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A thesis submitted in fulfilment of the requirements for the degree of Masters of Music (Performance via Research) at The Sydney Conservatorium of Music at the University of Sydney.

Tim Clarkson
December 2009
Acknowledgements

I would like to acknowledge the efforts of several people in the preparation of this thesis. My supervisor, Phillip Slater has provided focused feedback and astute criticism in helping to hone my arguments. Thanks to Dave Theak and Matt McMahon for their help in the exploration stages. I would like to thank Jackie Charles for her tireless proofreading, constant encouragement and inspiration to document the work of one of today’s modern masters of the saxophone. Her assistance has been pivotal in completing this study. Also thanks to my other proofreaders Gregg Smillie and Denise Hart for their valuable contributions.
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Introduction

New York based tenor saxophonist Mark Turner occupies a unique position in the evolution of modern jazz. He displays all the aesthetic attributes of a ‘cool school’ saxophonist heavily influenced by Warne Marsh, whilst much of the harmonic content of his playing is derived from Turner’s other major influence, John Coltrane. Whilst Coltrane tended to use many notes in primarily diatonic and broad sweeps across each tonality (Bair, 2003, p. 40), Turner often distils each tonality to just a triad, which allows him to superimpose tonalities more directly, so that the improvisation becomes more polytonal. While owing much to Coltrane’s innovations, Turner’s incorporation of chromatic thirds relations into his melodic vocabulary shows an original, systematic and structured treatment, which permeates his improvisations through a range of styles and harmonic contexts.

This study will document and analyse Turner’s systematic use of chromatic thirds relations, in particular major third cycles, used as melodic vocabulary in his improvisations. It will establish nomenclature to recognise and categorise the relationship of chromatic thirds to the underlying harmony. This builds a foundation from which to understand other ways in which Turner manipulates tonality, which are outside the scope of this study. The analysis of Turner’s improvisations is intentionally limited to the sections that display chromatic third relations, with an emphasis on major third cycle derived material. It is not intended to be an analysis of the entire improvisation, nor does it address interaction between musicians.

---

1 ‘Cool school’ is a common term that refers to the jazz movement of the late 1940’s and 1950’s which began on the east coast of the United States in New York, and in the 50’s adopted and popularized by musicians on the west coast, especially Los Angeles. It is characterized by a subdued aesthetic, with the tension in a performance contained in the content of an improvisation rather than the manner of its delivery. Leading exponents include Lennie Tristano, Lee Konitz, Warne Marsh, Dave Brubeck and Paul Desmond.
Chapter 1: Literature Review

Chromatic third relations have been used in tonal harmony since Mozart (Kraus, 1986), reaching more common usage by the late Romantic period by Schubert, Brahms, Bartok, Debussy, and later Stravinsky (Kopp, 1995). There are instances of chromatic thirds in twentieth century jazz compositions pre-dating John Coltrane such as the bridge of “Have You Met Miss Jones” by Rogers and Hart, and Dizzy Gillespie’s “Con Alma”.

Somer’s classical definition of chromatic thirds relations is: “Successions of triads whose roots lie a major or minor third apart, and that contain at least one chromatic half-step” (1995). In analysis of Romantic Period works, this tends to refer to modulation rather than a notion of superimposition. In contrast, Demsey defines chromatic thirds relations as: “A progression that moves by major or minor thirds, which would divide the octave into equal parts” (1991). Both of these definitions relate harmonic elements sequentially, and may be expanded to include superimposition of tonalities. For the purposes of analysing Turner’s improvised solos and simultaneous chromatic thirds relations, I will define them as: “Chords or tonalities whose roots lie a major or minor third apart, and deviate from a diatonic relationship by either quality or by a chromatic interval of the root notes”.

For example, C major and A minor are diatonically related. If the quality is altered, so that A minor becomes A major, it is related to C major by chromatic third. Similarly, if the root note were altered chromatically from A minor to Ab minor, it would be related to C major by chromatic third also, a chromatic major third. If both quality and interval of the root note are altered, it would generate Ab major, which is also related by chromatic third to C major.
It was John Coltrane who finally featured chromatic third cycles as a significant compositional device, and was the first to assimilate them into his melodic vocabulary (Bair, 2003, p. 111). Coltrane’s use of chromatic thirds relations, in particular the major third cycle that is the basis of his composition “Giant Steps” has been well documented and is widely influential throughout modern jazz (Bair, 2003, p. viii). Of particular relevance to Turner is Coltrane’s period from 1965-1967, in which he frequently superimposed major third cycles over a more static harmonic background.

Coltrane’s practice and application of interval patterns and symmetrical tonal structures can be traced in no small part to his extensive study of and practice from the *Thesaurus of Scales and Melodic Patterns* (Bair, 2003, p. 17). Nicholas Slonimsky developed the thesaurus as a means of generating new melodic material through division of an octave or multiple octaves into equal parts. The most significant and influential example of these interval cycles in Coltrane’s recordings is his composition Giant Steps, which consists entirely of V7 – I cadences through key centres spaced symmetrically in major thirds (Porter, 1998, p. 31). The chord progression in B, G and Eb major is cyclic in construction, so that it is difficult to nominate any one key centre as the ‘tonic’ key (Demsey, 1991, p. 169).

*Example 1: John Coltrane, chord progression of his composition, “Giant Steps”*
Coltrane then applied these major third cycles to re-harmonise a number of standards from the jazz repertoire, substituting major third cycles through a ii – V7 – I progression, achieving what Demsey refers to as tonic prolongation (Demsey, 1991, p. 161). Bair has thoroughly documented Coltrane’s further development of this concept, gradually utilising fewer chords in the rhythm section, and beginning to superimpose both major and minor third cycle based harmony over a more static tonal accompaniment. Bair states:

> Even the cyclic patterns of implied key centres a major third apart...take on a context of their own in the form of melodic vocabulary. They eventually appear as a regular part of Coltrane’s improvisations all the way up to his final recordings. (Bair, 2003, p. 17)

From 1965 to 1967, Coltrane made extensive use of V7 – I cadential and non-cadential passages through major third cycles in improvisation (Bair, 2003, p. 110). His improvisation on the composition “Brasilia” includes all four major third cycles, covering all twelve major keys. Coltrane said of this period:

> Now I prefer the rhythm to be free. I had to get it beat into my skull [laughs], but I accept this principle now. At first I wasn’t sure, because I was delving into sequences, and I felt that I should have the rhythm play all the sequences right along with me, and we all go down this winding road. But after several tries and failures...at this, it seemed better to have them free to go – as free as possible. And then you super-impose whatever sequences you want over them. (Porter, 1998, p. 147)

Coltrane’s concept of tonal super-imposition is central to much of Turner’s improvisation. However, Turner uses simpler and more concise elements to superimpose multiple tonalities in
quick succession. His frequent use of common tones between adjacent tonalities and the ambiguity that this creates is one of the main distinguishing features of Turner’s application of major third cycles from that of Coltrane.

Though Coltrane is a major (particularly harmonic) influence, Turner displays the understated aesthetic of a ‘cool school’ saxophonist (Emerzian, 2008, p. iv). Yet at the same time there are probably few saxophonists who have reached such a depth of understanding and ease of familiarity with the concepts of John Coltrane. Although these two influences would seem dichotomous in a jazz environment such as New York where Coltrane is pre-requisite knowledge, recently (thanks to players such as Turner), the aesthetic of Warne Marsh has posthumously undergone a subdued revival.

