shadings in between.\(^10\) Much of this research will focus on relative ‘shadings’ between harmonic or melodic material which then contribute to the


tension curve. Liebman gives the analogy of the tension/release curve being like the dominant/tonic relationship in western music with the subdominant functioning as the feeling in-between. I would add to this description by including momentary or false ‘tonics’ as a way of controlling tension. For instance, a certain level of tension is reached which can in itself become the new tonic from which a higher plateau of tension can be achieved. Similarly the subdominant function could be interpreted as, a feeling of ambiguity as to whether a release has occurred making the listener unsure whether the next move will be tonic (full release) or dominant (more tension).

The second concept of relatable tension concerns relating the music created by this research to the eventual consumer – the listener. I have often thought, particularly within a jazz context, that creating dissonance is quite easy to achieve. It is how this dissonance relates to the overall music that it is situated in that defines whether it is successful as a musical statement. I am far more interested in ‘fooling’ or subtly educating the listener so that varying levels of tension are present but at least partially disguised by such things as balance and the graduated concept of moving from the known to the unknown. An artistic statement needs challenging material which serves to upset or disturb the listener’s expectations; but always with the promise of relief and calm. Great art should have within it a comfortable balance between expectation and surprise. According to Liebman, too much complexity can be alienating and overly intellectual. This research aims to provide new and innovative sounds to the contemporary jazz oeuvre but within a context that both jazz musicians and listeners can appreciate.

In a more practical way, the tension discussed in this thesis will depend on factors such as the frequency of common tones and non-common tones between Mode Three and the underlying harmony. As already mentioned I have a strong interest in creating tensions and progressive degrees of dissonance, and the use of terms such as ‘pleasing’ ‘colourful’ ‘rich’ ‘appealing’ or ‘effective’ denote when this goal is attained. Throughout this research I have used relative or contextual degrees of tension and the grading of various sonorities against each other as a research method for developing my model. The amount and frequency of tension, as mentioned by Aebersold, determines the level of emotional response and success in communicating with the listener. The primary purpose of this thesis is

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11 Ibid.,
12 Ibid.,
to provide opportunities for innovative tension and to expand the
degrees of tension available to the performer.

This thesis primarily focuses on harmonic and melodic tension but
there are many types of tension that are available to the jazz
musician. Rhythmic tension, particularly in the last decade, has
become an essential part of the jazz improviser’s arsenal. By varying
musical elements such as texture, pitch range, phrase length, note
values, articulation and dynamics, a sensation of tension can be
conveyed to the listener. Tension creates anticipation for an eventual
release, resulting in the heightening of the listener’s emotional
connection to the music.

Upon creation of the theoretical model, I will move to the practical
aspect of applying Mode Three on the piano as an improvisational
system both vertically (harmonically) and horizontally (melodically).
Therefore, most of the examples to follow are from a pianist’s point of
view, though these could be applied or adapted for other instruments.

I will also show Mode Three as a compositional system, with five
compositions featuring in this thesis. The degree to which Mode Three
is used compositionally varies significantly – from entire pieces
utilising Mode Three, to compositions that alternate between Mode
Three and other tonal systems.

There is a strong link between this document and my own
development as a pianist and composer. In virtually all of my
performances as an improvising pianist I make extensive use of the
Mode Three model I have developed. This model influences my
choices for left-hand voicings, two-handed voicings and right-hand
improvised lines. It has become a fundamental part of my ‘sound’ as
an improviser and composer. This document will describe the elements
that make up this sound.

Finally, I have sometimes used alternate (from accepted norms)
enharmonic spellings of notes in order to most clearly communicate a
musical concept.
1.5. Chord-Scale Theory

The research in this thesis is intrinsically linked with Chord-Scale Theory so before going any further it is appropriate to discuss the rise of Chord-Scale Theory in jazz.

The *Lydian Chromatic Concept of Tonal Organisation* by George Russell, first published in 1953, espouses the concept of Chord-Scale Theory. This book had a strong influence on the modal jazz pioneers Miles Davis and John Coltrane.¹³

Russell discusses the term Chordmode – the prevailing chord of the moment along with its parent scale from which a modal tonic is then used to name the root of the chord.¹⁴ The broader definition of Chordmode (rather than just chord) allows a chord to be more than just a specific voicing – it can be played in a linear fashion with a corresponding scale. Russell then expands this concept by illustrating the modes of the Lydian Chromatic scale and extrapolating both principal and secondary chord voicings from them. Russell sums up chord-scale theory by describing how a jazz musician will frequently be required to improvise over a written chord symbol. In order to do this successfully the musician must convert the chord symbol into the scale which most purely conveys the sound.¹⁵

Russell’s Lydian Chromatic System uses the Lydian parent scale as the primary scale choice for a given chord but also offers other related scales such as the Lydian Diminished or Lydian ♭7 in order to create colour, tension and interest. The following example shows Russell’s Lydian Chromatic System applied in relation to an Eb7 chord.

---

¹³ Joachim Berendt, *The Jazz Book* (St Albans: Paladin, 1976), 357.
¹⁵ Ibid., 66.
Lydian Chromatic System Scale Choices over an Eb7 Chord

\[ \text{D}\flat \text{ LYDIAN SCALE } \text{[PARENT SCALE]} \]

\[ \text{I} \quad \text{II} \quad \text{III} \quad +\text{IV} \quad \text{V} \quad \text{VI} \quad \text{VII} \]

\[ \text{D}\flat \text{ LYDIAN AUGMENTED SCALE} \]

\[ \text{I} \quad \text{II} \quad \text{III} \quad +\text{IV} \quad +\text{V} \quad \text{VI} \quad \text{VII} \]

\[ \text{D}\flat \text{ LYDIAN DIMINISHED SCALE} \]

\[ \text{I} \quad \text{II} \quad b\text{III} \quad +\text{IV} \quad \text{V} \quad \text{VI} \quad b\text{VII} \]

\[ \text{D}\flat \text{ LYDIAN FLAT 7TH SCALE} \]

\[ \text{I} \quad \text{II} \quad \text{III} \quad +\text{IV} \quad \text{V} \quad \text{VI} \quad b\text{VII} \]

\[ \text{D}\flat \text{ AUXILIARY AUGMENTED SCALE} \]

\[ \text{I} \quad \text{II} \quad \text{III} \quad +\text{IV} \quad +\text{V} \quad b\text{VII} \]

\[ \text{D}\flat \text{ AUXILIARY DIMINISHED SCALE} \]

\[ \text{I} \quad \text{II} \quad b\text{III} \quad \text{IV} \quad +\text{IV} \quad +\text{V} \quad \text{VI} \quad \text{VII} \]

\[ \text{D}\flat \text{ AUXILIARY DIMINISHED BLUES SCALE} \]

\[ \text{I} \quad b\text{II} \quad b\text{III} \quad \text{III} \quad +\text{IV} \quad \text{V} \quad \text{VI} \quad b\text{VII} \]

\[ ^{16} \text{Ibid., 62-63.} \]
The above scales and their application over an Eb7 Chord include a number of familiar jazz modes such as Lydian Dominant, Whole-Tone and Half-Whole Diminished. Interestingly, they also include some unfamiliar and strong tensions, notably with the Auxiliary Diminished Blues scale.

Russell provides many examples of the creative and melodic use of different scale choices in order to transfer the chord-scale concept from theory to musical expression. Another important book carrying on this transference is the *Repository of Scales and Musical Patterns* by saxophonist and multi-instrumentalist Yuseef Lateef. This thesaurus includes many examples of extended linear patterns derived from scales. In addition to the standard jazz modes, Lateef explores many of the less familiar scales to jazz musicians including those of Indian, Japanese and Middle Eastern origin.

In addition to an impressive array of linear combinations for melodic shapes and cells, Lateef demonstrates extrapolating scales from poly-chords. For instance the poly-chord Eb7 over E (Fb) from Stravinsky’s Rite of Spring is examined and a scale extracted from it for improvisational or compositional purposes.

**Eb7 over Fb Polychord**

The resultant scale is relatively complex, spanning over an octave; reflecting the bitonality of the harmonic material. Lateef’s presentation of this example has the chord coming first followed by the scale derived from it, whereas most of his other musical examples have the scale presented first followed by the extracted chords, for instance the Hungarian Major example on the next page.

---

Hungarian Major or Blues Scale

These two perspectives of what comes first are both acceptable. Mark Levine states that ‘the scale and the chord are two forms of the same thing’.19

David Liebman is a celebrated jazz educator and his publication A Chromatic Approach to Jazz Harmony and Melody has added to the understanding and application of Chord-Scale Theory in jazz. Liebman discusses scale quality substitution where a normally associated chord-scale relationship is substituted for another more colourful choice built off the same root note. An example would be, over a G7 chord, substituting G Mixolydian for G Locrian. The pull of the root note remains intact, regardless of the scale colour.20

Further, he shows substituting several different modes over a stationary root note in various ways. For instance creating tension over an Fma7 chord by using different modes from the same root-note (F), as shown in the following example.21

18 Ibid., 122.
20 Liebman, A Chromatic Approach to Jazz Harmony and Melody, 23.
21 Ibid., 26.
Or using scales built from other notes from F Lydian.\textsuperscript{22}

The principle of Liebman’s examples are based on having a reference mode (in this case F Lydian) and then superimposing other modes to play away from that reference. To increase the tension, Liebman takes this concept further by intentionally selecting scales to superimpose that are not from the reference scale, as seen in the example below.\textsuperscript{18}

With this approach the diatonic pull of the root note is less obvious.

\textsuperscript{22} Ibid., 27.
Like Lateef, Liebman also explores extracting scales from complex poly-chords resulting in two-octave modes often with nine or more notes.

There are a number of publications which provide a detailed overview of the commonly accepted chord-scale relationships in jazz. *Chord Scale Theory and Jazz Harmony* by Barry Nettles and Richard Graf is a useful book for establishing the basic concepts through to advanced application. Mark Levine’s *The Jazz Piano Book*, whilst not having an easy structure to follow, has many musical examples demonstrating the practical use of chord-scale theory. Jamey Aebersold’s *Jazz Handbook* features a comprehensive table named the Scale Syllabus (below), showing chords, scales, their construction and application.

### THE SCALE SYLLABUS

<table>
<thead>
<tr>
<th>CHORD SCALE SYMBOL</th>
<th>SCALE NAME</th>
<th>WHOLE &amp; HALF STEP</th>
<th>SCALE IN KEY OF C</th>
<th>BASIC CHORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor</td>
<td>C</td>
<td>W H W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>Minor (Dorian)</td>
<td>C</td>
<td>W H W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>Half Diminished (Locrian)</td>
<td>C</td>
<td>H W W W W H W</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>Diminished (8 tone scale)</td>
<td>C</td>
<td>W H W W W W H</td>
<td>C E G B A D</td>
<td>C E G B A B C</td>
</tr>
</tbody>
</table>

#### MAJOR SCALE

<table>
<thead>
<tr>
<th>CHORD</th>
<th>SCALE NAME</th>
<th>W &amp; H CONSTRUCTION</th>
<th>SCALE IN KEY OF C</th>
<th>BASIC CHORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Major (don’t emphasize the 4th)</td>
<td>W W W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Major Pentatonic</td>
<td>W W W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Lydian (major scale with +3)</td>
<td>W W W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Bebop (Major)</td>
<td>W W W W W H W H H H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Lydian Dominant</td>
<td>W W W W W H W H H H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Lydian Augmented</td>
<td>W W W W W H W W H W H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>6th Mode of Harmonic Minor</td>
<td>W W W W W H W W H W H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Blues Scale</td>
<td>W W W W W H W W H W W</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
</tbody>
</table>

#### DOMINANT 7th

<table>
<thead>
<tr>
<th>CHORD</th>
<th>SCALE NAME</th>
<th>W &amp; H CONSTRUCTION</th>
<th>SCALE IN KEY OF C</th>
<th>BASIC CHORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Dominant 7th</td>
<td>W W W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Major Pentatonic</td>
<td>W W W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Bebop (Dominant)</td>
<td>W W W W W H H H H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Spanish or Jewish scale</td>
<td>H 3 H W W W W</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Lydian Dominant</td>
<td>W W W W W H W W H W H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Blues Scale</td>
<td>W W W W W H W W H W W</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
</tbody>
</table>

#### SUSPENDED 4th

<table>
<thead>
<tr>
<th>CHORD</th>
<th>SCALE NAME</th>
<th>W &amp; H CONSTRUCTION</th>
<th>SCALE IN KEY OF C</th>
<th>BASIC CHORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Dim. 7th (no 4th to emphasize the 3rd)</td>
<td>W W W W W H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
</tbody>
</table>

#### MINOR SCALE

<table>
<thead>
<tr>
<th>CHORD</th>
<th>SCALE NAME</th>
<th>W &amp; H CONSTRUCTION</th>
<th>SCALE IN KEY OF C</th>
<th>BASIC CHORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Minor (Dorian)</td>
<td>W W W W W H</td>
<td>D E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Bebop (Minor)</td>
<td>W W W W W H W W H W H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Melodic Minor (ascending)</td>
<td>W W W W W H W H W H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Bebop Minor No. 2</td>
<td>W W W W W H W H W H</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
<tr>
<td>C</td>
<td>Blues Scale</td>
<td>W W W W W H W W H W W</td>
<td>C E F G A B C</td>
<td>C E G B D</td>
</tr>
</tbody>
</table>


All of the aforementioned publications, whilst largely framed in improvisational terms, are also applicable to jazz composition. In particular, the creative examples in Lateef’s *Repository of Scales and Musical Patterns* are a rich source of inspiration for jazz composition. Ron Miller’s *Modal Jazz Composition and Harmony* features useful examples of harmonic structures based on scales with moving root notes. The shifting roots of the following example imply different scales and a varied tension palette for composition.²⁵

![Musical example]

Miller also provides many examples of contemporary compositions with labelling showing the corresponding mode to the given chord.

