

MODAL JAZZ
COMPOSITION & HARMONY

RON MILLER

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INTRODUCTION

The goal of Volume 2 of *Modal Jazz Composition and Harmony* is to continue the dissemination of information that presents a path of study for the aspiring jazz composer. Where Volume 1 of the book emphasized the preparation of a modal harmonic foundation, this volume will introduce concepts of melody writing and a study of the styles of jazz compositions that are an intrinsic addition to the contemporary jazz composer's repertoire. Of interest to the composer/arranger will be the chapter on harmonization and reharmonization techniques, as many of the concepts presented reflect an influence of Gil Evans, Duke Ellington and Charles Mingus as well as those of Herbie Hancock. Additionally, much of the harmonic information of that chapter is based on the diatonic II-V system providing both an introduction to, and review of the subject.

Those interested in securing a new venue of expression will find the chapter on pentatonic tunes of particular interest. Although there are many extant pentatonic tunes available to the jazz performer, there are not many that are harmonized with a modern modal harmonic foundation excepting a few that have been contributed by Wayne Shorter.

As with Volume 1 of the book, an appendix with additional peripheral information is included for the student desiring theoretical explanation and additional examples. This volume will differ from Volume 1 by the inclusion of suggested recordings and readings at the end of each chapter with specific compositions for listening within the text. As usual, there are suggested assignments and exercises included at the end of each chapter.

Hopefully, having completed the study of the materials of both volumes of the book, the student will realize that the information is presented to form a holistic study. Having mastered the modal harmonic foundation of Volume 1 the student should next study melody writing concepts which can then be applied to the creation of melodies in a variety of styles. It is additionally important that the jazz and pop composer be able to write a romantic melody - the subject is covered at length in Chapter I.

Finally, the melody writing procedures are applied to the composing of pentatonic tunes, which are also harmonized with the harmonization techniques given in Chapter II.

To repeat from Volume 1, the author's basic intention is to provide information in the printed format that will expose and develop the student's latent creative abilities as well as allow him-/herself to unabashedly express a true love of music - and of course to fulfill that which he/she got into music for to begin with - have fun!

The purpose of this study is to investigate the relationship between the variables of interest. The study is designed to explore the impact of the independent variable on the dependent variable. The research is based on a sample of individuals who have been selected through a random sampling process. The data collected will be analyzed using statistical methods to determine if there is a significant difference between the groups. The findings of this study will be discussed in detail in the following sections.

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Chapter I

MELODY

WORDS OR CONCEPTS TO KNOW

- | | |
|----|--------------------------------|
| 1 | Folk/Art Spectrum |
| 2 | Melodic Elements |
| 3 | Tritonic/Tetratonic/Pentatonic |
| 4 | Harmonic Reference |
| 5 | Guidetones/Pivot point |
| 6 | Motivic Development |
| 7 | Melodic Contour |
| 8 | Compression/Expansion |
| 9 | Melodic Balance |
| 10 | Melodic Rhythm |
| 11 | Melodic Cadence |
| 12 | Syncopation |
| 13 | Statement/Response |
| 14 | Antecedent/Consequential |
| 15 | Idiomatic Abstract |
| 16 | Idiomatic Programmatic |
| 17 | Romantic Ideal |
| 18 | Romantic Melodic |
| 19 | Binary Melody Form |

MELODY WRITING

From a pedagogical point of view, melody writing is the most complex of the basic skills of the composer – there are many reasons why this is so.

Melody creation is the most personal of compositional activities and shows the least degree of success by the implementation of pedantic methods. Although there are “rules” given in traditional text books for ways of creating melodies, they in the long run tend to inhibit personal expression rather than promote free creativity. However, there are many methods for developing a melodic idea that when craftfully implemented, can develop even the most uninspired germ idea into a musical end product. The most usable pedagogical systems take this approach. Considering the enormous variety of melodic expression, it is understandable that most theorist/authors of significance tend to forgo a comprehensive presentation of melody writing procedures. As a point of reference, one of the suggested texts in Volume 1 of this book is *The Craft of Musical Composition* by Paul Hindemith. Of the 233 pages of the book, 28 are given to the discussion of melody writing with the remaining 205 pages devoted to concepts of harmony and acoustics. This one example is typical and understandable.

Since the emphasis of this book is on jazz composition, the problem is narrowed in its scope and workable guidelines for melody writing can be established. Another consideration which is certainly open to criticism is the belief that of the creative activities of the composer, melody writing is the one most dependent upon innate musical talent.

THE ROOTS OF MELODY CREATION

Music in general and melody creation specifically can be traced to a root expression of the human condition both as utterance (speech/singing) and body movement (dance/rhythm). As this primeval music evolved, the paths became more diverse with aspects of each taking a route that became further separated into paths which are now categorized in general as folk music and art music. Although each path has its ties to the original expression as speech or dance, art music shows a stronger connection to a vocal quality with folk music showing a predominant tie to body movement expression. This is certainly a generalization as there is art in dance and there are many art compositions that are based on a premise of rhythmic development; of course, many of these are ballet music.