Despite attracting not nearly the volume of publicity that other virtuosos of his generation receive in jazz publications, his influence and stature amongst jazz musicians worldwide is rapidly increasing, as is noted by this New York Times article from 2002:

A few months ago I had an experience that starkly demonstrated how important Mr. Turner is among younger musicians. While reporting on the Thelonious Monk Institute saxophone competition in Washington -- an annual contest that has become something like the Van Cliburn competition of jazz -- I heard 15 young players. As expected, most of them drew much of their sound from one source: John Coltrane. There was no mistaking that gruff, keening tone, those scale-based patterns. But to my surprise, the second most prevalent sound among the 15 was very different. It was lighter, more evenly produced from the bottom to the very top of the horn, in long, chromatic strokes. At first I thought it was the sound of Warne Marsh. But there was no reason to think that Marsh, who died in 1987 and was always a minority taste, had suddenly become au courant. Then I realized that it was the sound of Mark Turner. (Ratliff, 2002)

To date, there is only one piece of academic literature on Mark Turner, a Master’s Thesis by Californian saxophonist Jimmy Emerzian entitled *Saxophonist Mark Turner’s Stylistic*
Assimilation of Warne Marsh and the Tristano School. Emerzian provides an illuminating picture of the many ways in which Turner’s overall style, phrasing, rhythm and use of ornamentation owe much to Marsh. He also notes Coltrane’s prominence in Turner’s early dedicated learning, stating:

John Coltrane was an much a major influence on Turner as were Warne Marsh and the Lennie Tristano School, so it is assumed that a deep investigation into Coltrane’s style would be integral to viewing the entire picture of Turner’s style. (Emerzian, 2008)

Whilst this thesis is not concerned with a comparison of Coltrane and Turner’s styles, it does help to establish the lineage of Mark Turner’s harmonic concept. The only other published analysis of Turner’s work is in a Downbeat Magazine article containing a transcription and cursory analysis of Turner’s improvisation on Coltrane’s composition, “Satellite” (Bahgat, 2000), recorded in 1997. Turner has recorded and released two other Coltrane compositions, “Moment’s Notice” and “26-2”.

A number of articles and interviews confirm that Coltrane has been a major point of conscious study for Turner, pre-dating his discovery of Warne Marsh. His contemporaries from the Berkelee School of Jazz in Boston in the late 1980’s viewed him as an extremely studious musician who had explored Coltrane more deeply than anyone around him (Ratliff, 2002).

I was fairly methodical...I almost always wrote out Coltrane's solos, and I'd have a lot of notes on the side. (Ratliff, 2002)

In an interview with Fred Jung for Jazz Weekly, Turner reveals that Coltrane was one of the first saxophonists he listened to growing up. He then elaborates:
FRED JUNG: What was it about Coltrane that impressed you?

MARK TURNER: First of all, it was my understanding, whether it is true or not, that his person as a musician and his ideology about music and living, which I was really drawn to and then how it expressed itself in music. That's pretty much the way I feel. I don't play like him anymore, but his constant perseverance and how you can transfer that to yourself. Just becoming a selfless musician and playing for more of a lofty purpose than just being a bad musician and sound great. (Jung, 2007)

Gary Kennedy also notes the apparent influences in Turner’s style in the New Grove Dictionary of Jazz:

Turner’s playing, with his adventurous use of harmony, suggests an unusual blend of the styles of John Coltrane and Warne Marsh, recalling that of Marsh in particular in the manner of his phrasing. (Kennedy, 2001)

Interviewer and saxophonist Stewart Zan says of Turner’s origins in Downbeat magazine:

Inspired by a wide spectrum of forward-leaning artists, from John Coltrane, Warne Marsh and Brad Mehldau in the jazz community to Bartok, Schoenberg and Monteverdi in the classical genre... (Zan, 1999)

In a 1998 article in New York’s most prominent weekly music magazine, the Village Voice, Gary Giddins reports that Turner cites Bach, Coltrane and Warne Marsh as primary influences. Given the pre-existence of Coltrane as a formative influence on Turner, it should not be surprising to find that analysis of Turner’s playing shows a proliferation of harmonic devices derived from Coltrane’s major third cycles. A final piece of evidence for Turner’s conscious adaptation of the cycles, Turner tells Emerzian that he was thinking of the Giant Steps cycle when he wrote the bridge of his composition “Lennie Groove” (Emerzian, 2008, p. 35), released on the album In This World in 1998.
Chapter 2: Methodology and Nomenclature

Methodology

Many melodic and harmonic structures, when displaced in minor third cycles combine to form the diminished scale. These include major triads, minor triads, dominant sevenths, diminished triads and diminished major 7th arpeggios. The diminished scale, in its semitone-whole tone form, is commonly used over dominant seventh chords in jazz dating back to 1940s bebop and the improvisations and compositions of Charlie Parker and Dizzy Gillespie. Patterns transposed through cycles of minor thirds are a more modern way of expressing diminished tonality, but given its dominant function and the prolific usage of dominant and secondary-dominant chords in classical and jazz music, this result is neither revolutionary nor does it allude to dissonance outside the scope of a singular harmonic function. Intervals and chords transposed through major thirds however, contravene conventional major, minor and dominant tonality, and therefore possess a higher degree of both tension and polytonality. For this reason, major thirds cycles in Turner’s improvisation are a fertile source of original melodic content and improvised melody outside an established tonality. Some reference will be made to chromatic minor thirds, but only where they achieve a bitonal or polytonal effect, rather than simply outlining a functional diminished tonality.

Transcriptions of Turner’s improvised solos have been selected to illustrate his melodic vocabulary utilising chromatic third relations through the following contexts: Solo saxophone
improvisation, dominant chords, minor chords, major chords and augmented scale-related harmony.

These will be analysed by comparing the harmonic content of the phrase to the underlying harmony of the composition to understand relationships between the two.

In contrast to Coltrane’s prolific streams of notes outlining each tonality, Turner’s development of major thirds relations is more typically a concise super-imposition of three tonal centres, often without navigating the preceding V7 chord. In fact, he often combines triads and other arpeggios directly, voice leading swiftly and smoothly between them, utilising common tones as bridges between different implied tonalities. Several types of arpeggios, when spaced in major thirds form the hexatonic augmented scale (consisting symmetrically of minor thirds alternating with semitones). In such passages, Turner uses predominantly major triads, sometimes major 7th chords, and less often minor chords for directly linking major third cycles.

Both major and minor triads, major 7th chords and minor-major 7th chords, when spaced in major thirds, all form the same augmented scale as shown in Example 2. This results in the intervallic material in question being quite flexible, and may include either major or minor triads with the same root notes within the one intervallic concept.

**Example 2:** Both Major and Minor triads forming the Augmented Scale

N.B. In addition, the augmented scale may also be divided into two augmented triads separated by a semitone.
Using this methodology, Turner’s use of major third cycles may be approached as follows. A cycle of triads a major third apart can be constructed based on any triad belonging to a given key centre. These triads can be either major or minor in quality, but will combine to form the same augmented scale. For example, over a C major chord it is possible to superimpose C, E and Ab major triads. This is shown in open position in Example 3, to clearly illustrate voice leading between triads. Each shares one common tone with each of the other two in its cycle.

*Example 3: Voice leading through Major Third Cycles based on diatonic triads.*

It is possible to pass, by chromatic voice leading, between a triad and any other in its particular major third cycle. This gives one particular set of consonances and dissonances. A different source triad will produce its own, similarly symmetrical, but also unique set of tensions. For example, the dominant triad of C major, a G major triad, is part of a different cycle of major triads: G, B and Eb, which may then be super-imposed over the C major chord. Through the interlocking triads within each cycle, various levels of complexity and of dissonance become accessible, which are able to resolve to the original ‘inside’ triad smoothly by semitone voice leading.
It is this voice leading seamlessly through key centres or individual triads a major third apart that makes Turner’s approach particularly unique, and gives many of his phrases their distinctive and allusive quality. One of the inherent points of flexibility of the augmented scale is that from any given root note, both the major and minor thirds of each triad are present, and each alteration from major to minor or vice versa becomes a common tone with one of the other triads in the cycle (see Example 2). Hence the distinction between major and minor becomes blurred, and the changes in tonality become very fluid. Many tonalities may be alluded to, dependent upon what notes of the augmented scale are included outside of a given diatonic triad.