**Teru (Wayne Shorter) with Scale Labelling**²⁶

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²⁶ Ibid., 76.
Labelling chord voicings as scales is a useful way to categorise mobile sequences such as the fourths voicings in bar 1 of *Teru* above. The use of modal voicings in fourths (quartal harmony) for improvisation and composition, was developed during the 1960’s with the most celebrated exponent being pianist McCoy Tyner. Tyner used quartal harmony predominantly over major scale derived harmony as this system allows playing up or down a scale in fourths with relative ease. Of course the principle of extracting quartal shapes from a scale is the same regardless of which scale is used and this research will provide examples for both composition and improvisation.

As mentioned earlier in this chapter, I will now discuss the first three Modes of Limited Transposition.

### 1.6 Mode One – Whole Tone Scale

The First Mode is of course the Whole-Tone scale, which is a familiar sound in classical music, jazz, and even Disney movie scores. In classical music composers such as Claude Debussy and Béla Bartók made extensive use of it, and in jazz it was favoured by Duke Ellington and Thelonious Monk among others, particularly over dominant 7th chords (see example 1 below).

---

**Ex. 1: *Black Beauty* Duke Ellington Piano Introduction (bars 1-2)**

---

---

27 *Fourth Voicings* Accessed November 14 2018
https://www.thejazzresource.com/fourth_voicings.html
28 For instance in *La mer, trois esquisses symphoniques pour orchestra* and *Voiles from Preludes, Book 1* (for Piano).
29 Seen in *Cantata Profana* and *Concerto for Orchestra*.
1.7 Mode Two – Diminished Scale

The second mode is the aforementioned diminished scale, which has been used widely in jazz since the 1960s as well as in classical music from the second half of the nineteenth century. In jazz, the diminished or octatonic scale has primarily been used for creating tension on dominant 7th chords and also as a way of interpreting diminished chords (or substituting diminished for a major 7th chord).

I, like most jazz musicians, have been aware of this scale from early in my development as a jazz musician. But given the complex nature of its intervallic content I believed there could be a new approach to using this sound. I experimented with the diminished scale for chordal construction in contrary motion and found there were a number of possibilities available to create tension and density of harmony. (See Examples 2 and 2a.)

Ex. 2: G Half–Whole Diminished Scale in Contrary Motion Using Double Diminished Chords:

Note the resolution to C whole-half diminished scale used as a substitute for Cma7 or Cm7.

Ex. 2a: G Half-Whole Diminished Scale Alternating with D Half-Whole Diminished:

With this harmonic structure in place I was then able to experiment with other shapes within diminished harmony.
Ex. 3: **Quartal Harmonic Shapes:**

Ex. 4: **Upper Structures (Triads) in the Right Hand:**

Once conversant with this language, bitonality can then be introduced by deliberately moving the left hand second chord in the sequence up a semitone from its original place.

Ex. 5: **Quartal Harmonic Shapes with the Second and Fourth Left Hand Chord Altered:**

The alteration in Example 5 creates appealing tension as the general flow and contour of the sequence is maintained but the momentary dissonance of the bitonal chords dominates over the top. In the relatable tension scale, the first, third and fifth chord are functioning as ‘new’ tonics as they provide ‘rest’ from the bitonality of the chords in between. Another bitonal approach to improvising involves the use of a diminished scale in the right hand and the same quartal I-V alternating left hand shape from Examples 3 and 4. An analysis of
Example 6 shows this bitonality with the right hand and top notes of the left hand using G Half-Whole Diminished, while the middle and bottom left hand notes are from G♯ Half-Whole Diminished.

**Ex. 6: Bitonality Using Diminished Harmony:**

```
G7

Right hand - G half-whole Diminished

Left hand - Hybrid - G half-whole Diminished (top notes)/
G# half-whole Diminished (middle & bottom notes)
```

**Ex. 6a: An Improvised Line Using Bitonality from Diminished Harmony:**

```
G7

Right hand - G half-whole Diminished

Left hand - Hybrid - G half-whole Diminished (top notes)/
G# half-whole Diminished (middle & bottom notes)
```

I was also able to use these same harmonic concepts in parallel motion which, while missing the dimension of contrary motion, still created tension and colour.

Whilst the diminished scale is not a new pitch collection in jazz, there are possible new permutations that can be found for its use. In turn, these derivative ideas can create their own partially related sounds such as the bitonality seen in Example 5. In this example the bitonality is momentary, functioning as an interruption in the modality of the surrounding consonant (in relative terms) harmony. Because the overall effect is not based purely on diminished scale harmony there is a pleasing tension created by the break in the diminished sound. The tension created by the bitonality in relation to the diminished harmony ‘softens’ the sound of the diminished chords.
1.8 The Third Mode

An obvious difference between Mode Three of the Modes of Limited Transposition and all previous mentioned scales is the number of notes that it is made up of. It consists of nine different pitches.

As part of my practice regime to memorise and internalise this scale I would often think about the notes that were missing when comparing Mode Three with the chromatic scale (three notes out of the 12 chromatic tones) rather than what notes were in it. I coined the term “Subtractive Scale”, where thinking of the missing pitches is a useful aid to learning a scale. Whilst this method will assist internalising Mode Three, I have found I do not need to rely on it once I am familiar with the tonality.

Because there are some similarities between the intervallic construction of Mode Three and widely used jazz scales (such as the altered scale), there is a certain ‘familiarity’ with the sound. However, enough ambiguity exists, particularly with regard to the major/minor thirds and sevenths, to create new and innovative tensions which the rest of this thesis will explore.
CHAPTER 2: Mode Three Basics

Before discussing my Mode Three model in more detail I would like to share a pertinent quote from a contributor to an online music forum. Commenting on studying the Modes of Limited Transposition, “Senior Member” writes (edited for spelling mistakes):

Playing in these modes [of limited transposition] usually turns into a very difficult exercise which most of the time will only satisfy yourself. There are very few listeners who have the capacity to comprehend and digest this. This is the same for other highly theoretical music like, strict tone row, cell harmonies, microtonal, clusters, polytonality and progressions based on metallic harmonic trains. College students and music teachers will know what’s going on, but the rest will never get it.  

This research will aim to prove Senior Member wrong by applying the concept of relatable tension. By creating tension within an appropriate context, emotional responses can be effectively communicated to audiences.

2.1 Anatomy and Analysis of Mode Three

Mode Three consists of nine different tones with the organisation of tones/semitones repeating at major 3\textsuperscript{rd} intervals. Hence, starting on C the interval sequence will be tone/semitone/semitone (C-D, D-E\textsubscript{b}, E\textsubscript{b}-E) then starting from the same note (E) the repetition of this sequence twice more to arrive back at C again. This mode has four possible transpositions (starting note C, D\textsubscript{b}, D or E\textsubscript{b}) before the same scale is heard again; hence its ‘limited’ transposition.

2.2 Comparison of Mode Three with Common Jazz Scales

The following examples show the common tones between Mode Three and other familiar scales in jazz.

\footnote{Messiaen’s Modes for Jazz Accessed April 27 2017
http://forums.musicplayer.com/ubbthreads.php/topics/2288434/Re_Messiaen_s_Modes_for_Jazz_1}
2.2.1 Major Modes:

**Mode Three**

\[ \begin{array}{cccccccccc}
0 & 2 & 3 & 4 & 6 & 7 & 8 & 10 & 11 & 0 \\
1 & 2 & 3 & 4 & 5 & 6 & 7 & 7 & 1 & 1
\end{array} \]

Five common tones (F & A only notes not also in Mode Three)

**Hypolydian**

\[ \begin{array}{cccccccccc}
0 & 1 & 3 & 5 & 7 & 8 & 10 & 0 \\
1 & 2 & 3 & 4 & 5 & 6 & 7 & 7 & 1 & 1
\end{array} \]

Five common tones (D# & F only notes not also in Mode Three)

**Phrygian**

\[ \begin{array}{cccccccccc}
0 & 2 & 4 & 6 & 7 & 9 & 11 & 0 \\
1 & 2 & 3 & 4 & 5 & 6 & 7 & 7 & 1 & 1
\end{array} \]

Six common tones (A only note not in Mode Three)

**Lydian**

\[ \begin{array}{cccccccccc}
0 & 2 & 4 & 5 & 7 & 9 & 10 & 0 \\
1 & 2 & 3 & 4 & 5 & 6 & 7 & 7 & 1 & 1
\end{array} \]

Five common tones (F & A only notes not also in Mode Three)

**Mixolydian**

Modes continued overleaf
2

2.2.2 Melodic Minor

**Mode 3**

```
\( \text{Melodic Minor} \)
```

```
\( \text{Lydian Augmented} \)
```

```
Six common tones (A only note not in Mode Three)
```

Continued overleaf
LYDIAN DOMINANT

Six common tones (A only note not in Mode Three)

LOCRIAN #2

Six common tones (F only note not in Mode Three)

ALTERED

Six common tones (D# only note not in Mode Three)
2.2.3  Diminished

(MODE 3)

Six common tones (F & A only notes not also in Mode Three)

2.2.4  Harmonic Minor

(MODE 3)

Six common tones (F only note not also in Mode Three)
Apart from the diminished scale all of the scales above have seven different notes. The number of common notes when compared to Mode Three varies between five and six. This is perhaps not that surprising for a nine-note scale.

2.2.5 Guide Tones

So-called ‘guide tones’ are typically considered to be the 3rd and 7th scale degree as these determine whether a chord is major, minor, or dominant. By looking at the scales comparisons above we can see there are a lot of common tones shared between Mode Three and major, minor and dominant 7th (such as Lydian Dominant, Altered) scales. It is interesting to examine Mode Three and observe the guide tones present:

Looking at the relatively simple approach of Mode Three starting on C, compared with other C scales we can observe the following:

- Both major 3rd and minor 3rd are present
- Both dominant 7th and major 7th are present

These combinations do occasionally occur in other scales – for instance the major and minor 3rds in the Altered scale. However, it is clearer with the Altered scale as to which is the guide tone (major 3rd) and which is the ‘colour’ note (minor 3rd or #9). With Mode Three an ambiguous quality pervades as there is less certainty as to which is the superior guide tone (unless stated by an accompanying chord). My model fully exploits the ambiguity of both major and minor 3rds and 7ths existing side by side.

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33 The term colour note refers to those notes that are outside the fundamental structure of a given chord. These notes will typically be extensions such as b9 or #5 and could also include notes outside a given scale or tonal system.
By shifting the contextual role of Mode Three relative to the underlying harmony, my model also facilitates unusual combinations of the secondary guide tones – 9\textsuperscript{th} and 13\textsuperscript{th} – allowing extra colour. This will be explored more fully, later in this chapter.