Popular (folk) music in the same way incorporates the qualities that are associated with the seed development of art music: that of lyricism, romanticism and “seriousness.”

JAZZ AND POPULAR MUSIC

Jazz is a music that evolved from popular music and has intrinsic ties to folk music, popular music being the contemporary form of folk music. Another way of describing the differences between art music and folk music is that folk music's creation, tradition and evolution is carried out by amateur or minimally trained musicians. The converse for art music is that its creators are highly trained and expend much of their life's energy on the study and production of music. Jazz since the 1950s has been evolving into an art music; this is in evidence by its drop in popularity from that time onward. With the development of jazz as an art music came the requirement of extensive serious study by the aspiring jazz musician – as any student reading this text will attest.

Although jazz has evolved to an art music level, its connection to folk music cannot be denied without the music losing its inherent passion or its lucent expressive and communicative qualities. Although jazz harmony has a direct reference to European art music, its rhythmic development and more importantly for this chapter, many of its melodic materials have strong and important ties to folk music. The most overt of these folk references are to the folk musics of Africa, Brazil and the British Isles. As jazz evolves and the world's cultures become more unified, there are and will be more overt references.

With the above in mind, the serious contemporary jazz composer needs to initiate a comprehensive study of the world's folk musics. One should pay particular attention to scalar source material, motivic development, phrasing, and most importantly, the organization of a melody by its statement and response formulas. There are many additional elements of a melody that are to be considered and they will be given and discussed later in this chapter.

JAZZ AND ART MUSIC

As stated earlier, although jazz evolved from folk music, there are many examples where the melodic content of a jazz composition closely compares with that of an art music melody. At the point in time where jazz composition started its evolution toward becoming an art music, much of its compositional structure was based on the popular music of the time which we now call the “standard” repertoire. These song-form compositions were modeled on the art music of perhaps a century earlier: the Romantic era, and show a direct influence both harmonically and melodically of the music that is typical of Rachmaninoff and Tchaikovsky, to state obvious examples. In fact, many of the themes of these great composers, being “borrowed” by popular music’s big band producers became popular music themes – examples include “Strangers In Paradise,” based on a theme from Borodin’s “Polovetsian Dances,” “This is My Beloved” and “Bangles, Baubles and Beads,” both based on themes from the “String Quartet In D,” again by Borodin. “Full Moon and Empty Arms,” is almost a direct extraction of a main theme from Rachmaninoff’s Piano Concerto No. 2. There are many more examples that can be cited based on the works of Tchaikovsky, Chopin and others. The point is that the expressions of the Romantic composers are very much a part of the jazz composer’s lexicon as a result of jazz music’s ties to the popular music of the 1930s through the 1950s.

THE SPECTRUM

The essence of the above is that the melodies of the world’s cultures and for our interest, jazz melodies fall somewhere within a spectrum described by the peripheral limits of Art Music with romantic, lyrical melodies at one end point and single-pitched dance oriented melodies at the opposite. In addition, different phrases or sections of a melody can be described as being at opposite points of the spectrum, providing a clear sense of contrast and development. This concept will be discussed and illustrated in more detail later in the chapter.

STYLE

Referring particularly to jazz melody writing, the composer, when defining his melodic goals needs to clarify the general style of the intended melody. Style refers to the implementation of the elements of a melody to conform to an historic, ethnic or idiomatic description. In addition, the Style of a melody will predict its placement within the art/folk spectrum. To state all of the above concisely, the composer, whether creating a melody or analyzing an extant melody must consider in tandem the style of a melody as defined by an historic reference, an ethnic/folk reference, an idiomatic reference as to the melodic performance, and at what point in the art/folk spectrum the melody can be placed.

An historic reference refers to the creation of a melody that shows an application of the elements of melody writing in a way that conforms to the standard practice of a particular musical era. Contrasting examples would be the styles of contemporary pop ballads and hardbop melodies. An ethnic reference is to the creation of a melody following the scalar, phrasing and statement/response formulas peculiar to an ethnic source; basing a melody on a model of Japanese or Bulgarian folk melodies is typical. And lastly, devising a melody that is abstract, as well as one that takes advantage of the performance characteristics of a particular instrument, is an idiomatic approach to melody writing.

THE ELEMENTS OF A MELODY

The elements of a melody are comprised of the following groups: source materials, a means of creation and development, phrase organization, tessitura, contour and expressive devices. In addition, a goal and point of climax should be devised for each section or phrase of a melody.