**Nomenclature**

For the sake of clarity in this study, pitches will be referred to in lower case, and chord types and key centres in upper case. Specific pitches will attract a superscript designation from 0 to 4, referring to the octave of the saxophone range in which it occurs. Middle ‘c’, written pitch to the ‘b’ above is designated octave ‘1’. Third space ‘c’ in the treble clef begins octave ‘2’. Low ‘b’ and ‘b-flat’ will be the only two notes in octave ‘0’.

In the analysis of the significant information in understanding the relationship of the intervals in Turner’s solos to the underlying harmony, three points will be communicated: the intervallic relationship of each triad or scale tonic to the underlying chord, the quality of triad or chord and the order in which they occur. For purposes of identification, the analysis will use a system of nomenclature that combines elements of musical set theory with traditional jazz chord symbols.
Musical set theory (as distinct from mathematical set theory) reduces complex harmonic material into a number set that is not dependant on key. It provides a constant or control as a means of categorising musical objects and describing their relationships. Set theory allocates numbers ascending from 0 to 11, where each represents a pitch in the chromatic scale, where ‘0’ can be any nominated pitch. With ‘c’ as a reference point for simplicity, a ‘c’ would be ‘0’, ‘c-sharp’ would be ‘1’, ‘d’ is ‘2’, ‘d-sharp’ is ‘3’ and so on. In eliminating a single tonic as a reference point, this allows structural elements from different keys to be compared on the basis of the numeric relationships, rather than with a singular tonal reference point. Numbers may refer to individual pitches, or to groups of pitches such as triads or larger chords. It also allows for these to be compared either sequentially, such as melodic phrases or a chord progression, or simultaneously, such as the relationship of a melody to underlying harmony. Number designations from 0 to 11 do not take into account the octave in which they occur. For example, if ‘c’ is ‘0’, a ‘b’ will be ‘11’, regardless of whether it occurs above or below ‘c’ in the music.

My implementation of this numbering system refers to a triad, larger chord arpeggio or a tonality played as part of an improvisation, the number designation belonging to the root note (i.e. if a triad occurs in inversion, the number designation refers to the root of the triad). The ‘0’ reference point in each instance is the root note of the compositional harmony over which Turner’s improvisation is being played. In solo improvisations, since there is no harmonic accompaniment, reference to underlying harmony is unnecessary unless a clear sense of tonic is being established and maintained. Therefore relationships between implied tonalities in solo improvisation can be drawn directly. In instances where scales or scale segments are related by
chromatic thirds, discretion will be used in nominating a tonic of the scale and its quality, major or minor, for the purpose of analysis.

The second element of nomenclature is the quality of the chord or triad. As is the case in standard jazz and popular music notation, an absence of a designation refers by default to a major triad. A list of chord qualities and their corresponding symbols that will be uses in this analysis are show in Example 4 below.

**Example 4:** Chord qualities and their corresponding symbols

<table>
<thead>
<tr>
<th>Chord Quality</th>
<th>Major triad</th>
<th>Minor triad</th>
<th>Augmented triad</th>
<th>Major seventh</th>
<th>Dominant seventh</th>
<th>Minor seventh</th>
<th>Minor - major 7th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbol</td>
<td>none</td>
<td>-</td>
<td>+</td>
<td>Δ</td>
<td>7</td>
<td>-7</td>
<td>-Δ</td>
</tr>
</tbody>
</table>

This integration of numerical values and chord symbols can be used to describe different elements in a chromatic third cycle. In the first instance in Example 5, individual pitches are classified by their relationship from 0 to 11 to the C major harmony indicated. The initial C\(^1\) is ‘0’, since it is the tonic of the chord, e\(^1\) is 4, because it is four semitones, or a major third, higher than ‘c’. ‘a-flat’ is eight semitones, or two major thirds higher than ‘c’, and is therefore designated ‘8’.

**Example 5:** Combining numerical values and chord notation

\[C^\Delta\text{(0,4,8)}\]  
\[C^\Delta\text{(0,4,8)}\]  
\[C^\Delta\text{(0,4,8)}\]
In the second part of Example 5 are three major triads, based on the same three root notes. They are also categorised as 0, 4 and 8 with no other symbol, because this by default indicates a major triad. The third bar contains three minor triads, again based on c\textsuperscript{1}, e\textsuperscript{1} and a-flat\textsuperscript{1} root notes, and so are also 0, 4 and 8, but the nomenclature adds dashes to designate minor triads. Note that because a major third interval consists of four semitones, any cycle spaced in major thirds will therefore be separated by a value of four in each cycle. For instance, 0, 4, 8, or 1, 5, 9, or 2, 6, 10, or lastly 3, 8, 11, such as the last instance in Example 6.

This nomenclature can then be used to describe more complicated melodic examples such as Example 6. All examples use a C major 7\textsuperscript{th} chord for easy comparison. The first bar shows a C major 7\textsuperscript{th} and E major 7\textsuperscript{th} arpeggio, each with their corresponding symbol of 0\textsuperscript{Δ} and 4\textsuperscript{Δ}.

**Example 6:** Three combinations of chords and their nomenclature

![Example 6](image)

In the second bar is an Ab major 7\textsuperscript{th} arpeggio, followed by an E minor major 7\textsuperscript{th} arpeggio, each with their corresponding numbers of 8 and 4, showing the order of their occurrence and intervallic relationship to the tonic of C major, and a symbol designation for each chord type. Finally in the third bar of Example 6 (above) are two arpeggios related by a major third that do not relate by major thirds to a C major triad. The initial B minor triad is part of the chord sound of C major 7\textsuperscript{th} #11. The root note, 'b' is number ‘11’ in reference to the C major chord, and also
receives a ‘-’ for a minor triad. The following D# minor triad is three semitones above the tonic C major, and therefore is a ‘3-’.

This system equally enables analysis of super-imposition of other tonalities, for example minor third cycles or any other triad or chord played in relationship to the composed harmony. It may refer to any interval between harmonic or melodic material, though this study is primarily concerned with major third relations, as in the illustrations given above.

Discussion of chord types and arpeggios may include some extensions of those chords, which may include 9ths, 11ths and 13ths. For the sake of clarity, reference will be made primarily to the base chord type, for instance, C major 7th, C dominant 7th, C minor 7th etc, without necessarily referring to extensions that may be present. This is to aid in the clear explanation of the fundamental concepts of tonal superimposition that are being employed.

Several devices for modulating between chromatic third key centres are common to Turner’s transitions and will be labelled in musical examples. The table below gives a brief description of each label and the device.
Example 7: Labels for voice leading devices in analysis of improvisations.

<table>
<thead>
<tr>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pivot</td>
<td>A note common to adjacent chords that forms a bridge for modulation between them.</td>
</tr>
<tr>
<td>s.t.</td>
<td>Interval of a semitone.</td>
</tr>
<tr>
<td>chrom 3rd</td>
<td>Interval of a chromatic third.</td>
</tr>
<tr>
<td>maj/min</td>
<td>Two adjacent intervals of a major and minor third, one ascending and one descending, resulting in an interval of a semitone between the first and last notes.</td>
</tr>
<tr>
<td>dom/9th</td>
<td>The dominant 7\text{th} degree of one chord becoming a common tone with the 9\text{th} degree of a chord located a major third lower.</td>
</tr>
</tbody>
</table>

These devices are annotated on most of the examples to clearly identify the elements of voice leading between major third key centres that are common in Turner’s improvisation, and that are contained in the augmented scale structure. The exception is pivot tones, which are indicated by the brackets between adjacent arpeggios or tonalities touching, indicating that the note at the point of confluence belongs to both tonalities.
Chapter 3: Analysis of Improvisations

Solo Improvisation

Turner’s solo improvisations reveal a high degree of structure and formality in their organisation. Further, these solo passages reveal a great deal about his systematic negotiation of chromatic thirds relationships. He is free of a specified harmonic background and concentrates on thoroughly exploring contrasting tonal centres. To demonstrate the devices within Turner’s method of transition between major third cycles, I will begin with two simple examples to illustrate the basic principles, then move on to a longer example to show common tone and voice leading through an extended major third cycle. The solo improvisations are rubato and do not use barlines. Each line is treated as one long bar, so that accidentals carry through the whole line.