### 2.3 Messiaen’s Use of Mode Three

Messiaen said of The Modes of Limited Transposition, ‘Their function is coloristic. They are not harmonies in the classical sense of the term; they are obviously not tonal harmonies. They are not even classified chords.’\textsuperscript{34} Further, he stated, ‘The keys of the classic period had a tonic. The antique church modes had a final. My modes have neither a tonic nor a final - they are colours.’\textsuperscript{35}

In *Traité de rythme, de couleurs, et d’ornithologie* Messiaen gives an example of his use of Mode Three: ‘...(the) 15\textsuperscript{th} chord: it belongs to Mode Three – it is in A major blue – the presence of the G sharp adds a little gold, the doubling at the higher octave of the C sharp and the F natural add pale green. 16\textsuperscript{th} chord: it is again in Mode Three – it is light green and light silvery blue, the B flat and the G sharp add a little orange.’\textsuperscript{36}

#### 15\textsuperscript{th} & 16\textsuperscript{th} chord. Mode Three

By looking at Messiaen’s example we can see how he has created complex chordal harmonies by extracting notes from the given mode. Looking at his description, we can also surmise that he may give predominance to certain tonalities within the overall harmony – for instance the ‘A major blue’ suggesting this could be a type of A Major chord with embellishment. The second (16\textsuperscript{th}) chord is perhaps harder to categorise as having a definite tonal predominance. This fits in with Messiaen’s statement regarding the Modes of Limited Transposition.

that the composer is free to give predominance to one of the tonalities or to leave the tonal impression unsettled.\textsuperscript{37}

In the composition \textit{Quartet for the End of Time} \textsuperscript{38} Messiaen uses his ‘Chord of Resonance’ comprising all the notes of Mode Three. The result is a complex harmonically dense sonority, though by analysing the right and left hand of the piano it can be seen that some of the structures are dominant seventh in origin. Dominant 7\textsuperscript{th} chords are widely used in jazz harmony but the combinations found in the Chords of Resonance are uncommon in jazz as their density tends to dilute the dominant seventh fundamental. Messiaen describes the Chord of Resonance as like a stained glass window and creating the effect of pure fantasy, similar by a very distant analogy to the phenomenon of natural resonance.\textsuperscript{39}

\textit{Quartet for the End of Time, II. Vocalise.} Bar 11\textsuperscript{40}

The following table shows the 48 Chords of Resonance (CR) as promulgated by Messiaen. The 48 chords include all the notes of Mode Three. However, since the CR comprises eight pitch-classes, and Mode Three comprises nine pitch-classes, the CR cannot possibly furnish all the notes of Mode Three. However, the converse is possible: Mode Three can furnish all the notes of the CR.\textsuperscript{41}

\textsuperscript{37} Messiaen, \textit{The Technique of My Musical Language}, 58.
\textsuperscript{39} Messiaen, \textit{The Technique of My Musical Language}, 50-51.
\textsuperscript{40} Martha Summa-Chadwick, \textit{Quartet for the End of Time} (DMA Thesis, University of Kansas, date unavailable), 12.
\textsuperscript{41} Messiaen, \textit{The Technique of My Musical Language}, 43.
48 Chords of Resonance\textsuperscript{42}

\textsuperscript{42} J. Harris, Modes of Limited Transposition and Special Chords, Accessed 16 November 2018
http://www.geocities.ws/jeharris56/chapter05.pdf
Messiaen’s use of Mode Three can be seen in many of his works including the piano suite *Vingt regards sur l’Enfant-Jésus* composed in 1944.

*Vingt regards sur l’Enfant-Jésus, Le baiser de l’Enfant-Jésus* (no.15) bar 80.\(^{43}\)

*Vingt regards sur l’Enfant-Jésus, Noël* (no.13) bars 39-40.\(^{44}\)

Messiaen also combined the use of Mode Three with other Modes of Limited Transposition as seen in the following example:

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\(^{44}\) Messiaen, *Vingt regards sur l’Enfant-Jésus, Noël*. 
When discussing Noël and Messiaen’s use of Mode Three in the above passage, David Rogosin mentions a C harmony being present, but in context this is challenged by an A♭ dominant sonority that rivals the C chord. This results in any form of settled tonality being subverted and a bitonal sound ensuing. This superimposition of harmonies is

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characteristic of Mode Three. Messiaen uses Mode Three predominantly to create a feeling of tonal ambiguity, for instance as seen in the various Chords of Resonance. As already mentioned, he stated the modes have no tonic or final so there is a strong feeling of freedom around their use and application. Even when there is a perceived or implied tonality, it is wrapped with the ambiguity of competing key centres or clusters of unrelated extra notes which obscure the fundamental. This contrasts with the main theme of this research which is to apply Mode Three within the already established tonal framework of jazz. While Messiaen was exploring ways to abandon a tonal system, this research aims to adapt Mode Three to commonly used chordal systems found in jazz.

The closest link to Messiaen’s use of Mode Three and its application in a jazz context would be free improvisation without a pre-set chord sequence, using Mode Three. This is something I did for my final recital as a solo piano intro to my composition Quran Quran. However, the main focus of this thesis is building a framework for Mode Three as part of established jazz harmony. Messiaen’s use of Mode Three has provided some inspiration for this research by linking certain chord shapes to specific applications (example 7 below). My general observation has been that much of Messiaen’s harmonic language is too dense to be of regular use and falls outside the relatable tension concept that has already been discussed.

Ex. 7: **Use of Chord of Resonance over a Bm7♭5 chord.**

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2.4 Current Use of Mode Three in Jazz

As already mentioned, Mode Three is not a commonly used scale in jazz theory or practice and is generally not included in the widely-used theory textbooks in jazz education. Mode Three is mentioned by Sean Wayland in his book *Etudes Volume 1*. Wayland is an expatriate Australian jazz pianist and composer currently residing in New York. Wayland gives a number of musical examples using linear shapes and chord constructions that would be useful for someone trying to familiarise themselves with the sound.

Wayland states that he struggled to figure out how Mode Three correlates with a particular chord symbol and instead decided to treat all four transpositions in the same way as the chromatic scale. This method, however, satisfactory for Wayland (a noted jazz pianist and composer), was unsatisfactory to me. In my own study, I felt I needed to devise a chord-scale formula for the use of Mode Three and its transpositions, as this would provide a far greater opportunity to create a musical language from it. Wayland’s concept of Mode Three has, in one sense, more freedom as he has a wide palette to apply the scale. However, I could see the value of developing specific criteria for Mode Three which in turn would allow even greater freedom, variety and expression.

American jazz pianist and organist Brian Charette is another artist who has written about Messiaen’s Modes. An example of Charette’s use of Mode Three over a typical ii-V-I progression is given below in Example 8.

Ex. 8: Brian Charette Mode Three Example:

Here Charette uses Mode Three (starting on G) over the G7 chord in bar 2. I also found reference to this same use over a dominant 7th chord in Matt Warnock’s *Your Online Guide to Playing Better Jazz Guitar*. Warnock recommends this scale for any situation where you

50 Brian Charette, ‘Messiaen’s Modes for Jazz Improvisation’, *Keyboard Magazine* April 2011
would normally play an Altered Scale such as 7alt or the V7 in a ii-V-I progression.\textsuperscript{51}

The justification for Charette’s and Warnock’s application in this context seems clear and appropriate given the scale includes the major 3\textsuperscript{rd} and dominant 7\textsuperscript{th} guide tones which are considered in conventional jazz harmony to be the important notes. However, this application feels rather forced and unmusical in context. This is partly because the tension over the G7 chord is not assimilated smoothly into the Cma7 resolving tonality. Secondly, the presence of a #9 and natural 9, with no b9 gives the dominant 7\textsuperscript{th} sound an arguably hollow resolution as it is missing an important leading tone.

The late English guitarist Allan Holdsworth has also used Mode Three and is cited by Wayland as an influence.\textsuperscript{52}

Ex. 8a: **Bar 173 from The Sixteen Men of Tain** \textsuperscript{53}

Here Holdsworth uses Mode Three starting on F over an Fm(maj7) chord. This application seemed to be a good starting point for incorporating this sound into the jazz language. Because the Fm(maj7) functions as a resolution chord, it does not contain the natural leading-note urges that exist in dominant 7\textsuperscript{th} chords.

Holdsworth states that he is unsure how to categorise what key Mode Three belongs to. His approach is to find upper structures within the scale – particularly minor triads - and use these as a reference point.

\textsuperscript{52} Wayland, *Etudes Volume 1*, 4.
for improvising. The use of upper structures derived from scales is common in jazz and Holdsworth is a master at this. The context of where Holdsworth applies Mode Three is undefined, similar to Wayland’s approach.

A different context for the application of Mode Three is found with Jens Larsen, a guitarist born in Denmark who teaches at the Royal Conservatory in The Hague. He mentions how he places Mode Three in the special effects department rather than a go-to choice for improvising. He favours its use over one-chord vamps – static sounds of four bars or more duration rather than moving chord changes. His approach matches the given chord symbol with an upper structure/triad within Mode Three and then uses this scale to improvise. This is a more structured approach then using Mode Three as a chromatic scale though it does not take into account the relative contextual tensions existing in the scale.

The conclusions from a Master of Music thesis by Australian jazz pianist Deanna Djuric on the use of Messiaen’s musical language for the jazz pianist also provides some perspective on Mode Three. Djuric states that Mode Three and its harmonic structures are a challenge to use spontaneously during performance and the results (at least for her) are somewhat contrived. She also states it is difficult to isolate the function of the mode. This seemed to be a common theme – an absence of direction on the function and use of Mode Three relative to the chord qualities found in jazz. This research aims to answer this question.

On a recent trip to New York, I had the opportunity to source feedback on my Mode Three model from several leading jazz artists in ‘live’ music sessions involving playing together and then discussing my approach to Mode Three. During this thesis, I make passing reference to some of these discussions. A common theme from these sessions was the musicians being aware rather than overtly familiar with Mode Three. Canadian expatriate saxophonist Seamus Blake (now resident in New York) had exposure to this scale during a tour with Brian Charette (quoted earlier in this chapter). He mentioned Charette saying “check this out Seamus, you can play this over anything!”

57 Deanna Djuric, Messiaen’s Musical Language for the Jazz Pianist, 37.
58 Rehearsal, Euphoria Studios, Manhattan, New York City, 4 June 2017
Blake was particularly drawn to my use of Mode Three over dominant chords, stating that he had not come across this application previously. Subsequent to this particular conversation, I saw Blake at a performance and he mentioned he had thought about my Mode Three approach while negotiating some advanced chord voicings at a rehearsal that day. Another New Yorker, bassist Matt Penman, while not an active user of Mode Three, was aware of the scale. He was particularly interested in the triads that could be extrapolated from the scale and even said he intended to steal some of my ideas! Guitarist Nir Felder mentioned Mode Three as one of those scales that he would like to work on but that he has not had the time to put into it yet. Interestingly, he predicted that in a few years the use of Mode Three in jazz would become more common through the work of people such as myself. He based this on the natural inclination of jazz musicians to explore new areas.

### 2.5 Mode Three Chord/Scale Theory

There are a number of methods that jazz musicians use to create tension against a momentary chord or key. These are typically based on the approach of playing something that moves outside the prescribed scale of a chord and then moves back in. Within this approach are techniques such as sidestepping or chromaticism where the improviser plays notes a semitone above or below the relevant scale. Other techniques include imposing a dominant where a V-I relationship is implied even though it does not exist in the composition. Similarly, a jazz musician may impose chords or scales derived from an intervallic relationship over a given chord such as playing the chord/scale a tritone away. Techniques such as anticipation and delayed resolution can also be used to ‘blur’ the tonalities as a chord sequence unfolds.\(^{59}\)

All of these methods rely on the basic principle of having an ‘inside’ scale which fits in a consonant way with the given chord (for instance, Dorian mode corresponding with a minor 7\(^{\text{th}}\) chord). The jazz musician then moves outside this consonance to the relative dissonance of notes outside the corresponding scale. Although the techniques used and the degree of use may vary widely, they are essentially based on the principle of knowing an appropriate scale to play over a given chord, then playing notes outside this scale to create tension.

My Mode Three model differs from the ‘inside-outside’ concept as there are inbuilt tensions within Mode Three, which imply several unrelated

\(^{59}\) Levine, *The Jazz Theory Book*, Chapter 8, 183-192
tonalities within the one scale. So, the improviser does not have to go ‘outside’ the scale to find these tensions – they already exist diatonically within each of the four transpositions of Mode Three. The ability to relate one tension to another in an unfolding manner is also greatly enhanced, rather than depending on the ‘on-off’ methods of the previously described techniques.

Because several tonalities and tensions are already present, Mode Three is far more ‘volatile’ and difficult to assimilate into traditional jazz harmony. As mentioned earlier, Wayland (and others) struggled to decide which Mode Three transposition belongs to a specific chord symbol. My model answers that question.

### 2.5.1 Major 7th and Minor 7th Chords

These two chord qualities share the same basic use of Mode Three so will be discussed together.