A. SOURCE MATERIALS

Melodies may be based on any of the following sources:

1. Single notes
2. Tritonic scale fragments
3. Tetratonic scale fragments (tetrachords - see Vol. 1)
4. Pentatonic scales
 - (a) diatonic
 - (b) altered
 - (c) add note (sextatonic)
 - (d) blues scales
5. Diatonic and altered diatonic modes (septatonic)
6. Symmetric scales
7. Harmonic references
 - (a) arpeggiations/guiderones
 - (b) common tones/pivot points
 - (c) leading tones/neighbor tones
8. Quotes
9. Non-western scales (octatonic and more)

A melodic source is the pitch organization of a motif, phrase, section, or any area of a melody that shows musical unity. A group of asymmetrically organized pitches numbering four or more in a scalar format can imply a modality and its perceived emotional quality (see Vol. 1, Chapter IV).

If an example is not scalar - having consecutive skips - in most cases it will have notes in common with a particular modality. It is possible that if the phrase is long enough, more than one scalar source can be detected. In addition, the modal quality of the motif or phrase can be enhanced or obscured by its relationship to the harmonic foundation of that particular area.

EXAMPLES OF MELODIC SOURCE MATERIALS

The following, like most of the examples found in the remainder of the book, are excerpts, of a length sufficient to illustrate the defined concept. To put the example in context, it is suggested the student refer to the recommended listenings and readings found at the end of the chapter as a source of scores and recordings for further study.

1. SINGLE NOTE

The starting point of the categories of melodic source materials, having no pitch comparison it is a melodic device in which the rhythmic development of the motif or phrase creates musical cohesion. Very effective in jazz melodies, it is a device that Horace Silver and Joe Henderson use extensively.

Example 1.1a: "Caribbean Fire Dance" (B section) by Joe Henderson

The musical notation shows a single staff in treble clef with a common time signature. The notes are: G (quarter), F (quarter), E (quarter), Eb (quarter), D (quarter), and Eb (quarter). Above the staff, the notes are labeled: G-, F, E, Eb, D, and Eb. There are accents (^) above the E and Eb notes. The melody is written with eighth and quarter notes, including slurs and accents.

Example 1.1b: "Sweet Sweety Dee" (A section) by Horace Silver



2. TRITONIC

A 3-note scale fragment, it is the basic structure of the pentatonic scale. Primeval and pure, its use is found mostly in primitive and children's songs or in the more rhythmic sections of jazz compositions.

Example 1.2a: "Caribbean Fire Dance" (A section) by Joe Henderson



Example 1.2b: "The Girl From Ipanema" (A section) by Antonio Carlos Jobim



3. TETRATONIC OR TETRACHORDIC

A 4-note scale fragment long enough to imply a modality if the pitches are scalar (see Vol. 1, Chapter II).

Example 1.3a: "Rhapsodie Espagnole" by Maurice Ravel



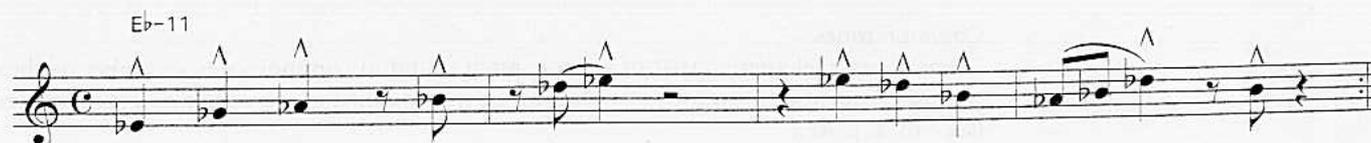
Example 1.3b: "Firebird" by Igor Stravinsky



4. PENTATONIC

A 5-note scale constructed by the combination of two tritonic scale fragments. These scales will be covered in detail in Chapter III.

Example 1.4a: "Gibraltar" by Josef Zawinul



Example 1.4b: Symphony No. 6 (main theme) by Peter I. Tchaikovsky



5. DIATONIC AND ALTERED DIATONIC MODES

These are the most well known scalar sources and should need little explanation. Those not familiar with the altered diatonic modes should refer to Vol. 1 of this book.

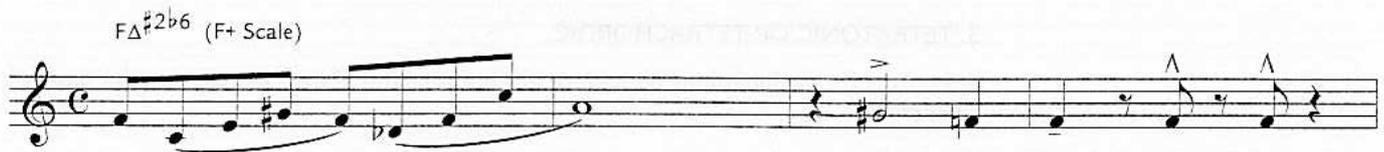
6. SYMMETRIC SCALES

Scales whose tone/semitone formulas show a pattern of symmetry. These are used primarily for effect or coloration due to their harmonic and melodic obscurity. Included in this group are the chromatic scale and materials derived by 12-tone techniques.