Turner’s solo introduction to “You Know I Care” is a prime example of a pairing of arpeggios in major thirds. Though no sense of repetition is apparent, the entire solo saxophone introduction is constructed primarily from major third cycles, and demonstrates his ability to flow seamlessly between tonalities. It yields a number of devices that recur in Turner’s modulation through third cycles. The phrase in Example 8 uses only notes from the augmented scale to outline interlocking B and G major seventh arpeggios.
Example 8: Mark Turner, “You Know I Care” (solo saxophone introduction)

This phrase demonstrates the ambiguity created by the augmented scale, in the example above by the semitone relationships between B and G major. Turner exploits these relationships in the way that he modulates. Doubling back and changing a major third to a minor third and vice versa (labelled maj/min), he creates a constant slipperiness in which it is difficult to discern a sense of tonic, beyond the occurrence of B major first in the sequence.

In the first instance in Example 8, the transition from B to G major occurs through the transformation of a major third interval into a minor third, creating voice leading by semitone between a-sharp\(^1\) and b\(^1\), and a d-natural\(^2\) indicating the change to G major. In the centre of the phrase as indicated with a bracket, is a segment of the augmented scale omitting only a-sharp, and illustrates how closely Turner relates the two tonalities. The change from G major to B major and back happens in the space of four notes, each time by semitone (labelled ‘s.t.’) This successive change makes the tonality ambiguous, sounding neither in one key nor the other. The last change occurs by chromatic third, the d-sharp\(^2\) bringing the change from G major back to B major.

The following phrase in Example 9 occurs later in the same passage as Example 8, and transitions between one major thirds cycle and the next. It moves from the previously established B major to the cycle a semitone higher, consisting of C major, Ab major and E major.
Initially, Turner transitions from B to C major by semitone, only to reiterate B major. This transition and that between B and Ab major (a minor third away, but part of the new C major third cycle) occurs by arpeggiated thirds, disguising exactly when the transition takes place, and leaving the tonality ambiguous until A-flat major is more firmly established. At this point, the b\(^1\) to a-flat\(^1\) to c\(^2\) forms a major and minor third interchange. In the second occurrence of E major, the g\(^2\) is not a diatonic passing note, but an intervening note of the augmented scale that contains C, Ab and E major.

One of the most important aspects that creates strength and coherence in Turner’s use of chromatic third cycles is the relationship between common tones and chromatic voice leading. Movement by semitone creates smooth links between pitches, and indicates changes to new chords or new tonality. Common tones offer repetition, giving the listener’s ear reference points and adding continuity. However, when tones are common to both keys in a modulation, they also offer no clarification as to which key the soloist is indicating and
therefore is also a source of ambiguity. The integration of these two aspects in quick succession, especially without chordal accompaniment, makes for a slippery feeling of tonality in which the listener can never be sure where the tonic lies. In Example 10 in which Turner navigates two full descending third cycles, common tones between arpeggios are indicated by the overlapping of brackets indicating each tonality. This occurs in four out of the six transitions in the example. Voice leading by semitone is marked by the eleven unlabelled brackets above and below the notes.

*Example 10:* Mark Turner, “Myron’s World” (solo saxophone introduction)

Note that in every instance, a movement by semitone is part of a transition from one implied tonality to another. As the brackets highlight, individual pitches are leading by semitone between implied chords very frequently and at the beginning of the phrase simultaneously. This swift and direct connection of key centres with its associated chromatic voice leading is what distinguishes Turner’s application of major third cycles from the more linear sequences employed by Coltrane.
Example 11 is taken from Turner’s solo saxophone introduction to the jazz standard, “You Know I Care”. Turner explores a C major third cycle more extensively, this time frequently using the interval of a dominant seventh of one key becoming the ninth of the following key through a descending major thirds cycle. In each of the instances in this example, the appearance of a dominant seventh in a hitherto major tonality is reached by a chromatic third interval. That is, it is approached by third from a diatonic tone, and the dominant seventh is a chromatic alteration to the seventh of the established major key.

Example 11: Mark Turner, “You Know I Care” (solo saxophone introduction)

The clear waveform of this phrase makes more apparent the way in which Turner uses chromatically altered arpeggio tones to modulate between arpeggios belonging to different keys. In the first transition from C to E major, the seventh of C major becomes the fifth of E major. The E major arpeggio then turns back on itself, changing a g-sharp\(^1\) into a g-natural\(^1\), becoming the fifth of C major. The ascending C major arpeggio becomes dominant with the addition of a b-flat\(^1\), the arpeggio continuing upward into A-flat major. In all three of these transitions, the penultimate note to the key change is common to both keys, making the transition less distinct.
The first Ab major passage adds a dominant, becoming the ninth of E major, at the end of which the tonic e becomes the pivot note to move to C major. Two more dominant-ninth relationships follow, and lastly another pivot note, b♭, for the final transition to C major, the key in which the phrase began. The initial C major to Ab major transition is the only instance in which the chromatic alterations to the new key occur in a single direction. In every other instance, the change happens in conjunction with a change in direction of the line, creating a direct comparison in the same octave between pitches from one tonality and the next. In this way the constantly shifting tonalities achieve a kaleidoscope effect, never staying in one key long enough to maintain a sense of tonic.

Examples so far have been primarily direct relationships between key centres, and have involved little in the way of harmonic function within each key centre. Example 12 shows strong harmonic function through a descending third cycle that completes more than two full cycles. Chord functions are indicated inside the brackets with roman numerals.

*Example 12: Mark Turner, “Myron’s World” (solo saxophone introduction)*
A frequent device of Turner’s is the illusion of counterpoint in a single melodic line through changes in tessitura and open voicings of arpeggios. At times they resemble the self-accompanied style of baroque implied counterpoint such as in J.S. Bach’s cello suites (Winold, 2007, p. chap.6). Turner’s solo introduction to Myron’s World uses just such a technique to develop the role of bass and melody lines, sustaining multiple lines of voice leading within the one melody line. Turner’s composition is in a cyclic 16-bar form containing largely non-functional harmony and as such contains no clear tonic. Turner frequently plays ‘f-sharp’ and ‘c-sharp’ at the beginnings and ending of many phrases to establish the tonal centre of F# major before repeatedly deviating and returning.

*Example 13*: Mark Turner, “Myron’s World” (solo saxophone introduction)

![Music notation](image)

The ‘bass line’ of Example 13 clearly outlines the ‘tonic’ of F sharp major in both the upper and lower octave before the higher of the two becomes the 3\(^{rd}\) of D major, part of the F# major third cycle. The intervening c-sharp\(^2\) functions as an anchor tone and belongs to both key centres, as does the f-sharp\(^2\) common tone at the point of intersection, indicated by overlapping brackets beneath the example. The only non-diatonic tone is the e\(^2\) chromatic leading note which is circled in the example.

Example 14 also begins with f-sharp\(^1\) and c-sharp\(^2\) dyad, but combines this with a different major third cycle of A major, C# major and F major. The repetition throughout the solo of ‘f-sharp’ and ‘c-sharp’, circled below and that also occur in Example 13, create sense of a
tonic F# major, and for the purposes of comparison of phrases, ‘f-sharp’ may serve as a tonal reference point when these notes occur prominently in a phrase. Example 13 above therefore contains a 0, 8 tonal relationship, part of the tonic F# major third cycle. In Example 14 below, A, C# and F major form a different 3,7,11 relationship to F# major. More specifically, because they outline clear major seventh chords with common tone and chromatic third devices, it is a 3$\Delta$, 7$\Delta$, 11$\Delta$.