**Major 7th Chord**

This application of Mode Three has its origin in the Holdsworth example from Chapter 2.2. Looking at Mode Three and its use over a Cmaj7 provides colour and tension while at the same time preserving enough of the integrity of the original major 7th sonority.

**Ex. 9: Mode Three Over Major 7th**

There are five consonant notes with this application (C, D, E, G, B) and four more colourful, dissonant or tension notes (Eb, F#, A♭, B♭).

**Minor 7th Chord**

---

60 Wayland, *Etudes Volume 1*, 3.
Ex. 10: **Mode Three Over Minor 7th**

There are five consonant notes with this application (C, D, Eb, G, Bb) and four colourful, tension notes (E, F#, A♭, B).

By using Mode Three as a template for improvising over a Cmaj7 or Cm7 chord there are natural points of tension and release as mentioned above. Because the mode includes both the major and minor 3rd and the major and minor 7th there are natural ‘resting’ or ‘safety’ points as well as strong tensions. The 9th and 5th also present as typical sounds that are found in the common scales for these chords.

The colourful notes include the alternate 3rd and 7th of whichever chord is being used, for example over Cmin7 both the major 3rd (E) and major 7th (B). In addition, the #4 and b6 are present which on their own are more explainable (for example, #4 is a common sound over a major 7th chord). In the next chapter I will discuss the use of these tension notes and how the collective grouping of selected tones gives the unique Mode Three character and brings these tensions to life.

Messiaen described the Modes of Limited Transposition as scales that imply several keys at once, containing in themselves small transpositions.61 He further stated that the composer is free to give predominance to one of the tonalities or to leave the tonal impression unsettled.62 My use of Mode Three in both an improvisational and compositional context in the first instance is based on the ‘giving predominance’ concept with the underlying chord symbol/harmony being the predominant tonality. The chord itself does not change but the tension notes are available to colour the sound and create relative degrees of tension.

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62 Ibid., 58.
2.5.2 Mode Three Over a Dominant 7th

The use of Mode Three over a dominant 7th chord required prolonged experimentation. Charette and Warnock propose using Mode Three over a dominant 7th chord with the first degree of the scale matching the corresponding chord symbol, for instance Mode Three in C played over C7.\textsuperscript{63} Whilst this application has some synergies with the C7 tonality, in my view it does not create one sound over the entire mode, that is unified or characteristic of a dominant 7th. The presence of both the minor and major 7th along with the natural 9th without the b9 appears to dilute the powerful tension usually associated with dominant 7th chords.

After experimenting with different combinations, I came to the conclusion that the most appealing tension in relation to dominant 7th chords is to apply Mode Three over chords built from the 2\textsuperscript{nd}, #4 and 7\textsuperscript{th} degrees. So, for Mode Three starting on C the corresponding dominant 7th chords would be D7, F#7 and Bb7.

Ex. 11: Mode Three (starting on C) Over D7

Example 11a shows the same scale starting on D. This is more for theoretical/analytical reasons as the resulting sound is the same.

Ex. 11a: Mode Three (Starting on D) Over D7

\textsuperscript{63} Charette, ‘Messiaen’s Modes for Jazz Improvisation’, \textit{Keyboard Magazine}. Warnock, \textit{Messiaen’s Modes of Limited Transposition for Guitar}. 
Through example 11a we can see that the root and guide tones (3rd and 7th) are present (D, F# , C), and these provide the stable dominant 7th sound. This is the predominant underlying harmony. The ‘colour’ notes are b9, 9th, 4th, b5, b13, 13th. All of these notes are familiar to jazz musicians as they exist in three jazz scales associated with dominant 7th chords: Mixolydian (9th, 4th, 13th), Altered (b9, b5, b13) and Half-Whole Diminished (b9, b5, 13th). What gives this application of Mode Three its unique character is the availability of all these tension notes within one diatonic framework, for instance 13th and b13, or 9th and b9 all in the same scale. This is where the concept of relatable tension comes in – the player can subtly vary the tension by moving between these extensions, emphasising some or combining both simultaneously.

Major, minor and dominant 7th chords being the most prevalent chords in jazz, 64 will be used most often to demonstrate the Mode Three Chord/Scale Model. I also mention, see below, the use of Mode Three over Minor 7b5 and Diminished chords.

2.5.3 Mode Three Over a Minor 7b5

Interestingly, I found the dominant 7th application of Mode Three (above) also worked well for a minor 7th chord. Even though the minor 3rd is not present in the scale, notes such as the root, 9th, 4th, b5, 7th provide enough of the predominant minor 7b5 sound. A minor 7b5 is sometimes voiced without a 3rd (as shown in Example 12), lending further weight to this application. In later chapters, more advanced application over minor 7b5 chords will be discussed.

Ex. 12: Mode Three Starting on D over Dm7b5

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2.5.4 Mode Three Over a Diminished 7th

While the diminished 7th chord is considered somewhat old fashioned in contemporary jazz, it can be made more modern by moving the top note up a tone creating a perfect 4th interval on top (an alternative interpretation for this chord is minor(ma7♭5)). This technique is effective when applying Mode Three. As seen in Example 13 below, the application is the same for both a major or minor 7th chord.

Ex. 13: Mode 3 Starting on C Over Co7

This application shares six notes with the diminished scale (C, D, Eb, F♯, A♭, B), with three tension notes (E, G, B♭).

2.6 Submode Numbering System

As previously mentioned there are four possible transpositions of Mode Three. Rather than using the ‘starting on C’ terminology, I have numbered each transposition from 1-4. Number 1 starts on C, Number 2 on Db, Number 3 on D and Number 4 on Eb, whereupon the sequence starts again with Number 1 on E, Number 2 on F etc. Because the four modes are so ‘mobile’ and belong in a sense to many different chords simultaneously, it is sensible to think of them as four submodes of the Mode Three parent mode.

Bassist Matt Penman suggested giving each submode a name in the same way we give different modes from the same parent scale titles such as Dorian, Mixolydian, Altered etc. He felt the numbering system though logical, could potentially be confusing. I haven’t as yet come up with suitable alternative names – different colours for each has

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66 Rehearsal, 115 Ocean Avenue, Brooklyn New York City, 9 June 2017
been suggested - blue, green etc. I can see the merit in this idea (which would also tie in with Messiaen’s colour-based descriptions) and it could even make the system more appealing! I will keep the numbering system 1-4 for the purposes of this document as it provides the most immediate recognition of the order of the submodes. All the submodes are, of course, equal to each other; the numbering system is for analytical and categorical purposes only and not indicative of the superiority of one submode over another. Example 14 on the following page shows the four submodes.

Ex. 14: The Four Submodes Numbered 1-4

MODE 3 SUBMODE NUMBERING

With all of these submodes the starting note is almost irrelevant as each scale will belong to many different chords as seen in Example 15. Having established the numbering system, the possible chord applications/relationships for each mode can be listed (see below). At this stage Major 7th, Minor 7th, and Dominant 7th chords have been included.
Ex. 15: Chord Applications of Each Submode
(Each of the chord symbols above the stave, correlate with the numbered submode).

As shown in Example 15, the chords for each submode are a major 3rd apart, for example D7, F#7, Bb7. This symmetry is, of course, seen in Mode Three with the scale repeating at major 3rd intervals.

As mentioned earlier in this chapter, both a major 7 and its corresponding minor 7 chord share the same mode. So D♭ma7 and D♭m7 could both use Submode 2. This is the opposite of how we view chord/scale theory in traditional jazz harmony where each of these chords has a distinct sound association – Dorian for minor 7th and Ionian or Lydian for major 7th. This blurring of the lines between major and minor is what gives Mode Three its characteristically ambiguous sound.

Example 15 sums up the basic Mode Three Chord/Scale Submode Model which the following chapters then build upon.
CHAPTER 3: Mode Three as a Harmonic System

This chapter explores applying the Mode Three Chord/Scale Submodes Model harmonically – that is, extracting chordal shapes from the scale.

3.1 Mode Three and Quartal Harmony

Quartal Harmony is defined as chords built by superimposing intervals of the fourth.\textsuperscript{67} Fourths built from major and minor scales are a familiar tonality in jazz having been used since the 1960s by such pioneering artists such as McCoy Tyner, Chick Corea and Herbie Hancock.

Ex. 16: Mode Three in Fourths Using Submode 1

![Example 16: Mode Three in Fourths Using Submode 1](image)

Example 16 shows Submode 1 grouped in fourths using three-note chords. In order to preserve the mode not all fourths are perfect – there are several augmented fourths. These irregular fourths are, of course, the same as in other scales such as Dorian or Lydian. One advantage of quartal harmonic structures, irrespective of the underlying scale, is that the shapes are very ‘mobile’ and can move swiftly and smoothly to the next shape or oscillate between any two. Given that the character of Mode Three is largely based on the suggestion of polytonality, the quartal method allows several chord shapes (with potential polytonality) within a momentary chord symbol.

Within the mode, played up or down in fourths, there are points of rest contrasted by definite areas of tension. These can be exploited.

Example 17 shows my own rating of each chord based on a Cm7 underlying tonality:

Ex. 17: Rating of Mode Three in Fourths

The ‘mild’ ratings are generally attributed to those chords which do not specifically suggest Mode Three but could be from other jazz scales. Some of the strong ratings also fall into this category but they have a more striking and fuller sound. The settled adjective describes the Aeolian tonality.

These ratings are of course subjective, but they show how the jazz artist can control the amount of tension and relative dissonance within the mode. Whether someone views the second chord in the sequence as mild or not is largely irrelevant; the real point is there is a tension change between this chord and the next. The tension relationship between each chord is moving. By starting on the second chord a very mild and common sound in Cm7 is established. This can then be ‘darkened’ or made richer by moving to the third chord and then the fourth. This technique is really the same principle as how one would apply quartal harmony in major scale harmony (for instance in the Dorian mode), the only difference being the more striking mix of tonalities present in Mode Three. The important point to remember is that no one quartal shape definitively states Mode Three; it is the combination of several shapes consecutively that evoke the unique sound of the mode.

Examples 18 and 18a show the use of fourths over vamps on Cm7 and Cma7 respectively.

Ex. 18: Vamp on Cm7 Using Submode 1 Quartal Shapes
Example 18 shows an example of relatable tension using Mode Three. The first three chords establish a C minor (Aeolian) tonality. The introduction of the fourth chord (C7♯9) immediately raises the tension as the expectation is minor but this chord implies dominant. This tension relationship is created using only one harmonic system (Mode Three).

Ex. 18a: **Vamp on Cma7 Using Submode 1 Quartal shapes**

![Vamp on Cma7 Using Submode 1 Quartal shapes](image)

Similarly, with Example 18a, the expectation with the first two chords is Lydian. The third chord raises the tension as it implies Aeolian. Both these vamps suggest a more colourful tonality than the underlying Cm7 or Cma7 chord symbol. The b6 and major 3rd over Cm7 in Example 18 for instance suggest Aeolian and possibly Altered in a momentary and ambiguous way. The mobility of these chord shapes helps define the essential character of the Mode Three Chord/Scale Submode System – a sound rather like moving swiftly between several different scales with varying tensions in relation to each other, against the underlying chord.

When examining the use of quartal harmony over a dominant 7th chord, there is a mix of tension and restful, even familiar sounds, which combine to create the unique ambiguous quality of Mode Three.

Ex. 19: **Mode Three in Fourths Using Submode 1 Over D7**

![Mode Three in Fourths Using Submode 1 Over D7](image)
Chords 1 and 2 are familiar chords for a dominant 7th, being a basic dominant 13th voicing and a sus7 chord respectively. They are common to the Mixolydian scale, as are chords 5 and 6. Chords 3 and 8 suggest Altered (3 could also suggest Half-Whole Diminished) but are missing guide tones so are shell-like and ambiguous. Chords 4 and 9 are perhaps the most striking – quite dissonant in isolation but when played in context with other voicings from the sequence, they create the characteristic Mode Three sound and contribute to the graduated or relatable tension of this system. For instance, chord 3, whilst containing a certain degree of tension already, can function as a ‘resting’ chord in relation to chord 4 which is a far more striking sonority.

As previously discussed, within each of the four submodes there are three different dominant 7th chords, each a major 3rd apart. Therefore, for Example 19 there exists the same chord qualities for F♯7 and B♭7. Example 20 shows the quartal shapes for each submode along with the corresponding chords (major 7th, minor 7th and dominant 7th).