Example 1.5a: "Touchstone" by Ralph Towner



Example 1.5b: "Last Illusion" by Ron Miller



7. HARMONY REFERENCED MELODIES

Arpeggiations

This is an area of a melody that simply outlines part if not all of a particular chord or chords of a section of a composition. Only the most gifted of composers can use this device musically. Pianists and other chord oriented composers are at risk of overusing arpeggiation as a means of melody creation.

Example 1.6a: "Ask Me Now" by Thelonious Monk



Guide tones

This melodic source, based on the voice-leading of a particular harmonic movement is useful for obligato melodies but like arpeggiation, should be used with discretion for main melodies.

Common tones

Common-tone melodies consist of a single pitch found in common over a number of chord changes. Cadential in nature, they can be either sustained or have rhythmic development (see Vol. 1, p. 45).

Pivot Point

Pivot point refers to a common pitch that the melody returns to every few notes in a motif or phrase. A pivot point could be within or without the motivic shape or phrase. Pivot point also affects a melody's shape or contour as will be described later.

Example 1.6b: "Prince of Darkness" by Wayne Shorter

Pivot pitch C is marked "P."

Leading Tones and Neighbor Tones

These have harmonic inferences due to their resolution tendencies. A leading tone is the pitch a semitone below the targeted cadence pitch; a neighbor tone is usually a semitone above the cadence pitch but could also be a whole tone found either above or below. Their relevance will be given in later examples.

8. QUOTES/CLICHÉS

This refers to the use of extant material usually in the form of a motif or short phrase.

Quotes show a direct extraction from a documented source and are usually personalized by the subsequent composer.

Clichés can be quotes but are generally recognized as common melodic figures that are found in many melodies by many composers usually contained within a style category. Due to their reference to a style period and their overuse, they are considered clichés. Examples would include melodic figures that are found in abundance by many different composers of bebop melodies, fusion and pop melodies of a particular era, or of the melodic figures found in common to many hard bop tunes.

It will be pointed out in examples found later when quotes or clichés are found in the melody.

Example 1.7a: Scherzo No. 1 (ms. 16-17) by Frederic Chopin

(original)

Example 1.7b: "JC on the Land" by Ron Miller

(quote) F13sus

Example 1.7c: "JC in the City" by Ron Miller

(quote) EbΔ¹¹

9. NON-WESTERN MELODIC SOURCES

These are scales whose octave divisions produce pitches that are not in conformance with the tempered tuning system. They are recommended as source materials for further investigation for the eclectic student. As most of these scalar sources are not playable by fixed pitch instruments, their use can be limited but are important nonetheless.

B. THEME AND DEVELOPMENT

The basic premise of a melody is the motif. A motif is the seed melodic creation that is subsequently given musical credence by any of the following means:

- Repetition
- Sequence
- Inversion
- Retrograde
- Retrograde Inversion
- Isorhythm
- Isoarticulation
- Truncation/Extension
- Displacement
- Mutation

The previous terms will be given further definition by their use in specific examples found later in all chapters of the book. For those who desire a review or a clarification of the terminology, there are definitions and examples on page 110 of the appendix. And for those whose backgrounds require a more complete study, there are suggested books at the end of this chapter.

It should be pointed out now that for all melodic analyzations found in this book, the main point of interest is in what the composer did to create the beautiful and classic melody that will be included in the following examples. Being overly detailed and scientific in an analysis is of less importance than getting to the core of the composer's creative and developmental efforts with sufficient understanding of the process to successfully affect our own efforts.

C. MELODIC CONTOUR

Contour refers to the "shape" of a melody whether describing its direction, its intervallic trend or its note values. Melodic contour is of particular importance to this chapter because of its clear definition of the emotional content of a melody. As will be shown later, a melody's shape will show changes that were derived either by a static or dynamic means.

The following are the elements of a melody that refer to its contour:

1. Direction
2. Interval
 - (a) diatonic
 - (b) chromatic
 - (c) skips
3. Note Value
 - (a) augmentation
 - (b) diminution
 - (c) compression
 - (d) expansion
 - (e) articulations
4. Balance

All of the above affect the emotional quality of a melody in tandem. Keep in mind that for the following descriptions, any melody has a number of the elements listed. As an example, the direction of a melody has certain qualities that are enhanced or softened depending on whether the melody is largely skips or steps in addition to its modal source, tessitura, rhythm and other elements.

1. DIRECTIONAL CONTOUR

In general, a phrase or section of a melody that has an upward movement will show an emphasis of the emotional descriptions of its elements: increased modal definition, increased tension, and enthusiasm.

In general, a phrase or section of a melody that has a downward movement will tend toward relaxation and finality or resolution. Although the modal quality of the melody is not affected significantly, the remaining elements tend to be de-emphasized.