*Example 14:* Mark Turner, “Myron’s World” (solo saxophone introduction)

Turner reiterates the f-sharp$^1$ and c-sharp$^3$ (circled) in between A major and C# major, before completing two full descending major third cycles, finishing on f$^1$ and c$^1$, related by semitone to the ‘tonic’ dyad. The first change from C# to A major is subtle. After the c-sharp$^3$ pivot note, e$^2$ is the first true note of A major, though the subsequent arpeggio outlines a C# minor 7$^{\text{th}}$. This creates an initial shift in tonality from C# major to C# minor, whilst simultaneously being part of the larger A major passage. The recurring e$^2$ in the A major section acts as a pivot tone, becoming the seventh of F major. Another chromatic third interval creates
a now familiar dominant-ninth relationship with C# major, with continuing common tones of f² and c² through the first seven notes of C# major.

The second transition from C# major to A major is similarly ambiguous to the first. The transition occurs as part of a continuing downward arpeggio, a chromatic third creating a dissonant minor ninth from f² to e¹. The upwards arpeggio again outlines C# minor, this time a triad, before completing the transition to A major with an A major triad. This then leads by a chromatic voice lead back to F major.

The next example further establishes Turner’s consistent use of chromatic thirds-related key centres, and includes another instance of adjacent key centres related by both major and minor thirds. Example 15 contains three major third couplings which are interrupted by other material. Until this point, examples have illustrated relationships between major tonalities and/or arpeggios. This reflects the greater overall frequency of major key material than minor in Turner’s use of chromatic thirds relationships. This passage begins more unusually with F minor to A major, voice leading by semitone between the two.
Example 15: Mark Turner, “Myron’s World” (solo saxophone introduction)

The next major third relationship occurs between E major, C major and back to E major.

The final pair of C# major and A major is reached by a minor third shift down from the preceding E major. This forms a root relationship of C - E - C#, up a major third and down a minor third to a semitone away from the starting point. There is a certain congruency here, as this reflects the intervallic relationship between tonalities that Turner uses in individual pitch relationships, labelled ‘maj/min’ in examples.

As can be seen in previous examples, Turner primarily relates tonal elements of the augmented scale by linking major third cycles using chromatic third intervals, semitones and common tones. He rarely uses much more than a fragment of the augmented scale in its complete form. Therefore appearances in his improvisation of the augmented scale in linear form are confirmation of Turner’s conception of the intervallic relationships between arpeggios as an integrated tonal concept.
Example 16: Mark Turner, “Myron’s World” (solo saxophone introduction)

Example 16 contains a phrase from Myron’s World that uses the augmented scale linearly, omitting only ‘c-sharp’ from the complete scale. The phrase descends twice through segments of the scale, ending on a b-flat⁰ by a leap of a tenth; a referential ‘bass note’ and one of the three key centres contained in this transposition of the scale.

The above examples show Turner’s clear system for linking chord arpeggios and tonalities in major thirds. He employs a several common voice leading devices that typify his method of transitioning between melodic phrases belonging to unrelated key centres. The devices and tonal concept evident in his solo improvisation are also evident in his improvisations over different types of harmonic accompaniment.

Dominant Chords

Because of their inherent instability and pull to a tonic chord, dominant chords have always been the most fertile ground for dissonance and harmonic substitution in jazz. In this case, dominant chords are an excellent place to begin analysing Turner’s use of chromatic thirds derived material over a harmonic background, because it is this type of tension and dissonance needing resolution that the superimposition of major third cycles creates. Turner’s most commonly used chromatic thirds relationship over dominant functioning harmony is the 0,4,8 cycle, derived from the root of the dominant chord.
In Example 17, taken from Turner’s solo on Skylark, he uses clear waveform arpeggiation of a ii-V-I progression, using an A major triad over an F7 chord as part of the upwards sweep towards Bb major.

*Example 17: Mark Turner, “Skylark”*

The A major triad is major third above the F7 harmony, and is therefore a 0, 4 relationship. Though there is no statement of an F major triad in the phrase, it occurs over underlying harmony, and therefore the root of the chord (designated as ‘0’) is taken as the point of comparison for the superimposition.

This similar phrase in Example 18 from the same recording also shows the 0, 4 relationship of A major over an F7 chord. This phrase is very close to a common jazz cliché based on an F7 altered scale (the seventh mode of F-sharp melodic minor), this portion indicated by a bracket. The e-natural\(^2\) (circled) is the only note that deviates from the altered chord cliché, and yet the chromatic difference of that note outlining an A major-seventh arpeggio is a very strong and distinctive sound, a major seventh on a dominant seventh chord. It is this discrepancy that disturbs the sense of tonal centre and gives the feeling of dissonance.

*Example 18: Mark Turner, “Skylark”*
Example 19 shows a clear example of a 0, 4 tonal relationship to a dominant chord from Billy Hart’s composition, “Mellow B”, which is a blues in G (tenor saxophone pitch).

**Example 19: Mark Turner, “Mellow B”**

![Musical notation of Example 19]

The two bar phrase occurs in the second and third bar of the form, and is a stereotypical bebop phrase, outlining a ii – V7 – I progression in B major, indicated inside the brackets. A major third above the G7 harmony, this forms a 0,4 tonal relationship, highlighted by the simply stated g^2 on beat four of the previous bar. Such a strong and harmonically functional phrase in a key a major third from the harmony has a truly bi-tonal effect and demonstrates the systematic way in which Turner utilises major third relationships.

A second example from the following chorus in the same solo displays a more obtuse and dissonant application of the same relationship between G7 and B major.

**Example 20: Mark Turner, “Mellow B”**

![Musical notation of Example 20]

This phrase occurs in the third and fourth bar of the blues form, where it is common to substitute a tonic altered dominant sound, which functions as a secondary dominant chord, giving impetus to resolve to chord IV in the fifth bar. Turner’s highly chromatic phrase in
roughly contrary motion contains enough altered scale qualities to achieve the same aural effect, though it does not adhere to it strictly. The final c-sharp\(^2\) of this contrary motion movement (also the root of the tritone substitute for G7 and part of the G7 altered scale) becomes a common tone with B major. This leads to an arpeggiation of B major 7th, a major third above G major, forming a \(0^7, 4^b\) relationship with the G7 chord. Turner anticipates the semitone resolution to the following C7 by adding a c-natural\(^3\), a dissonant minor ninth at the top of the B major arpeggio (circled). He superimposes both the tension caused by B major and the addition of a minor ninth over the G7 chord, before resolving chromatically to the seventh of C7.

Example 21, from Turner’s solo on “Late Lament”, displays a more fragmented approach to major third relationships that combines them more directly, and contains a major third cycle derived from other than the root triad of the dominant chord.

**Example 21: Mark Turner, “Late Lament”**

![Musical notation](image)

Beginning with a Bb major seventh arpeggio (a re-voicing of a G minor ninth), Turner then links via the chromatic run indicated to alternating fragments of D and F-sharp major triads. The final F-sharp triad adds a seventh to become F#7, the tritone substitute for C7. This forms several chromatic third links. The source of the major third cycle may be interpreted as stemming from the initial Bb major arpeggio: the resultant Bb, D and F# are all part of the same
major thirds cycle. Alternatively, the F# tritone substitute for C7 may be considered the source of the D and F# relationship. In either case, here is a full Bb major third cycle used spanning a ii-V-I progression, such that it forms a 2,6 relationship to the dominant chord.

Example 22 is from Leonard Bernstein’s “Some Other Time”, recorded on the same “Ballad Sessions” album as “Skylark”, and contains two sets of different chromatic third relationships over an F7 chord.