Within these quartal shapes there are (as shown in Example 17) relative strengths and weaknesses for each of the nine different chords for each submode depending on the chord quality and root note. This is an important concept to grasp with Mode Three; a given submode cannot just be played indiscriminately over the three corresponding chords. For instance, A♭7, C7 and B♭ma7 all share the same submode but for each chord it is important to know how the quartal shapes relate to the momentary chord symbol in play. The submodes cannot just be used as blanket scales! By relating the underlying chord symbol to the notes of the appropriate submode, informed decisions can be made about the available degrees of tension.
Ex. 20: **Quartal Chord Applications for the Four Submodes**
(Each of the chord symbols above the stave, correlate with the numbered submode’s quartal voicings).
Semitones and tones can be added to the quartal shapes to create richer sounds as seen in Example 20a.

Ex. 20a: **Quartal Shapes With Added Note**

Some of these chordal shapes are familiar as typical voicings used in jazz - for instance, the first and fifth chords. Others have a more colourful sound owing to the presence of several close extensions such as the fourth chord with both the 9 and b9. By easing into these added notes - for instance, playing the 3-note voicing first and then adding the extra note - subtle degrees of added tension in relation to the original fourths voicing can be exploited.

### 3.2 Mode Three and Upper Structures

Upper structures can be defined as a triad over guide tones or fundamental tones. Levine categorises them as triadic shapes in root, first or second inversion over the 3rd and 7th of the given chord symbol. I have widened this definition to include triads over any lower structure. With Mode Three there are twelve major and minor triads (or upper structures) that can be extracted from the scale:

Ex. 21: **Triads Built From Mode Three:**

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There are major and minor triads built upon six notes from the scale. Looking at these triads over a Cma7 chord symbol, both familiar and unexpected sounds are heard.

- Common upper structures with limited interest due to their prevalence in other scales – C, Em7, G, Bm
- Less common but used in contemporary jazz – Cm (creates a ma7,#9 sound), E (ma7,add5), B (ma7,#11,#9)
- Unexpected polychords – Ebm, Eb, Gm, Abm, Ab

The latter group are more unexpected owing to the presence of major and minor 7ths or 3rds. This analysis is more for theoretical purposes as the practical application of the Mode Three model depends on a certain flexibility with the lower structure so the Cma7 may not always be voiced literally. Also, Cma7 is only one possible chord symbol for Submode 1, as shown by the complete upper structures for each submode in Example 22.

Ex. 22: **Complete Upper Structures for Submodes 1-4**

(Each of the chord symbols above the stave correlate with the numbered submode’s upper structures).

This example is rather exhausting but it shows the relevant chord symbol for each submode, along with the various upper structures notated in the stave below. By combining different inversions of these triads, a more pleasing musical effect is created:
Ex. 22: **Inversions of Upper Structures Over Major 7th Chord**
(Submode 1)

Ex. 22a: **Inversions Over Dominant 7th Chord**

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### 3.3 Mode Three and Major/Minor 7th Chords

By adding a major 7th to the major triad upper structures listed in Example 22, a more complex sound is created owing to the semitones or major 7th intervals present. Major 7th voicings are of course common in jazz harmony with rootless voicings for ii-V-I progressions routinely making use of them. Major 7th shape derivatives are defined here as chords from the relevant submode which can be categorised as major 7th due to their shape, rather than in relation to the chord symbol. An example would be Gmaj7 over a Bb7 chord symbol; the Gmaj7 comes from Submode 1 which correlates to a Bb7 in the Mode Three Chord/Scale Model.

Ex. 23: **Major 7th Voicings Over Bb7**
Example 23 shows major 7\textsuperscript{th} voicings in second inversion. This inversion is effective for left-hand voicings – its more concise shape allows swift mobility without encountering register issues. The semitone interval in the middle usually involves a colour note relative to the given chord symbol. In Example 23, the chords suggest different types of dominant 7\textsuperscript{th} sounds, though often in an ambiguous way as guide tones are missing or extra notes are present. Gma7 over B♭7 suggests 13♭9 but the 7\textsuperscript{th} (A♭) is conspicuously absent and there is an F♯ colour note. The next chord A♭ma7 creates a typical B♭13sus voicing. Moving between these two chords creates an interesting micro-tension. Bma7 suggests the Phrygian mode and Cma7 is Lydian in character but the B natural adds a subtle dissonance. E♭ma7 is the resolution chord over a dominant bass and the final chord Ema7 suggests B♭m7♭5 or Locrian mode. That all these potential colours of a B♭7 chord exist in the same scale gives the Mode Three Chord/Scale Model its characteristic ambivalence.

Major 7\textsuperscript{th} shapes can be grouped together in three blocks of two, a major 3\textsuperscript{rd} apart. This symmetry of course exists with any shape from Mode Three. By oscillating between the two chords of a block the tension can subtly change. In Example 24 below, for instance, the second chord (Ama7) over a B bass is a rich but stable sound whereas the first chord (enharmonically A♭ma7) is more ambiguous. The relationship or relatable tension between these two sounds is what gives the characteristic Mode Three persona.

Ex. 24: **Major 7 Blocks**

These blocks are effective for creating tension which can then be released by moving to a more stable voicing from, for instance, Altered or Half-Whole Diminished harmony.
Ex. 24a: Resolution of Tension from Blocks

Major 7\textsuperscript{ths} can also be added to the minor triad upper structures in Mode Three creating a minor/major 7\textsuperscript{th} tonality. I have found this shape derivative less adaptable than major 7\textsuperscript{th} in my own application, perhaps because the minor/major 7\textsuperscript{th} sound is already so distinctive and striking.

Minor 7\textsuperscript{th} voicings are found by adding the minor 7\textsuperscript{th} to the minor triad upper structures – the resulting sound is very functional and satisfying particularly for right-hand voicings above left-hand shapes.

Ex. 25: Use of Major 7\textsuperscript{th} and Minor 7\textsuperscript{th} Voicings in Common Chord Progression

Example 25 shows some interesting sounds with the E7 voicing implying E13\#11 but with an added b9. For A7 the voicing would be 13\#9 except for the b13 ‘fighting’ with the 13\textsuperscript{th}. The resolution chord Dmaj7 allows Amaj7 and D\textsuperscript{b}maj7, simultaneously creating a strong colourful effect that is reminiscent of a Whole-Half Diminished sound. However, the presence of C and A colour the diminished sound. As these examples show, the Mode Three Chord/Scale Model is often based on a known sound with an extra colour note from the scale added. For instance, this chord:
Ex. 25a: **Dominant 7th Structure with Note Added**

\[ C7(\sharp_11) \text{ with added 4th (F) to colour the sound} \]

By adding or subtracting these extra colour notes the tension barometer can be moved up or down. For instance, if we removed the Mode Three-ness from Example 25 placing it in a more traditional though still rich jazz context it would sound thus:

Ex. 25b: **Non-Mode Three Comparison With Example 24**

By utilising elements of both Example 25 and 25b we can create relatable tension – increasing with Example 25 and decreasing for 25b. This also fits well with the relatable tension concepts of balance and moving from the known to the unknown.

By adding a minor 3\textsuperscript{rd} above a given major triad in first inversion, a rich and colourful structure is created. This structure is essentially a major triad with a minor triad (in second inversion) above, and is found in more conventional jazz harmony such as a typical #9 chord. It is also found in diminished harmony. With the Mode Three Chord/Scale Model this shape can be moved round within Mode Three to create effective tensions as seen in Example 26.
Ex. 26: **Minor Over Major Structure Applied to Mode Three**

An extra note, either a tone or minor 3\textsuperscript{rd} above the second note of each chord can be added to create a thicker, richer effect as shown in Example 26a.

Ex. 26a: **Minor Over Major Structure With Added Note**

Adding notes to a Major 7\textsuperscript{th} shape in root position creates rich and colourful sounds. These shapes include semitone clusters in the middle of the chord and can be used on their own or grouped in twos (as indicated by brackets) in Example 27.

Ex. 27: **Major 7\textsuperscript{th} (Root Position) With Added Note Movement**
Ex. 27a: **Major 7th (Root Position) With Added Note Movement (2)**

Example 27a shows major 7th shapes with added notes used as part of a V-I progression.

Examples 25, 26 and 27 lead comfortably into combining different voicing shapes to fully exploit the Mode Three harmonic palette.

### 3.4 Combining Harmonic Shapes

Example 25 hints at two-handed voicings and this is really where the harmony of Mode Three fully comes to life. Before looking at possible combinations of harmonic shapes, it is important to identify and appreciate the quartal, major and minor upper structures, and major 7th/minor 7th shapes well. The tables in Examples 19 and 22 are daunting to look at, let alone memorise and internalise, nonetheless, this is the best way to fully understand and hear the Mode Three sound. This then allows for greater harmonic freedom when improvising.

Ex. 28: **ii-V-I Progression Using Combined Harmonic Structures**

Example 28 shows a II-V-I progression in G major with a combination of structures from Mode Three harmony creating rich harmony. The D7 has a Bma7 chord in the left hand and a quartal added note shape build off the b9 in the right hand. Both the 13 and b13 are present and despite there being no 7th, the chord strongly implies dominant 7. The
Gma7 in the right hand uses a minor over major shape (Bm over B), with F♯m in the left hand. The resulting sound has both ♯5 and natural 5, and creates a subtle blurring of the major 7th sound.

Ex. 28a: **Minor ii-V-I Progression**

Example 28a uses an Ama7 shape over a quartal voicing built upon the ♭5. Tension is created through the presence of both the 9th and ♭9. The C7 chord features 13th, ♭13 and 7th – three notes each a semitone apart which occur naturally in Mode Three harmony. Examining the structures shows a typical 13♭9 voicing in the left hand and a common altered shape in the right. Both these shapes exist in Mode Three with the combination creating the characteristic blurring or ambiguous effect, challenging the listener as to whether the harmony is Altered or Half-Whole Diminished. The resolution chord Fm7 includes both the minor and major 7th, again questioning the familiar chord structures found in jazz harmony.

Ex. 29: **I-IV-iii-vi Progression**

In Example 29 the first chord has a G triad over an Ebma7 shape creating an Ebma7add♯5 sound. The Ab13♯11 has a B♭ triad over a quartal Ab sus7 shape, allowing both 11th and ♯11. The iii chord Gm7
has minor 3\textsuperscript{rd} and 7\textsuperscript{th} in the left hand and major 3\textsuperscript{rd} and 7\textsuperscript{th} in the right – the ultimate in ambiguity between major and minor. The final chord C7 gets its tension from both the $b9$ and 9\textsuperscript{th} ‘rubbing’ against each other.

The tension curve increases during this example, peaking with the third chord and then reducing slightly with the fourth. In isolation each chord could be perceived as dissonant but together in relation to each other they form a cohesive movement. This is how relatable tension should be – each harmony relates to its neighbour in such a way that the sum is greater than the parts.

Several structures can be incorporated over the same chord symbol as seen earlier in Example 24a. Example 30 demonstrates chordal improvisation with combined shapes.

**Ex. 30: Moving Structures Within a Submode**

Here there are four moving structures within Submode 2 over the Fm7 chord and three over the Bb7 using Submode 1. The important concept here is that all the structures for each chord are from the same mode. In the forthcoming chapter, we will examine moving away from a submode within the same chord symbol.
Ex. 31: **Moving Structures Within a Submode 2**

Example 31 shows chordal improvisation using Submode 4 over Gma7 in bars 2-4, transitioning to Gm7 in bar 5 which shares the same submode. The key principle with chordal improvisation is good voice leading – where the top note of each chord transitions to the next in a smooth and melodious fashion. Note the smooth effect created through the common top notes in the chords in bars 5-7 that link Submodes 4, 1 and 2. This principle of voice leading is of course the same for any type of jazz harmony including relatable tension. The subtle movement of voices is a characteristic trait in jazz.

When using Mode Three for chordal improvisation, the exact voicings of the given chord symbol may not be adhered to because the unique colour of the submode takes precedence. The underlying chord function, however, is usually still present or implied. Contrary motion or chord mirroring as seen in bars 4-5 of Example 31 is very effective for chordal improvising.
Ex. 32: **Contrary Motion Within a Submode**

In Example 32 the first line shows six triadic shapes for Submode 4. These can be grouped in twos, so the first two chords (which mirror each other) are one grouping, then the next two and so on. The second line shows the use of two successive triadic groupings over a V-I progression in D.

There are of course, other possible harmonic combinations outside of the structures discussed in this chapter. I have chosen to concentrate on the structures that I have found most functional and effective for developing the Mode Chord/Scale language and my own improvising. Once these structures have been mastered and assimilated then notes can be added/changed to continue the harmonic exploration.

Chapter Five will explore the use of some of the harmonic structures from this chapter in jazz composition. Chapter Six then explores a more advanced use of Mode Three harmonic structures.
CHAPTER 4: Linear Improvisation Using Mode Three

This chapter explores applying the Mode Three/Submodes model in linear improvisation; that is, fashioning melodic lines from the scale.