Example 1.10: "Kepler's Dream" by Ron Miller

♩ = 180

Chords: G/F# F/G E/G Eb/F D/F Ab/Bb Gb/Ab Ab+/G

Beats: 3 2 3 3 3 4 2 12

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Articulations have the effect of changing note values although the note's placement in the melodic rhythm does not change. For instance, the alteration of a group of legato marked notes to staccato has an effect similar to diminution.

Examples and definitions of articulations are included in the appendix for further review.

D. BALANCE

Balance in a melody refers to the aesthetic requirement that a change take place whether in direction, intervallic quality, melodic rhythm or any of the elements of a melody that have been implemented for a length of time.

There are a number of rules given in traditional text books for balancing a melody - an example is that one should change direction after three consecutive skips. The problem with rules is that they aren't always applicable to a specific aesthetic requirement. It is better to look at melodies that stand the test of time and see how the composer solved any musical problems that may have occurred in that particular example.

Essentially, balance can be thought of as a means of working with tension and release. As stated above, most of the melodic devices are emotion affecting and there is a point where a melody as motif, phrase or section must change its direction, its rhythm, its modality or any of the remaining elements that have been in use for a time in order to allow a cathartic response from the listener. Libran in concept, balance exemplifies complimentary procedures - the *Yin* and *Yang* of melody writing.

The best way to create a balanced melody is by relying upon ones intuitive skills when making the decisions that determine the aesthetic result. Also, how a melody is balanced, at the basic motivic level, to the overall form, is the most important concept to consider and understand when analyzing a given melody.

Statement and *response* is an example of the use of balance with the response being the release of the statement. The same can be said of antecedent and consequential phrasing. The concept of balance is essential to all the aesthetic aspects of composition: harmonic rhythm, modal contour, rhythmic development and of course, melodic materials.

The levels of melodic balance are from the smallest, the motif, to the total form. It is with melodic rhythm that well thought-out balance is most critical. As we will see in subsequent examples, if a motif begins with fast melodic rhythm, it should be balanced with a contrasting slow response to its cadence point - phrases should be treated the same way.

E. POINT OF CLIMAX

There is a point in the melodic contour where the emotional intensity is at its peak, usually about 4/5 through the composition. There are mathematical formulae to plot where this point should be but it is recommended that the composer determine the point of climax by relying on listening experience and intuitive skills. The point of climax and its subsequent release could be considered the grand statement and response of the composition and the ultimate balancing of the compositional form. Point of climax will be discussed more in the analysis of melodies to come later in the chapter.

F. MELODIC FORM

1. STATEMENT AND RESPONSE

Along with the phrase quality of a jazz melody, the most important aspect is its use of statement and response. With evolutionary ties to African folk music, phrasing a melody by a call and response formula, whether in a jazz composition or an improvisation, indicates a clear sense of melodic development while maintaining a placement of the melody at a point towards folk area of the folk/art spectrum. Additionally, it provides an effective means of balancing a motif.

Of course, this technique is not important only for jazz compositions; its use will show clear development in any melody whether pure folk or pure art in its description. Statement and response will be further defined by its extensive use in the many examples that will follow in all chapters of the book.

2. PHRASE QUALITY

The main interest in the phrase qualities of the melodies in this book will include the descriptions of their symmetry: whether the composition or a section of it shows a phrase organization that is symmetric or asymmetric; and if there is phrase balance by the use of antecedent/consequential organization. Usually there is a correlation between a composition's harmonic style, its harmonic rhythm and its melodic phrasing. Song form and *plateau modal* compositions tend to have symmetric phrasing, with *vertical modal*, *linear modal* and *through-composed* forms having asymmetric phrasing (see Vol. 1, Chapter I).

Certainly one may find exceptions to this, and the mixing and contrasting of melodic and harmonic styles may be a method of creating uniqueness in a composition. Overall, a melody's phrase quality will be relative to its position in the folk/art spectrum with the harmonic content having a quality of its own.

Most of the melodies that will be analyzed in this book will show a symmetry of phrasing because of the kinds of compositions and their harmonic materials that are the emphasis of this volume. More will be said regarding symmetric phrasing at that time.

Melodies with asymmetric phrasing usually do not show a use of antecedent/consequential organization and in general are vocal, melismatic, and have a through composed quality - all descriptions of a linear melodic style.

G. MELODIC RHYTHM

1. TEMPO

Melodic tempo refers to how fast or slow the pitches of a melody change relative to the harmonic rhythm. Melodic tempo is one of the style defining elements whether historic or harmonic. As an example, many bluegrass, country and Irish folk melodies have extended 8th note phrases over relatively slow harmonic rhythm or a single chord (hornpipe), demonstrating their common ties.