*Example 22: Mark Turner, “Some Other Time”*

The first instance begins similarly to Examples 17 and 18. The ascending A Lydian phrase over the F7 chord this time contains both the dominant and major seventh degrees, first ascending and then descending. The bracket in the above example marks a chromatic enclosure around c-sharp\(^2\), continuing the A major sound onto the downbeat of the Bb major seventh chord, in the same way that the A major triad does so in Example 17. This is emphasised by the cessation of the continuous line at the e\(^2\) to e-flat\(^2\), and recommencement with c\(^2\) and c-sharp\(^2\). There is only one other chromatic passing note outside the A Lydian inference, and both are circled, as is the passing note during the Bb major 7\(^{th}\) chord.

In the second instance, the line moves from a strong Bb major passage ending on d\(^3\) which acts as a pivot note (indicated with an arrow) to a D major triad over the F7sus that follows. Though the intervallic relationship of melodic material here is a now familiar
augmented scale major third connection, the D major triad is actually a chromatic minor third below the root of F7sus. Given that a tonic F major triad would not be indicative of an F7sus chord quality, a Bb major triad over an ‘f’ bass note would be more valid choice to describe an F7sus chord. On this basis, there is a possible implied major third link between the D major triad and the choice of a continued Bb triad on the F7sus chord, though in this instance Bb major is played only over the tonic chord. The final f-sharp² of the D major triad forms a pivot (also indicated with an arrow) to a B7 modality, the tritone substitute for F7. This is significant in that it forms yet another chromatic third relation to the preceding D major triad, albeit in this instance a minor third. The result is a 9, 6⁷ relationship to the F7 chord, the 6⁷ representing the tritone substitute.

Kurt Rosenwinkel’s “Flute” makes use of chords related by major thirds, such as in Example 23, recorded live at the Village Vanguard in 2006. The Ab7sus with a ‘c’ in the bass and E 13th are related by major thirds, both by intervals between the root notes ‘a-flat’ and ‘e’, but also by intervals of the bass notes ‘c’ and ‘e’. Turners ascending phrase draws a 0, 8 tonal superimposition over the first dominant chord, followed by an 8, 0 over the second.

Example 23: Mark Turner, “Flute”

Turner creates this tonal contrast by modulating through four scale fragments that together form a major third cycle. He changes from Ab myxolydian to E major during the Ab7sus chord,
anticipating the arrival of the E tonality. However, over the E dominant 13\textsuperscript{th} chord he continues to modulate in major thirds, superimposing C major before resolving to the fifth of the chord, with one chromatic leading tone (circled).

In Example 24 from Skylark in the tonic key of F major, Turner uses a C#7 and an F major triad to form a $0^7, 4$ coupling over a C#7 chord. He anticipates the C#7 over the preceding G# minor 7\textsuperscript{th} chord, using an f-natural\textsuperscript{2} as a pivot tone, the third of the C#7 becoming the root of an F major triad. This transition occurs by chromatic third interval, simply octave displaced to become an inverted third. Turner quickly alternates back to a fragment of C# major triad, before returning to F major, which becoming the tritone substitute of the B7 chord. This is an intriguing way in which this particular major third relationship anticipates a functional substitution in the subsequent harmony. The dissonance continues however, as he keeps utilising the F major triad even over the F#7 chord.

Example 24: Mark Turner, “Skylark”

During his statement of the melody on “You Know I Care”, Turner uses a triadic arpeggiation to give a polytonal sound to a chromatic minor third relation. The G major triad clearly outlined in Example 25 is a minor third from below the root of Bb, and therefore is part of the diminished scale associated with a Bb7 chord. The fact that it is a sustained suspended
dominant quality and so clearly articulated in a stand-alone way, gives it a polytonal feeling, and hence should be grouped with Turner’s other chromatic third devices.

*Example 25: Mark Turner, “You Know I Care”*

In the following example, Turner creates a major third relation between Eb and G major 7th. It occurs over a Bb minor 7th chord, however the phrase begins with a stereotypical bebop phrase to anticipate the arrival of the Eb7 chord.

*Example 26: Mark Turner, “You Know I Care”*

The g2 at the beginning of the first Eb bracket above marks a clear anticipation of the Eb7 chord, at which point Turner moves directly between the Eb sonority and a G major 7th arpeggio and back. Rather than classifying this as a major third relation over the minor chord, such a clear anticipation of the dominant harmony warrants its interpretation as an anticipation of a 0, 45 relationship to the dominant chord. Another chromatic third interval marks the transition from Eb to an A major and B major triad, outlining an altered scale tonality over the actual dominant chord, then anticipating the Ab tonic major with a Bb major and Ab major triad.

From the same improvisation comes Example 27, in which the major third relation is between what is played over the dominant Bb7 and over the tonic Eb chord. The B dominant 7th
phrase relates to the tonic phrase by a major third, but is played over the dominant chord, forming an intriguing 0\(^7\), 1\(^7\) relationship to the dominant harmony. Playing up a semitone is a common tension device in jazz, but it is nonetheless significant that in this case Turner relates by major third interval to the tonic chord, and resolves by yet another chromatic third interval in the melody.

*Example 27: Mark Turner, “You Know I Care”*

Turner implements a wide range of major third and other chromatic third related melodic material over dominant chords. As these examples show, by far the most common are major third cycles based on the root triad, the 0, 4, 8 cycle. This demonstrates Turner’s strong linkage of the augmented scale concept to the underpinning harmony in his choices of tensions and resolutions.

**Minor Chords**

Turner’s application of major third cycles over minor tonalities is harder to typify when compared to his treatment of dominant chords. This may well be a consequence of minor chords often performing a less pivotal harmonic role in progressions, and their tendency in jazz to be utilised for periods of sustained tonality. In any case, a variety of major third relationships
are evident in Turner’s negotiation of minor chords, though still with a frequent occurrence of
the root 0, 4, 8 major third cycle.

On Kurt Rosenwinkel’s slow ballad, “A Life Unfolds”, Turner utilises a particular type of
cromatic third relationship to create dissonance and tension. The saxophone solo section
contains only two alternating chords: an E major 7th alternating with the tonic D# minor. The
implication of this flamenco-flavoured progression is that the E major 7th possesses a sharpened
11th, which becomes the fifth of D# natural (aeolian) minor.

The substitution of a tonic major tonality over a minor chord qualifies as a chromatic
third relation, because in comparing similar scales, D# natural minor is simply a mode of the F#
major scale. To substitute Eb major over F# major tonality is a chromatic third relation, and
therefore Eb major over D# minor is also a chromatic third relation by close association.

In Example 28, the third of the E major chord acts as a common tone, becoming the
fourth of D# minor. Turner then articulates three suspensions and resolutions from this fourth
degree to the third of not D# minor, but its enharmonic tonic major, Eb major. The third does
so by a leap of a minor dissonant minor ninth from g1 to g-sharp2. He then reverses direction,
ascending through the same notes, this time ascending from g2 to the suspended g-sharp2.

*Example 28: Mark Turner, “A Life Unfolds”*
Once again, there are two layers of tension: the superimposition of Eb major over D# minor, and a minor ninth suspension within the implied Eb tonality. This particular class of chromatic third relation to a minor chord may be notated as a 0-, 0 tonal relationship, as the following example will demonstrate.

A more graduated introduction of similar tensions is shown in Example 29, which finishes the phrase with the same Eb major substitution over the D# minor chord. In the lengthy ascending half of the phrase, Turner begins by only altering the sixth and seventh degrees of the scale to form an ascending melodic minor over the tonic natural minor sonority. He then arpeggiates an F major triad, with a chromatic upper neighbour tone (circled), before descending through D# melodic minor (ascending version) and one note further removed through Eb major, finishing the phrase on the dissonant major third.

Example 29: Mark Turner, “A Life Unfolds”

During this solo, Turner generates a continuous series of tonal superimpositions and dissonances, often using cyclic material based on one of the two alternating chords to create tension over the other. This is the case in Example 30, in which Turner pairs E major and C major over the D# minor chord ahead of the upcoming E major 7th chord.
Example 30: Mark Turner, “A Life Unfolds”

This gives a 1, 9, 1\(^{6}\) tonal relationship to D\# minor, with the added seventh degree of the E major 7\(^{th}\) chord in its second occurrence being the tonic d-sharp\(^{2}\). The C major and E major 7\(^{th}\) arpeggios are combined via a chromatic third interval.