4.1 Applying the Chord/Scale Model

The Chord/Scale Model established in Chapters Two and Three applies equally for linear improvisation as for chordal. All submode/chord relationships are identical. During discussions regarding Mode Three, New Zealand saxophonist Nathan Haines asked a probing question: ‘How do you get it to not sound like you’re just playing scales?’

My approach with Mode Three has been to avoid this exact problem. The scale played literally and obviously tends to sound rather forced and lacking in direction. Hence, the construction of deliberate linear melodic shapes extrapolated from the scale provide the material for innovative improvisation.

4.2 Upper Structures for Melodic Line Development

Upper structures and chordal shapes such as major 7\(\text{th}\) shapes using the Mode Three Chord/Scale Model were discussed extensively in Chapter Three. Learning and assimilating these sounds has double value as they can also be used for melodic improvisation. All of the upper structures shown in Example 22 can be used to create melodic lines. Some examples follow:

Ex. 33: Melodic Line Incorporating Upper Structures 1

The Bm upper structure over F7 is common to other dominant scales (Altered, Half-Whole Diminished), but the B♭ in the same bar appears in neither of these scales so the overall context of bar 2 suggests Submode 4.
Similarly, the F♭m upper structure over B♭ma7 in bar 3 could be from the Whole-Half Diminished scale and the D major could be from the Lydian Augmented scale. However, neither of these scales have both upper structures present. This is an important concept to understand; many upper structures in isolation could also be from other scales, but it is the combination of these sounds along with other notes from Mode Three that create the unique Mode Three tonality and allow the relatable tension between familiar and less familiar structures.

**Ex. 33a: Melodic Line Incorporating Upper Structures 2**

Upper structures can be ‘disguised’ by adding another note in the middle of the triad. In bar 1 of Example 33a the E♭m triad has an F added which provides variety by breaking up the triad.

**Ex. 34: Melodic Line Incorporating Upper Structures 3**

Not all upper structures from the relevant submode will be of equal interest. In bar 1 of Example 34 for instance, over B♭ma7, a C♭m upper structure is used (from Submode 4) which features b3 and b7 of Bb. The use of this upper structure in the given context unmistakably creates tension. However, Dm upper structure also exists in Submode...
4, but would not in isolation suggest Mode Three. It is the combination of different tonalities that brings the Mode Three sound to life.

4.3 Different Tonal Centres Within a Submode

Ex. 35: **Melodic Line Using Different Tonal Centres Within a Submode**

![Melodic Line Using Different Tonal Centres Within a Submode](image)

Each of the three chords in Example 35 suggests more than one tonal centre. The Dm7 suggests both D Major scale and D Minor. The D Major ‘resolves’ to D Minor but of course both are present in Submode 3. In bar 2, two seemingly unrelated upper structures appear – G#m and F – again, both from Submode 2. The line over Cma7 strongly implies an A♭ Dorian tonality then moves to G Lydian – all available in Submode 1.

Though upper structures are used in this example, the different tonal centres within a submode can be exploited regardless of the melodic shape used. An important concept to consider is how each tonal centre within a submode interacts with the underlying chord symbol. The key to managing these sounds is to direct the relative tensions – to introduce and resolve them in a way that flows melodically and harmonically, both within the given submode and when moving from one submode to the next as the chord changes. A useful way to achieve this is have a comprehensive knowledge of the common ground between Mode Three and the traditional jazz scales of Major, Melodic Minor and Diminished (and their respective derivatives). Upon establishing this common ground, the improviser can move from the shared note palette to the specific and characteristic Mode Three/submode tonalities and create relatable tension in a musically cohesive way. In example 36, for instance, there is more common ground in the G♭ma7 shape in the second bar – this shape could be from B♭ Aeolian scale, a possible scale for Bbm7, hence the likelihood there will be less perceived tension.
Ex. 36: **Major 7 Shapes Moving Through Tonal Centres**

![Musical notation illustrating major 7 shapes moving through tonal centres]

### 4.4 Melodic Cells/Patterns Within the Submodes

Upper structures, major 7th and minor 7th shapes and quartal shapes are all available to be used as melodic material along with derivatives such as minor 7♭5, minor/major 7 and quartal added-note shapes. Interesting melodic cells for melodic line development can also be created by adding/changing notes around the primary shape.

Before exploring this, the natural symmetry of Mode Three should be discussed. As mentioned earlier, Mode Three repeats at major 3rd intervals, therefore melodic cells can be moved up and down by major thirds. This is a useful way to familiarise and learn the various tonal centres within a submode. Moving shapes up and down by major thirds will also emphasize the different tonal centres existing within a submode. However, in an improvisation context, the exact replication of patterns up and down by major thirds should perhaps be used sparingly. The musical effect can be rather obvious and mechanical sounding. This is true with any symmetrical scale; the symmetry is so strong and perfect that it tends to dilute the tension. Better to disguise symmetry by inverting shapes or adding another note or notes to break up the perfection. Rhythm can also be used to disguise the use of a pattern.

The Hexatonic scale, which is a subset of Mode Three, falls into the above category though when combined with other shapes this scale can be smoothly incorporated into a melodic line. See Example 41 for a melodic shape using the Hexatonic Scale.
Ex. 37: **Melodic Shape 1 and Example of Breaking up Symmetry**

Example 37 shows a four-note pattern incorporating an upper structure (in first inversion) starting on the second note with the first note a tone below. The pattern then repeats at major 3rd intervals. From a theoretical point of view this pattern could also be considered to have started as a major 7th shape with the second note then being moved down a tone. The perfect fourth interval in the middle creates interest. The second line shows the use of this pattern repeated once up a major 3rd. However, the symmetry is disguised by adding notes before the start of each pattern and also by changing the rhythm.

Ex. 38: **Melodic Shape 2**
The four-note shape used in Example 38 uses an upper structure with an added note a tone above. The second line shows its use over a V-I progression. The same shape, this time from Submode 2, is used over the Dbm7 chord. By avoiding symmetry, more interest and tension is created.

Ex. 39: **Five Note Melodic Shape**

Example 39 shows a five-note pattern constructed from a major 7th chord (shape) (in second inversion) with an added note up a tone (bracket used to show five note grouping). In the second line the shape is used firstly over Bma7 (ascending). The same (transposed) shape from Submode 3 is then used twice in the next bar (descending in one tonal centre and, ascending in another). The pattern does not always start on the same scale degree and may omit a note from the pattern. To mix these melodic shapes and be able to start on any note is the key to melodic innovation. Example 39a shows the shape transposed to Submode 3 to aid the reader.

Ex. 39a: **Five Note Melodic Shape in Submode 3**
As previously mentioned, it is useful to practice these patterns in a symmetrical fashion to become familiar with the sound of the Mode Three tonality. Then they can be mixed up and manipulated to create more musically pleasing lines.

**Ex. 40: Diminished Major 7 Shape**

![Example 40: Diminished Major 7 Shape]

This shape is made up of a diminished triad with a perfect 4th above. The second line of Example 40 shows the pattern being used over G7 (Submode 2) followed by a transition shape (Fma7) and then the same diminished shape transposed into Submode 1 over Bb7.

Notes from the relevant submode can be added in the middle of a triad/upper structure, quartal harmonic shape and so forth, to create variety and colour, as seen in Example 41.

**Ex. 41: Added Note in Middle of Shape**

![Example 41: Added Note in Middle of Shape]
In Example 41 the second line phrase re-arranges the notes of the first shape before repeating this shape a minor 6\textsuperscript{th} higher in straight-forward ascending fashion. Re-arranging notes in a pattern is an effective way to create interest and variety.

**Ex. 42: Hybrid Major/Minor Shape**

\[
\begin{align*}
& Ab^7 \quad \text{Submode 3} \\
& \begin{array}{c}
\text{\includegraphics[width=\textwidth]{example42}}
\end{array}
\end{align*}
\]

As both major and minor versions of the triads in each submode are available, an appealing major/minor hybrid shape can be utilised. The first line of Example 42 shows the six possible triads that exist in Submode 3. Each shape features both the minor and major 3\textsuperscript{rd}. The second line shows a melodic line using the hybrid shape, and includes a variation of the shape’s note arrangement in the second half of the first bar. This major/minor triad sound is similar to the Hexatonic scale which incorporates into its structure three major/minor triads a major 3\textsuperscript{rd} apart.

**Ex. 43: Hexatonic Scale Usage**

\[
\begin{align*}
& \text{Submode 4} & \text{Submode 1} \\
& \begin{array}{c}
\text{\includegraphics[width=\textwidth]{example43}}
\end{array}
\end{align*}
\]
Example 43 shows a D major/minor hybrid shape in bar 1 over F7. In the second bar over B♭7 is an ascending Hexatonic scale starting on A♭. It includes major/minor hybrid shapes on A♭, C and E. I prefer to think of these sounds as separate major/minor triads rather than one (Hexatonic) scale as this opens up more possibilities for moving triads shapes around. Relying on the Hexatonic scale alone to create this sound risks the over-familiarity and homogeneity of too much symmetry.

4.5 Combining Shapes

Combining different shapes and chordal structures together in the same phrase is an effective way to exploit the Mode Three melodic palette.

Ex. 44: Combining Shapes and Chordal Structures

Example 44 shows a mixture of shapes, in different combinations, to create variety and interest. In the first bar over Fm7, the opening shape is upper-structure based, with an added note preceding the triad (E in second inversion). This is followed by a hybrid E minor/major shape which then becomes purely E minor. Over the A♭m chord there is a typical A♭m9 shape that could be from the Dorian scale as well as Submode 1. The phrase then moves to a Cma7 shape which provides an abrupt yet appealing tonal shift. In bar 3, the five-note pattern featured in Example 37 has been used – a major 7th shape with an added note a tone above. However, to create interest some notes in the shape have been repeated to interrupt the sequence. The final bar includes a four-note B♭m7 shape with some
re-organisation of the notes followed by a three-note diminished shape. The B♭m7 shape is then repeated but is displaced by an eighth note owing to the preceding three-note phrase. The use of rhythmic tension such as this adds to the melodic/harmonic tension already present in Mode Three.

Ex. 45: **Combining Shapes and Chordal Structures 2**

Example 45 shows quartal shapes mixed with other structures. The first bar has a quartal shape from the note F with a B natural added note in the middle. This shape moves to a strong three-note cell in the second half of the bar (A, C♯, E♭) which could equally be from F Altered scale as well as Submode 4. In the second bar a quartal shape from the note A moves to an F♯ma7 tonality. Shapes from different scales can also be combined with shapes from Mode Three over the same chord.

Ex. 46: **Combining Shapes from Different Scales 1**

In Example 46, the first two bars use shapes from E Dorian which clearly outline the Em7 tonality. In bars 3 and 4 Submode 1 is used which introduces a new tonal centre. The shape used, in this case, is an A♭ upper structure with an added note a major 3rd above. This shape creates an appealing flat 9 interval between the first and last notes of the pattern.
Example 47 swaps between the Lydian scale and the relevant submode. Over Cma7, an Ema7 shape from Submode 1 with an added note in the middle is introduced. The resolution to Ebma7 in the next bar is delayed so Submode 1 continues for another two beats over Ebma7 creating a colourful tension before resolving strongly to Eb Lydian. In bar 3, Submode 1 is used again in a more ‘bluesy’ fashion. The 4th bar sees a strong upper structure (F) from Eb Lydian scale move to a diminished with major 7th shape (as shown in Example 38) from Submode 4.

4.6 Random Shapes

Most of the shapes in this chapter so far can be traced back to upper structures/chordal shapes/quartal shapes and derivatives of these. There are of course many more combinations that defy categorisation in this way. I have concentrated on the former as these are extremely useable for building the Mode Three language. They are also a necessary foundation for ‘getting inside’ the Mode Three sound and familiarising oneself with the tonality aurally. However, experimenting
with random shapes within the submodes produces interesting and appealing colours and tensions as seen in Example 48.

Ex. 48: **Random Shapes from the Submodes**

These shapes require little explanation. Some of them could potentially be categorised as known structures with notes missing but there is perhaps limited value in doing this. The underlying idea with these shapes is that they have a spontaneous, capricious quality. To analyse them based on known structures will negate the spirit of their construction.