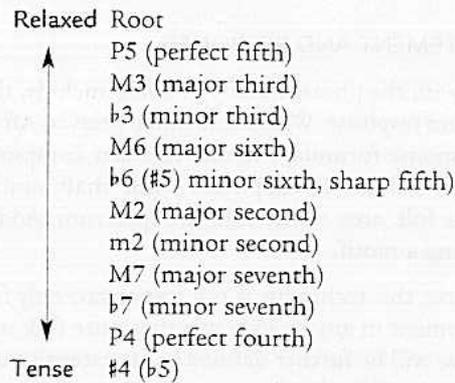
As with previous descriptions, there can be a diversity of melodic tempi within a composition with perhaps a fast moving melody for the A sections and contrasting slow melodic rhythm in the B section. It all comes down to the importance of the concept of balance, variety, and contour in all aspects of the compositional process. Due to its musical importance, balance will be referred to repeatedly in this text.

2. CADENCE

Melodic cadence is defined as the point where the melodic movement comes to a stop, either by sustaining the last note or by simply ending the motif or phrase and filling the rest of the section with a rest. Working in accordance with melodic and harmonic tension and release, melodic cadence is the punctuation point of motivic and phrase organization.

The chosen pitch for the cadence point can affect the overall style of the phrase or section as well as the modal definition and resolution quality. The following order of cadence note choices is from the most relaxed to most tense. Orders of modal definition can be found on various pages of Volume 1.

ORDER OF CADENTIAL NOTE CHOICES



As an example, if the modality of the phrase were Ionian, the most relaxed note choices would include the root, 5th and 3rd with the M7 or P4 having the most modal definition. Were the phrase in the Phrygian mode, b2 would have the most modal definition with the root or the fifth being the most cadential. There is much to consider when selecting a cadence note pitch and the best guide is probably to let the melodic voice-leading take precedence in note selection.

3. CADENCE NOTE DURATION

A cadence note's duration can be used in a way that compliments the modality of the harmonic foundation of a section. For instance, the compositions "Maiden Voyage" (Herbie Hancock), "Follow Your Heart" (John McLaughlin) and "JC on the Land" (Ron Miller) are compositions based largely on Mixolydian sus4 chords. Listening to these will reveal that their melodies are balanced with active, terse melodic statements followed by sustained cadential notes – melodic devices that compliment the qualities of the Mixolydian mode.

In addition to using long-held cadence notes to compliment a modality, they work well as common-tone pivot points that connect a group of chords and focus the listener's attention to the harmonic movement of the composition.

As a form of melodic and harmonic balance, long held cadence point pitches are particularly affective. Usually, there is active melodic material which sets up a degree of tension which is effectively released by the held cadence pitch. Wayne Shorter is a master of this concept and uses it quite often in a variety of his compositions from the earliest to his most recent. One recording that has many clear examples is *Speak No Evil*.

Example 1.11a: "Speak No Evil" (ms. 9-13) by Wayne Shorter

held cadence pitches

Example 1.11b: "JC on the Land" by Ron Miller

4. SYNCOPATION

Melodies that cadence often on weak (up) beats are aggressive and active, and if the motifs are constructed so that most of their pitches fall on weak beats, the effect is enhanced. Syncopation is the term to describe that quality. Melodies that cadence on or have motivic constructions that start on strong (down) beats, conversely are relaxed and passive. With that in mind, there is more to consider when working on the emotional goals of a melody. In addition, the use or non-use of syncopation is another *style* description.

5. RIFFS AND "LICKS"

A riff is a short melodic idea that has rhythmic identity. Usually based on a tritonic or tetratonic source, it is repeated a number of times emphasizing its rhythmic quality. Riffs are a good example of an African folk influence in jazz melody writing.

Licks are similar to riffs but with more emphasis on the technique or performance requirements of the melodic figure. Licks are also style definitive and often are quotes, taken from documented or recorded improvisations.

H. PERFORMANCE DIRECTIONS

One of the more overlooked melodic descriptions is the inclusion of performance directions in the form of expression markings: articulations, dynamics, effects and breathing cues. It is these interpretive directions that give a melody a dynamic quality.

Fortunately, the language of jazz interpretation is learned largely aurally and in most cases a jazz melody will be performed as intended by the composer without performance directions – provided that the performer “grew up” with that particular style. To assure that there are no interpretive problems, it is suggested that the composer include complete expressive directions with all his melodies.

A listing of expressive directives includes:

- Articulations
- Dynamics
- Effects
- Sound support phrasing
- Tempo markings

Definitions and examples of the above terms are included on page 113 in the appendix for review and clarification.

I. TESSITURA/KEY

One last subject to be mentioned before going on to style and melodic analysis is the quality a melody has due to its tessitura and its key center. Due to the laws of acoustics, melodies whose general range fall low in the grand staff tend to sound "darker," "heavier," and more ambiguous than those found in a median or high area. The opposite, those melodies with tessiturae found high in the grand staff tend to sound "bright," clear and thin. In addition, there are those who believe that melodies that are centered in the "sharp" keys sound brighter than those found in the "flat" keys. This is a good subject to discuss over a few beers as it is subjective and probably has no documented proof of its reality. One can possibly find some examples that may work on stringed instruments whose strings are tuned to "sharp" pitches (E, A, D, G) as the open strings will respond to "sharp" keyed pitches by resonance (sympathetic vibrations). The sharp/flat key controversy will be found again in Chapter II.