Example 31 is from Turner’s improvisation on Kurt Rosenwinkel’s “Blue Line”. The tonic of the repeating chord cycle in this passage is G natural minor. The chord sequence in this track is highly subsumed beneath many layers of sound and electronic manipulation, and though there is a sense of movement between some kind of chord progression, the overall effect is not one of a clear functional chord progression, but rather a general articulation of G minor tonality. Therefore analysis of this passage will be referenced to G minor. The initial major third pairing is between and Eb major triad and B major triad, joined by chromatic third interval. Though the B major phrase uses a major pentatonic scale, the initial transition is directly between Eb major and B major triads, establishing a triadic 8, 4 relationship with G minor. This has been evident previously in dominant chord examples, but not over a minor chord.

Example 31: Mark Turner, “Blue Line”
The transition from B major to a whole tone above, Db major is particularly ambiguous because there are two common tones between the two key centres in this phrase, namely d-flat\(^3\) and g-flat\(^3\). Even though the first tone to contradict B major is in fact the f\(^3\) in the second bar, the point of transition has been nominated earlier than this because these two common tones together with the f\(^3\) form a Db major triad. This Db major passage continues until another chromatic third interval leads to major third pairing with A minor major 7\(^\text{th}\). So the two major third couplings in this one phrase form an 8, 4 and 6, 2\(-\Delta\) relationships with G minor.

In the phrase in Example 32, Turner infers a progression through G minor 7\(^\text{th}\) – C7 – F minor, via an A major triad. This is not an anticipation of dominant-tonic harmony such as in Example 26, as G minor is a temporary tonic chord in this part of the chord progression and does not continue on to a C7.

*Example 32: Mark Turner, “Late Lament”*

The C7 arpeggio is not contradictory to a G minor tonality, but does relate by chromatic minor third to the A major triad, which is in turn related by chromatic major third to the F minor triad. These two dissonances form a 2, 10- intervallic relationship with the G minor chord. Each of these transitions occurs by semitone voice lead in the top ‘voice’, with the middle ‘voice’, a\(^2\) – a-flat\(^2\) – a\(^2\) moves in parallel. The lower ‘voice’ then moves in contrary motion by semitone through e\(^2\) – f\(^2\) – e\(^2\). This voice leading in contrary motion is typical of Turner’s application of
this major third connection, the A major and F minor triads both being derived from the same augmented scale.

The fast and winding ascending waveform in Example 33 contains many triads and sounds outside of the C# minor major 7th chord sound, but is based around a 0-A, 8-A pairing with A major. The first two transitions are adjacent and both by semitone voice lead. The D7 at the end of the phrase is the tritone substitute for the dominant chord, G#7.

Example 33: Mark Turner, “Lennie Groove”

The second phrase is similarly shaped and also relates C# minor to A major 7th, this time via a Bb minor triad. Turner’s semitone and chromatic third voice leads are present. The phrase ends this time on a more definitive statement of the dominant chord, G#7, however in two different incarnations. The D augmented triad is the tritone substitute, but contains the natural ninth, unlike the G#7 arpeggio, which contains the flattened ninth. The result of the join from A major to this combination on the dominant creates two consecutive voice leads of major-minor third couplings.

The ambiguous harmonic basis of Larry Grenadier’s “J.J.” makes it difficult to draw a simple relationship between Turner’s melodic content and the harmony. This composition is
performed by the Fly Trio, with Larry Grenadier playing double bass and Jeff Ballard playing drums. The two-bar bass riff, though referring to a constant tonic of D minor, articulates intervening material belonging to C minor. Without a harmonic instrument, it is up to the soloist to define which tonality is meant. In actual fact, Turner spends roughly equal time in both D and C minor during his solo, and so the chord symbol allocated is C minor 7th over D minor 7th. Example 34 contains an anchor tone of e-flat\(^3\) that is derived from C minor. The descending arpeggio in each case then outlines either F major or A major, forming a 3, 7 relationship to the D tonic.

*Example 34: Mark Turner, “J.J.”*

The F major triad is diatonic within D minor and part of the tonic seventh arpeggio, but it is paired with the e-flat\(^3\) anchor tone belonging to the C minor tonality. So a tension is already created between the two. The contrary motion voice leading that this engenders is very similar to that in Example 32, employing two sets of semitone voice leading simultaneously. Turner’s combination of elements from two contrasting tonalities, and then repeated superimposition of a partial major third cycle is a clear confirmation of his systematic application of chromatic third relations. Many of these examples exhibit sustained melodic
exploration outside the established key, and all display a systematic application of the voice leading methods outlined in his solo improvisations at the beginning of chapter 3 on page 24.

**Major Chords**

The first two examples of chromatic third relations over major tonalities are from “A Life Unfolds”, and show Turner employing polytonal scales that modulate through multiple key centres as they ascend or descend. In the first example, he begins with E Lydian, the diatonic scale choice alternating with D# natural minor as seen in earlier examples from this composition. A four note repeating pattern continues through almost three octaves, modulating through E Lydian alternating with C major. This forms a 0, 8 relationship between tonal centres that are part of the major third cycle based on the root note.

*Example 35: Mark Turner, “A Life Unfolds”*

The only aberration in Example 35 is the natural fourth degree, $a^2$ of the second E major segment instead of a-sharp as the melody changes to C major at this point. The total of four transitions occur either by semitone or whole tone, moving to the nearest adjacent scale step of the next key.
The descending phrase in Example 36 from the same solo shows a different tonal relationship, though this time a full major third cycle. Turner begins strongly on the tonic of the key, superimposing D# natural minor over E major 7th, different by one note from the expected E Lydian scale choice. This gives an unsettled feeling because the minor second degree of the scale, an f\(^3\) is included instead of the root of the E major 7th chord.

Example 36: Mark Turner, “A Life Unfolds”

This leads by semitone into G dorian minor, the only note disturbing a perfect major third cycle being an e\(^2\) circled in the example. Once again by semitone, B natural minor follows, ending on its tonic, a minor sixth degree of the D# minor chord. This unresolved tension over the D# minor 7th resolves by semitone a moment later to the fifth. The resultant tension forms an 11-, 3-, 7-tonal relationship to E Lydian. The primary link to the composed harmony is the D# minor being the tonic key centre, though slightly displaced over the E major 7th. It is, however, an unusual choice over a major chord to generate a major third cycle.

Example 37 displays highly chromatic voice leading between consecutive arpeggios, employing both a major and a minor chromatic third interval between implied key centres. From an initial D# minor triad, Turner steps chromatically via F minor major 7th to E minor major 7th. He then moves to C major, part of the same major third cycle. The E and C arpeggios form an 8, 0-\(^\Delta\) pair over the underlying harmony.
Example 37: Mark Turner, “A Life Unfolds”

What is unusual in this sequence of voice leading is that the two tonics of C and E are part of the root major third cycle, however the expected major tonic chord is instead minor. The g-natural¹ forms a common tone with the subsequent fifth of the C major triad. The transitions between chords include Turner’s common semitone and chromatic third intervals, marked in the example. In fact, were the E minor arpeggio instead a major, the d² at the start of the C major segment would form a dominant-ninth connection between the two. The conclusion of the phrase sees a brief deviation to what could be a return of D# minor, before ‘resolving’ to the fifth of the implied C major tonality, a dissonant minor third of the underlying E major chord.

As previously discussed in the Dominant Chords section on page 36, Rosenwinkel’s composition “Flute” makes use of many non-functional progressions and frequent changes of key. The passage in Example 38 has a tonic key surrounding E major and E7. Given the fluid waveform shape of the phrase and the swiftness of the harmonic movement, it is productive to compare the phrase to the key area of the passage rather than each individual chord.