Chapter Six will extend this discussion of melodic development and explore the possibilities of combining shapes from different submodes over one chord symbol.
CHAPTER 5: The Use of Mode Three in Jazz Composition

This chapter applies the Mode Three/Submodes model to jazz composition. The improvisational concepts explored in previous chapters apply equally in composition. Utilising the Chord/Scale Submode Model as part of the composition process also aids in the understanding and assimilating of the system into the creative psyche. The contemporary jazz musician is generally both an (improvising) performer and composer so inevitably improvisational techniques find their way into composition (and vice versa). However, much of the previous discussion has centred around the use of Mode Three over established chords such as major 7th or dominant 7th, whereas within a compositional framework there is potentially more opportunity to develop innovative new tonalities outside traditional chord symbols. The relative tensions between harmonic structures derived from Mode Three can also be exploited and manipulated to great extent through the compositional process.

5.1 Application of Quartal Harmony in Composition

The composition Modus Operandi (Kevin Field, 2013) is essentially a vamp tune in the key of C minor with a short modulating bridge. After solos and the reprise of the head there is a coda incorporating a two-chord vamp.

The creative principle underlying Modus Operandi is the varying degrees of consonance and dissonance which create one overall tonality. As discussed previously, Mode Three’s characteristic ambiguity is derived from the combination of several tonal centres and the relatable tensions that they create. Modus Operandi showcases these moving tonalities using quartal harmony. One fourths voicing in isolation does not infer the submode but rather the collective sound of several fourths moving around within the scale.

The A section of Modus Operandi uses quartal harmonies derived entirely from Submode 1. The more ‘settled’ fourths derived from the 3rd and 7th degree of the scale (and implying a ♭6 and ♭3 sound) are used as the ‘home’ tonality, and interspersed with the more striking sounds of other fourths shapes from the scale such as the 9th degree (comprising major 7th, minor 7th and major 3rd). The ambiguity of the Mode Three sound comes through largely by the availability of both major and minor 3rds and major and minor 7ths in the quartal voicings. See Example 17 for further analysis of the relative tensions in fourth-based voicings.
The entire A section melody of *Modus Operandi* is based on Mode Three apart from the F natural in bar 12 which (even though it is only one note in a phrase) provides a desirable variation from the mode. Similarly, during the solo section the improviser does not need to stick with Mode Three – moving outside the mode or superimposing other tonalities can be refreshing and inspiring.

The B section offers a deliberate break from the Mode Three sound and uses harmonies inspired by rather than based on the submodes.

Ex. 49: *Modus Operandi*
After solos back to sign (bar 9) and take coda
The coda or D section is a two chord vamp which oscillates between two chords. The first C13(#9,b9) is from melodic minor harmony, specifically C Dorian b9 scale. The second chord Ab9sus4(#5,b9) is from Submode 3. This section is perhaps the most intense due to a combination of dissonant harmony and textural density along with maximum energy from the band (I had the pleasure of recording Modus Operandi with guitarist Nir Felder, bassist Matt Penman and drummer Obed Calvaire and it features on my Warner Music album The A List). The coda section became a duet of sorts between myself on piano and Obed on drums, both of us fighting for dominance. The harmonic tension of Mode Three in effect became a catalyst for rhythmic, and textural tension.

The melody of Modus Operandi is essentially the top note of the chord voicings. This was deliberate as I wanted to ‘relate’ the sound of Mode Three to the listener in a way they could understand. Hence the melody is reasonably simple and sing-able with a hint of bluesy-ness in some of the phrases. This fulfils the second axes of relatable tension – relating Mode Three to the listener’s expectations of tension and release.

**Protean Sketch**

The A section of Protean Sketch (Kevin Field 2013) uses dominant 7th voicings derived from Mode Three. The first two bars consist of two-handed quartal chord structures from Submode 1, the next two bars from Submode 2 and bars 5-8 from Submode 1. Essentially all the chords are dominant 7ths but some are suspended over the root note a fifth lower (so the first chord Bb7(#11,b9) is over an Eb bass). This could also be described as a dominant 7th upper structure with its corresponding Chord I resolution as the root note.

The A section is underpinned by an Afro-Cuban-inspired 9/8 clave rhythm which provides a driving momentum to contrast the darker
harmonic material. The B section of *Protean Sketch* is in a different time signature and with alternate harmonic material.

Ex. 50: *Protean Sketch (A Section)*
5.2 Application of Chordal Shapes in Composition

Ex. 51: **Leftfield**

(Left hand voicings provided for analytical purposes)

4/4 + 2/4 Backbeat feel  
\( \frac{1}{4} \) = 100

**LEFTFIELD**

Application of Chordal Shapes in Composition
The composition *Leftfield* is based around a D♭ma7(#5,#9) chord (also spelled as Fma7/D♭) and its movement to a D♭ma7(#9,add13) chord (also spelled Fma7(sus4)/D♭). Both these chords are from Mode 3. These two chords are then transposed up a minor 3rd in bars 17-24. The B section then transposes the first chord up a major 3rd and uses subtle shifts of harmonies and bass notes to vary the relative tension before returning to D♭ major(#5, #9). By repeating and transposing the D♭ma7(#5, #9) tonality throughout the composition I wanted to create a sense of ‘home’ or restfulness for the listener and ‘fool’ them into thinking this tonality is far more consonant than it really is. Hence, the movement between the first two chords is a good example of the concept of relatable tension. The first chord D♭ma7(#5, #9) is overflowing with tension already but by changing one note in the next chord the tension subtly increases. When the first chord returns it feels like the tension has released so the illusion of a ‘new tonic’ is created.

D♭ma7(#5, #9) is from Submode 2 and D♭ma7(#9,add13) from Submode 3. However D♭ma7(#5, #9) could also correspond with
Submode 3 as its notes are common to both submodes (as seen in Example 52.

Ex. 52: **Leftfield Submode Application**

The melody of Leftfield in the first eight bars (9-16) is constructed entirely from submode 3. Bars 17-24, as mentioned, is a transposition of bars 9-16 up a minor 3rd and therefore from Submode 2, though the melody has some deviation from this mode (the B flats in bars 20 and 24). The B section melody follows the harmony which moves away from the Mode Three sound before returning in bar 47. Like Modus Operandi, the melody of Leftfield was used to satisfy the second axes of relatable tension from a compositional view. In this instance, I conceived the melody as being in the style of vocalist Stevie Wonder giving it a soul/R&B flavour. I found this an interesting and appealing juxtaposition against the tension of the harmony.

**Raincheck**

The composition *Raincheck* (Kevin Field, 2016) makes extensive use of two-handed chordal shapes extrapolated from the four submodes. Contrary-motion (of) voicings occurs throughout, as do chordal shapes from the submodes but with alternate bass notes that are not from the underlying submode. *Raincheck* explores and experiments with relative degrees of harmonic tension. For instance, the first two chords from Submode 4 have a striking and distinctive sound, with the harmonic momentum rising in the next few bars (bars 5-6) before gradually unwinding and releasing by bar 12. This manipulation of harmonic tension is further emphasised by using bass notes from outside the submode of the chordal shape above – as in bars 16, 23 29 and 58.
Bars 35 and 39 use the distinctive sound of B major 7 over B minor 7, creating a complex cluster of major and minor 3rds and 7ths. Contrary-motion chord shapes are used throughout, including in bars 1-4, 14-24, 28-34 and 59-60.

Ex. 53: *Raincheck*
Submode 2

Submode 1 or 4

Submode 3

Submode 3 with alternate bass note

C♯maj7/Eb

A♭maj7/Eb

A♭maj7/G

Dmaj9/C

Db6(9)/B

Bn9

Bn9/A

Dmaj7/Ab
Submode 3

Submode 2 with alternate bass note

Continue similar bassline

Submode 4 with alternate bass note

Etc
(The relevant submodes for the chordal shapes have been added to the score).

The melody of *Raincheck* follows the submodes of the underlying chords with the occasional exception, (bar 35 features a sustained E which is outside the prevailing Submode 4 harmony).
Acme Music Corporation
Ex. 54: Acme Music Corporation

**ACME MUSIC CORPORATION**

**STRAIGHT 8THS**
\( \frac{\text{d}}{\text{d}} = 105 \)  \( (3+2+2+2=9) \)

Melody sounds one 8ve higher
\( Ab_{13} \left( \sharp 11 \right) \)  \( C_{maj7/Ab} \)  \( A7_{alt.} \)

- **Submode 3**
- **Submode 2**  \( Ab \) altered

5

\( Ab_{13} \left( \sharp 11 \right) \)  \( C_{maj7/Ab} \)  \( G_{m7(9)} \)  \( B_{13} \left( 9 \right) \)

- **Submode 3**
- **Submode 2**  Phrygian/Altered
- **Half-Whole Diminished**

9

\( Bb_{13} \left( 9_{9} \right) \) add13  \( G_{b_{maj7/Bb}} \)  \( A_{13} \left( 11_{9} \right) \)

- **Submode 1**
- **Submode 4**

Melody sounds one 8ve higher

Straight 8ths

3 + 2 + 2 + 2 = 9
Submode 4

Submode 3

Submode 3

Lydian Dominant

Dorian
Submode 4

Submode 3 and 2

B♭maj7

Submode 3 and 2

Ab13(#5) add #9

Submode 2/ Mixolydian

Locrian #2

Submode 4

F7(#5) Sus4

Ab13(#11) Sus4

Submode 3
The harmony of *Acme Music Corporation* consists mainly of complex two-handed voicings taken from the Mode 3 submodes. Relatable tension is achieved partly through subtle harmonic shifts between submode harmony and more familiar jazz voicings.

The first chord in bar 1 is made up of two major 7th shapes from Submode 3 which together include both the 11th and #11. The second chord in bar 3 is also two major 7th shapes – Ama7 and Cma7, over A♭. The strong tension in this chord is then released by slipping the left-hand voicing to a more familiar Altered scale shape in bar 4 – a good example of relatable tension between Mode Three and Melodic Minor derived harmony. Bar 5 uses B♭ma7 over A♭13 from Submode 3 which moves via contrary motion to the same Ama7/Cma7 over A♭ shape seen in bar 3. The tension is then released by the Gm7♭9 chord in bars 6-7.
Diminished harmony is used in bar 8 with the right-hand voicing hanging over into the next bar creating a complex B♭13sus chord with b9 and added b13. Similarly, the upper structure Bma7 (over G♭ma7) in bar 11 holds over to the A13sus chord in bar 13 creating a sus 13 voicing with added #9 and #11. The D♭ma7(#9) chord in bar 17 is the same tonality as seen throughout Leftfield (see Example 48). Despite being a Major 7th chord, Submode 3 is a suitable choice for improvising (rather than Submode 2) as this sound is categorised as a dominant 7 over a chord I bass – A♭7/D♭ in this example (The bass note is irrelevant in this example as it is acting like a pedal). Bar 29 also features a previously discussed chord – Major 7th over Minor 7th, featured in Raincheck (bar 34-35).

Bars 31-33 combine both Submode 3 and 2 between the hands to create a smooth contrary-motion passage which culminates in a sustained A♭13#5 voicing with added #9 and 11. This chord is a hybrid from two submodes – the upper structure is C#m7 (from Submode 2) and the lower is A♭13 from Submode 3. (Submode hybrid harmony will be discussed in Chapter Six).

As seen in all five compositions, Mode Three is a very effective system for creating varying degrees of tension. There is a broad range of available sounds from subtle tension to extremely complex harmonic structures with many added extensions.
CHAPTER 6: Advanced Application of Mode Three.

This chapter explores advanced application of Mode Three once the Chord/Scale/Submode Model has become more familiar and integrated. Advanced application includes such techniques as simultaneous use of two submodes and combining submode and non-submode harmony together in ways that create innovative yet relatable tension.

6.1 Different Tonal Centres Between Left and Right Hand

Chapter 4.3 discusses the different tonal centres that exist within a single submode. These tonal centres can be exploited on the piano by stating one tonality in the right hand and another in the left.

Ex. 55: Alternate Tonal Centres Between the Hands 1

In Example 55 the left hand uses an A♭maj7 shape. The right hand plays a melodic line based around a Cmaj7 shape. These tonalities together create tension and colour. The right hand on its own suggests Mixolydian, the left hand adds a layer of related tension (Locrian) to create the illusion of bitonality. In reality both tonalities are from Submode 1.

Ex. 55a: Alternate Tonal Centres Between the Hands 2
Example 55a shows a typical C7sus voicing which could also be described as B♭maj7 over C. The right hand starts with a tonal centre based around F♯m7 before resolving to the C7sus sound in the second bar. (Dominant 7th and Dominant 7th sus are interchangeable sounds within the submodes as all the important notes of both chords are present). This example could be taken one step further by changing the left-hand tonal centre in bar 2 to prolong the harmonic tension (Example 55b).