STYLE

The styles of jazz melodies can be categorized into two main groups:

ROMANTIC

Jazz ballads, bossa novas, boleros and some medium and fast tempo songs have melodies that are constructed following the developmental procedures that have come from the melodic style of Tchaikovsky and Rachmaninoff by way of the popular music composers of the 20s to the 50s. Included are the efforts of expert film composers from the earliest to contemporary times. With this in mind, it is very important that the jazz composer as well as those aspiring to compose for the popular market: CDs, radio, television and films, be able to compose a romantic melody.

IDIOMATIC

These jazz melodies are constructed to conform to particular qualities that are defined by an historic era: bebop, swing, Dixieland, hardbop; a folk/ethnic reference: blues, Caribbean, pentatonic, pop; or by the performance peculiarities of an instrument or voice. Melodies can also be described by any noteworthy use of the elements: angular, lyrical, programmatic, symmetric, tetrachordic, or any of the others.

THE GENERAL MELODIC STYLE CATEGORIES

Romantic/Ideal: these melodies/compositions are based on the Romantic period philosophically, melodically and to some degree, harmonically.

Romantic/Melodic: these melodies show consistencies with romantic melody writing procedures but differ in philosophy, harmonic materials and emotional goals.

Idiomatic/Referential: modeled on the melodic descriptions of a style era, folk reference or instrument/voice performance characteristics.

Idiomatic/Abstract: these melodies are constructed to have a quality described as jagged, smooth, consonant, chromatic and similar depictions.

Idiomatic/Programmatic: the construction of a melody to define an emotional, modal or programmatic goal: pastoral, energetic, dark, mysterious and so forth.

In the main, jazz melodies are either romantic or non-romantic. The non-romantic melodies are so diverse - having so many variables in their descriptions - that a comprehensive representation of how the elements of melody writing were to be applied for each would be beyond the scope of this book. In addition, there are many melodies that have mixed influences: folk/modal, riff/pentatonic, and many more.

Another point to consider is that many compositions have different styles of melodies in different sections. Some examples are:

SONG SECTION STYLE - Contrasted and Combined Melodic Styles

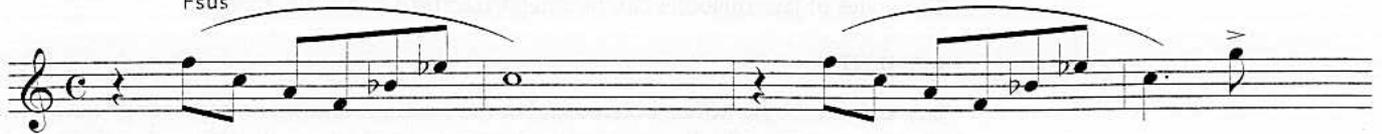
Example 1.12a: "The Girl from Ipanema" (excerpts from A and B sections) by Antonio Carlos Jobim

A *tritone/folk*
F Δ ⁹ Bb7 \sharp 4

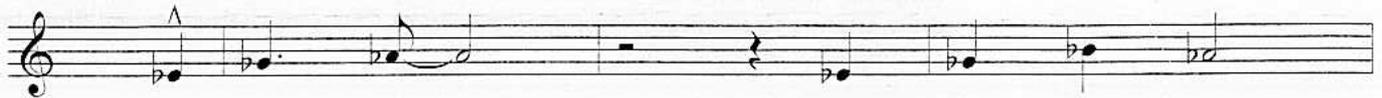
B *romantic/lyrical*
A-9 D-9 Gb Δ 6⁹ B11

Example 1.12b: "Passion Dance" (excerpts from A and B sections) by McCoy Tyner

A *angular/rhythmic*
Fsus



B *tritone/modal*
Eb-11



Example 1.12c: "Hoe Down" (excerpts from A and B sections) by Oliver Nelson

A *folk/pentatonic*
C major



B *symmetric/augmented*



Add to that the fact that many jazz melodies have contrasting harmonic styles and form, it should become clear why the study of melody writing is as difficult as it seems and requires many years of study, listening and playing experience. It is the diversity and overwhelmingly comprehensive variety of melodic combinations that makes the task seem formidable.

The approach to be taken for the remainder of the chapter is that of forming a method or a guide to follow that will establish a means for research and analysis of existing melodies that can serve as models for one's own melodic goals, along with the actual analysis of existing melodies. Additional melodic analysis will be found in each subsequent chapter of this book along with harmonic and formal analysis. The covert premise for all of Volume 2 of this book is in fact melody writing.