Example 38: Mark Turner, “Flute”
An initial C# minor arpeggiation leads by semitone to A minor 7th, a chromatic minor third away. The g-natural\(^2\) through octave displacement becomes a g-sharp\(^1\), turning the arpeggiation into a minor major 7th. A leap via a chromatic leading tone (circled) resolves to the tonic E tonality, which could also be interpreted as re-iterating the C# minor sound, as they are related diatonically. The result is a 9-7, 5-7, 5-\(\Delta\), 0 combination as related to an E tonic tonality.

**Augmented Scale - Related Chords**

This section deals with Turner’s application of the outlined principles of major third cycles, where the underlying harmony is congruous with the augmented scale sound in some way. This may be either by the quality of an individual chord, or by a succession of chords that contain major third relationships specific to the augmented scale between them.

As discussed in Chapter 2 on page 12, structures spaced in major thirds do not lend themselves to the outlining of traditional harmony. Minor third relationships allude heavily to diminished tonality, which in contrast is highly functional in traditional western harmony. Much of Turner’s modulation through major third key centres exploits the relationship between chromatically related triads that may be found inherently in the augmented scale. It is the relationships between component tonalities and the voice leading between them that are generally emphasised in his phrases. It is interesting that only on the occasional instance can Turner be found playing more than a fragment of the scale in its intact form. It is therefore significant in establishing the status of the augmented scale in Turner’s playing as melodic vocabulary that one of his improvisations contains a lengthy exploration of the augmented scale in primarily linear form.
In his solo on Rosenwinkel’s “Enemies of Energy”, Turner improvises over a harmonically static accompaniment of an E minor major seventh chord with added tensions of a major ninth and sharpened 11th. This chord is built from a D# augmented scale with an ‘e’ bass note, with all the tensions implied by the scale being utilised at various points in Rosenwinkel’s guitar accompaniment. Turner’s solo however, uses almost exclusively notes of the augmented scale one semitone higher, the E scale, constituting a sustained superimposition of one augmented scale sonority over another. The transposition of the scale in his improvisation still contains all the fundamental chord tones of ‘e’, ‘g’, ‘b’ and ‘d-sharp’. This seemingly dissonant combination of scales actually provides a certain symmetry and enough common tones such that the resultant sonority is not nearly as dissonant as one might expect. This unique and extended passage is significant in its continuous exploration of the augmented scale as a tonal concept, and so two pertinent examples are given here. For an inspection of the extent of this solo, the complete transcription is included in Appendix A.

Example 39 shows the first phrase of this solo, which contains a long, linear segment of augmented scale, missing only one note in its descent through two octaves. There are no notes of this phrase outside the E augmented scale. Note that the scale degrees in the solo include both the major and minor thirds, fifth and minor sixth, major seventh and tonic with none of the extensions in the accompanying chord sound, namely the major ninth or sharpened eleventh.

Just prior to this downward run are two overlapping examples of Turner employing major/minor third intervals. For example, the initial occurrence contains a minor third from $b^2$ to $a\flat^2$, which then moves by major third to $c^3$. The lower neighbour tone of $g^2$ is from the augmented scale, and makes it a total of four notes instead of three as in all previous examples. This four-note major/minor third group is common in the solo, and occurs frequently in the next example.

The two main phrases in Example 40 contain more broken fragments of arpeggios linked by segments of linear augmented scale and repeated occurrences of major and minor third interchanges. The continuous waveform contains two recognisable transitions between discreet arpeggios a major third apart, and have been labelled with brackets. The only aberrations are the two circled notes, an $f^2$ and a $d^3$. 
The sustained harmony in Example 41 is a D major 7th chord with a sharpened fifth. This is a chord quality that falls outside major and minor keys, and is directly compatible with the D augmented scale. The entirety of this example contains only five notes from outside this scale, circled in the example. The first is the completion if a fast chromatic run leading to the sustained c-sharp⁴ that begins the example. The b³ following is a chromatic passing tone, and the remaining three occurrences are an e², the natural unaltered ninth of the D major 7th#5 chord. Four of the five transitions occur by Turner’s recognisable voice leading techniques, labelled in the example.
The chord progression to Kurt Rosenwinkel’s composition “Heartcore” contains an alternating progression of chords a major third apart. Given Turner’s systematic application of chromatic third concepts, his soloing over progressions that incorporate chromatic thirds relations into the underlying harmonic structure gives insight into his methods of linking those key centres. Rather than diatonic passing or scale tones relating to the underlying harmony, this phrase often contains passing or auxiliary notes from the augmented scale. The two chords, B7 and G major-seventh are a major third apart, and so the tonics are part of the same major third cycle. The ‘a-natural’ seventh of the B7 chord is the only chord tone of either chord that lies outside the augmented scale. All six arrows in Example 42 indicate non chord tones that are derived from the alternate triad a major third away, and therefore are part of the same augmented scale based on either B or G.

*Example 42: Mark Turner, “Heartcore”*

Circles indicate diatonic notes belonging to B7 or G major 7th that are not part of the augmented scale. The two a1’s and two e2’s belong to the diatonic scales associated with both B7 and G major 7th. This demonstrates not only Turner’s use of augmented scale material distributed throughout a phrase, but also his integration of those sounds with diatonic melodies.
Turner also applies the same melodic relationships found in the augmented scale across traditional diatonic progressions that contain major third relationships. Such an application can be found in Example 43, in which he connects diatonic harmony with a major third cycle of F# major, D major and Bb major triads. The rhythm section resolves to the tonic of Eb major via a D major triad over the ‘b-flat’ pedal that is sustained throughout the harmony. This creates a progression up a major third between the Bb7 and the D major triad rather than the normal resolution up a fourth.

Example 43: Mark Turner, “You Know I Care”

The Bb7 quality played by the rhythm section is a Bb13 with a flattened ninth, which infers a semitone - whole tone diminished scale choice. Instead, Turner chooses to combine E major and F# major triads, implying an altered dominant scale. It is the F# major triad or this pair that he uses to approach the D major triad, rather than the root Bb major triad. He then completes the major third cycle by resolving to a Bb major triad as part of the Eb major tonic chord sound. From the final statement of the F# major triad until the Bb major triad, there are only two notes that fall outside the augmented scale, both are an e² and circled in the example.
These are identical in pitch and relationship to the tonic as the repeating circled notes in Example 41, and occur during the same transposition of augmented scale related melodic material. The occurrence of augmented scale and augmented scale-related voice leading relationships across major third related harmony demonstrates the broad scope and consistent application of Turner’s augmented scale concept.

**Discussion**

This study has explored the extent to which Mark Turner utilises chromatic third cycles in his improvisations, in particular major third cycles. His application of cyclical material reduces tonalities into simple elements, which he often combines to form the augmented scale. This scale contains a range of voice leading possibilities, using common tones, semitone voice leading and chromatic third intervals as the primary tools for moving swiftly but smoothly between key centres. Structures derived from and related to the augmented scale are extremely evident in his solo improvisations.

The same intervals and structures are also evident over a range of accompanied harmonic contexts, including dominant, major and minor chords, and also over chords or progressions that reflect major third relationships within them. Turner’s use of major third cycles is not limited to arpeggiation, and may include functional progressions or scalar passages within an implied key centre. However, even in these and other instances of chromatic third
relations, the same linking and voice leading techniques are present. The extent and consistency with which Turner applies this material constitutes their integration as melodic vocabulary in his improvisations.

Turner's basis for selecting major third cycles displays strong ties to the underlying harmony. This is demonstrated by the frequent occurrence of cycles based on the root triad of the chord. Combining tonal elements to form the augmented scale, composite diatonic scales and fast changing voice leading between key centres constitutes an original, flexible and highly integrated systematic approach to applying chromatic third cycles.
Appendix A

Mark Turner’s solo on the final vamp of Kurt Rosenwinkel’s composition, “Enemies of Energy”.

[Music notation image]
References


**Sound Recordings:**