Ex. 55b: **Alternate Tonal Centres Between the Hands 3**

Here the (left-hand) Ama7 tonality in bar 2 contrasts with the C7sus sound in the right hand continuing the tension.

There is a strong parallel between the use of alternate tonal centres between the hands to create tension and the use of rhythmic patterns between the hands to create interest and tension. This thesis examines harmony not rhythm but the principle is essentially the same – creating an appealing ambiguity through suggesting two opposing ideas simultaneously. The piano is, of course, the perfect instrument to express these ideas through having two independent hands. Whether the improviser is alternating tonal centres such as the examples above or implying different time signatures between the hands or other related rhythmic devices, the effect is similar – to create tension which can be controlled, manipulated and (eventually) released. The application of both rhythmic and harmonic tension simultaneously will of course amplify the effect and result.

Examples 55, 55a and 55b all use the concept of alternate tonal centres within the same submode. Our next step is to look at moving between the submodes.

### 6.2 Moving Between Submodes Over a Chord Symbol

Examples of submodes changing as chord symbols change have already been offered in previous chapters. A very effective technique
once the submode system has been mastered is to move between submodes over a single chord symbol.

Ex. 56: **Moving Between Submodes 1**

Here Submode 3 is established in bar 1, Submode 4 (up a semitone from Submode 3) is imposed in the second bar and then resolves back to Submode 3 in bar 3.

Ex. 57: **Moving Between Submodes 2**

In example 57, Submode 2 is established in bar 1 over the B7 chord symbol. Submode 3 is then super-imposed in bar 2 (in both hands) still over B7. The effect is to highlight and increase the tension and momentum before the resolution in the third bar. This technique is essentially sidestepping between the submodes. Sidestepping is a device used in improvising to move a tonality/scale up or down, often by a semitone, to suggest another tonality. It also fits well within the relatable tension ethos as the semitone movement creates a bond of recognition for the listener between the original and sidestepped passage whilst increasing the tension. In this and the next example, instead of sidestepping back to the original tonality, the imposed submode resolves to the next chord.

---

Ex. 57a: **Moving Between Submodes 3**

Here Submode 4 is moved up a semitone in the second bar to Submode 1. This example also uses alternate tonal centres within each submode to further stimulate the tension. In principle, moving to the next available submode (up a semitone) has proved the most appealing, tension building tonal shift, but other movements within the submodes are possible.

Ex. 58: **Moving Between Submodes 4 (Down a Semitone)**

In example 58 Submode 3 moves down a semitone to Submode 2. This tonal shift could also be considered as imposing a dominant as the dominant of Cm7♭5 is G7 which Submode 2 correlates with. Example 54a also shows this submode shift/relationship.

Ex. 58a: **Moving Between Submodes 5 (Imposing a Dominant)**
As seen here, G7 is the dominant of C7 which is strongly imposed using Submode 2. This relationship between the Submode of the given chord symbol and the submode of the dominant can be exploited further harmonically, as shown in the following examples.

**Ex. 59 Primary and Dominant Submode Movement**

G7

Example 59 shows a contrary-motion pattern between the hands which oscillates between Submode 2 (primary submode) and Submode 1 (dominant submode). The imposed dominant of G7 is D7, which correlates with Submode 1. Adding to the tension, this example also has alternate tonal centres within each of the two submodes – for instance A over D♭ major 7 (Submode 2) and C over B major 7 (Submode 1).

**Ex. 60: Harmonic Sequence Based on Primary and Dominant Submodes**

Example 60 extends the concept of contrary-motion voicings discussed in Example 32. Submode 4 is the primary submode that correlates with F7, but Submode 3 can be interspersed as it is the submode of the I chord that F7 would resolve to. Moving between tonic and dominant submodes is a useful technique to extend the contrary-
motion pattern and allows more options for smooth voice leading. In this example, the I chord (B♭ma7) submode is imposed over the V7 chord (F7). The same chord sequence would also work over the B♭ma7 chord symbol – in this scenario the submode of the V chord is (being) imposed. This concept is similar to the Drop 2 voicing technique which oscillates between chords I and V. The tensions increase during this passage – peaking in the 3rd and 4th chords – but the overall voice-leading and contrary motion symmetry, fulfils the desired ‘whole greater than the sum of its parts’ concept of relatable tension.

The chords in Example 60 are, of course, all triads (in each hand) and could have an extra note added a semitone below the second note to turn them into major 7 shapes (as is the final chord, left hand over the B♭ma7 resolution). The following Example 61 uses major 7 shapes also.

Ex. 61: **Primary and Dominant Submodes Advanced 1**

Example 61 is another contrary-motion harmonic sequence: V-I in C. The passage uses both Submode 2 (from G7) and Submode 1 (from Cma7). The start and ending use Submode 2 in both hands but the middle chords include ‘hybrids’ that have one submode in the right hand and another in the left. As with Example 60, swapping between the submodes allows more freedom of movement while keeping the contrary-motion character. The fifth chord deliberately breaks from the major 7 shape to create a more stabilising D7 over G7 (imposed) dominant sound.
Example 62 uses the same principle as the previous example with the interchanging submodes. Note again, the V7 of E7 chord: B7 with b9, 13 and b13. The first four chords in the sequence increase the tension away from E7, the B7 breaks up the density of the harmony and steers the progression back towards E7 and the resolution to Ama7. Hybrid chords such as this – a submode (sound) in the right-hand and a dominant 7 structure in the left-hand - can be a useful colour for V7 chords; the following examples explore hybrid chords in more detail.

### 6.3 Hybrid Chords

Numerous combinations of hybrid chords can be created by mixing the submodes. I have included here some of the examples I have found most effective.
Example 63 shows the mixing together of submodes in the first chord of each line and then a possible resolution in which the two hands unify on one submode. All of these examples use the submode a semitone above the correlating submode for the given chord symbol. Hybrid chords tend to suggest intensity, so moving between hybrid and a unified submode voicing is an effective way to vary the relative degrees of tension.

**Ex. 64: Hybrid Chords for Sus7 Chord Symbol**

The first three chords in Example 64 shows hybrid voicings that swap submodes between the hands. On the final chord the submode settles on an F7 shape which still contains tension, but compared to the
intense polytonal character of the hybrids beforehand, gives a feeling of relative resolution. Though singled out here as a sus7 voicing, these shapes are interchangeable with a standard dominant 7th chord symbol in an improvisational context.

**Ex. 65: Hybrids Over Minor 7th Chord Symbol**

![Image of chords and submodes]

In Example 65 the primary submode for Cm7 – Submode 1 - is combined with Submode 2 – the submode from Cm7’s dominant (G7). In this example, I have increased the tension on the third chord, at which point the two submodes unify, by using a dense cluster in the middle of the voicing, in contrast with previous examples.

**Ex. 66: Hybrid Dominants With Structures Outside the Submodes**

![Image of chords and voicings]

**Submode 3**

**C7**

**Right hand:** A major 7 shape 9, 13, #13

**Left hand:** #9 voicing 3, 7, #9
Example 66 shows three examples of dominant 7th hybrid chords with submode harmony in the right hand and typical (non-submode) dominant 7th voicings in the left. The left-hand voicings, whilst not specifically from submode harmony, share notes from the right-hand submode but contain one note which is outside the submode. The first example over C7 for instance, includes an Eb in the left hand which is not found in Submode 3. Similarly, for the second example, B is not part of Submode 4 nor D part of Submode 2, used in the third example. The major 7 shapes in the right hand already have extra colour notes in them, for instance 9th against a b9, or 13th against b13. Having colour notes in the right hand along with notes that are outside the submode in the left creates a rich tension and an interesting juxtaposition between the relative stability of the left-hand voicings and the ambiguity of the Mode Three sound in the right-hand.

### 6.4 Multiple Submode Movement

It is possible to move through all four submodes as part of a V – I sequence, as shown in the following examples.
Ex. 67: **Four Submodes Over V –I Sequence 1**

The first line of Example 67 shows the four submodes outlined in the left hand. This outline in itself is an effective tension builder even without any accompanying melodic line. The second line shows the addition of an improvised melody which outlines the submode movement.

Ex. 68: **Four Submodes Over V –I Sequence 2**

Example 68 uses the same principle as the previous example but starts on a Bbma7 shape from the 3rd degree of Db (F).
Ex. 69: **Four Submodes Over V – I Sequence 3**

Example 69 offers another example of all four submodes over a V – I sequence. Here the passage starts on a major 7 shape built from the tritone (A♭ma7), starting on E♭. The right-hand line, however, is from Submode 1. This creates an interesting bi-tonal effect combined with the rising submodes in the left hand.

Ex. 70: **Descending Submodes Variation Over V – I Sequence**
Example 70 shows descending submodes in the left hand. The right hand in the first line follows the submodes. In the second line, similar to Example 69, the right hand stays on Submode 2 and a bi-tonal effect is created with the left-hand movement. Both techniques are effective and provide multiple tension options.

Ex. 71: **Four Submodes Over Minor 7th Chord Symbol**

Example 71 uses the descending submode (concept) over a minor 7th chord starting with a major 7th shape built from the major 7th of Cm (Bma7). The right hand uses the bi-tonal approach of sticking with Submode 1, while the left hand creates interest through submode movement.

This chapter has explored how the submodes can interact with each other and how they interact with existing harmonic systems in jazz. The examples offered here show how the Chord/Scale Submode Model can be stretched and manipulated to create new and innovative sounds. This model has particular value as a system for conveying graduated levels of relatable tension. By prolonging tension and delaying the eventual resolution, a wider palette of emotions can be expressed to the listener. Jazz musicians like to experiment and innovate, so a system such as Mode Three is a perfect fit for the jazz artist. Let the experiments continue!
Conclusion

Mode 3 opens up a new language to the improviser and composer. It might even be considered the missing scale in jazz as it provides a bridge between traditional chord/scale theory and the cutting-edge world of harmonic exploration in which varying degrees of tension and release can be expressed.

This thesis provides clarity for the application of Mode Three within a jazz context. The Chord/Scale Submode Model challenges the conventional harmonic relationships in jazz by providing additional options for tension and release yet builds on rather than replaces the status quo. The sound itself is new, but relates to familiar concepts in jazz and adds to them. Indeed, the key with using Mode Three is to provide a smooth transition between the Chord/Scale Submode Model and the other harmonic systems that already exist in jazz. With this approach, the artist does not just have a Mode Three button which they turn on and off, but rather the model becomes an integral part of their style and expression. This thesis provides the tools and concepts to achieve this and is primarily pedagogic in intent and purpose.

Can the Mode Three sound be integrated into the jazz idiom in an interactive and inclusive way? An experience from my own professional life confirms this. I had the pleasure to record one of my compositions with Nir Felder, an internationally renowned guitarist whose talents can be heard on the 2014 Grammy Award winning album Provocative in Blue.

My composition was wholly based on Mode Three. Nir asked me about the chords in the composition and I mentioned they were from Mode Three – a symmetrical scale – and played the scale on the piano. He had only an academic knowledge of the scale and remarked that it would confuse him to think about it. Yet he was able to improvise over the composition with amazing precision and vitality. This speaks of the correlation and synergies between Mode 3 and the existing jazz language, which in the hands of a master musician can be managed and assimilated. Even though our approaches to the music were from different perspectives (myself having studied the system in detail unlike Nir who had only a passing knowledge), we were able to communicate effectively together, proving that the Chord/Scale Submode model, even when unfamiliar serves to unify rather than alienate jazz tonal systems.

It is appropriate to reflect on these words from Olivier Messiaen, the architect of the Modes of Limited Transposition: ‘Let us think of the
hearer of our modal and rhythmic music; he will not have time at the concert to inspect the non-transpositions and the non-retrograduations, and, at that moment, these questions will not interest him further; to be charmed will be his only desire.’

For the listener, what are the perceptual qualities of Mode Three that Messiaen alludes to? I would summarise them as ‘relatable tension’. The Mode Three model offers a wide palette for creating and releasing tension while situating that tension within a context that can be understood by the listener. Tension, creates anticipation in the mind; a strong sense of inevitability or unpredictability that must eventually dissipate. Mode Three provides options for stretching and manipulating this tension, thereby enhancing the emotional response and reinforcing the connection to the music for both listener and performer.

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BIBLIOGRAPHY

Books and Articles


**Websites**


Sound and Video Recordings


Goldberg, Aaron and Shai Maestro. 2 Piano Duet https://www.youtube.com/watch?v=6fyEevRjt2k


Messiaen, Olivier. L’Ascension. https://www.youtube.com/watch?v=aPt93AgH4lY
https://www.youtube.com/watch?v=L-1iJUb4-hw