MELODIC STYLE ANALYSIS

Having established a stylistic goal for a melody writing project, the composer may want to gather some insights into the means of organizing the elements of a melody to define that style. Using the analysis guide found on page 40 of this book, follow these recommended procedures:

- Transcribe or refer to documented examples representing the stylistic goal.
- Listen to or play the example making note of the emotional quality of the melody by sections. Plot where you think the melody of each section falls on the folk/art spectrum.
- Using the analysis guide, analyze at least two examples.
- List any consistencies between the examples.
- Listen again and assimilate the melodies and their stylistic qualities.

Although the main point of interest in this chapter is melody writing, to understand a style definition, all the elements of a composition must be looked at simultaneously.

Analysis: hardbop style, including melody, harmony, rhythm and form.

Typical Songs:

“On the Ginza” by Wayne Shorter and “Nineteen Bars” by Horace Silver

Both compositions show use of the following:

A. FOLK REFERENCES

1. African
 - (a) statement and response
 - (b) blues riffs and pentatonic scales
 - (c) aggressive Afro/Latin rhythmic concepts
 - (d) riff motifs and figures
2. Western European Reference
 - (a) modality (melodic and harmonic)
 - (b) diatonic harmony
 - (c) diversity and contrast of harmonic rhythm
 - (e) drama - extremes of tessitura and dynamics

B. HISTORIC REFERENCE

1. Bebop roots
 - (a) swing rhythmic conception
 - (b) “front line” horn sound
 - (c) some melodic style reference
2. Big band
 - (a) form and development
 - (b) predominant “brass” sound
 - (c) arrangements: backgrounds, “shouts,” tutti sections

CONCLUSIONS

Intrinsically bebop in reference, hardbop differs by the conscious striving for high drama and excitement by extreme contrasts of dynamics, harmonic rhythm and rhythmic styles within the composition: shifts from swing to Afro/Latin to shuffle and back. Additionally, There is extensive use of riffs, “kicks,” breaks, and rhythmic motifs and figures played tutti.

Hardbop shows evolutionary significance by the extensive use of modality and contrasts of harmonic rhythm.

(See “Repose/Transition” in Vol. 1 and last question on p. 14.)

Like bebop, hardbop shows a departure from jazz performance as dance music or as a music whose purpose is to “serve” the customer. Hardbop is jazz with aspirations toward “art.” It is still entertaining, but under the composer/performer’s set of rules rather than the customer’s.

Of particular interest is hardbop’s use of rhythmic and melodic materials and approaches associated with the folk area of the art/folk spectrum while referring to European art music with its harmonic materials.

For the remainder of the chapter, we will look at a number of melodies in their entirety. Starting off with three examples of idiomatic (non-romantic) melodies of varying degrees of diversity; and because of their importance, the procedures for writing romantic melodies will be emphasized for the later part of the chapter with more specific non-romantic styles covered in later chapters.

NON-ROMANTIC MELODY EXAMPLES

Of the following examples, as with previous excerpts, only the most salient points will be listed. It is suggested that the student, using the analysis guide found on page 40 do a subsequent comprehensive analysis as time allows.

A. IDIOMATIC ANGULAR

Example 1.13a: "One Up and Down" (ms. 1-2) by Eric Dolphy, from *Out to Lunch*, Blue Note 84163

This melody is clearly angular and non-romantic. It starts off with a blues based motif defined by the downward skip from the $b3$ to the $P5$, balanced by an upward leap of a tritone to the $b2$ of the key. The accent on the second beat (the backbeat) additionally is blues oriented.

Example 1.13a: "One Up and Down" (ms. 3-5) by Eric Dolphy, from *Out to Lunch*, Blue Note 84163

The next three measures, intervallically angular and rhythmically quirky, set the general tone of the melody. Very chromatic, tense intervallic skips and disjointed melodic rhythm suggest that Eric was influenced by a 12-tone technique shaped by a blues scale when organizing this melody.

The last measure, very tense by intervallic skips and cadential note choices is finally balanced out by the final cadential resolution to the tonic; the last three pitches being an arpeggiation of a $G7\#4$ chord.

B. IDIOMATIC REFERENTIAL

Example 1.14a: "Caribbean Fire Dance" (ms. 1-4) by Joe Henderson

The first four measures provide a great example of the primitive qualities a melody can have when based on a tritonic source. Having only three pitches, the melody must be developed rhythmically - as this one does. There is clear statement and response, with much use of syncopation. Relative to the roots, the cadence pitches define E_b Lydian modality.

Notice the effect of metric compression by the eighth note shift to the left of the response. Of note also is the inclusion of the C# non-harmonic tone (nonmodal to E \flat Lydian). Joe uses this tension inducing device often and it is found in most of his melodies.

Example 1.14b: "Caribbean Fire Dance" (ms. 5-8) by Joe Henderson

The remaining four measures of the first section balance out the first four as a consequential phrase. Of note is the compression of the phrase by the shifting of the cadence points in the form of hemiola. The occurrence of the last cadence point on the fourth beat of the seventh measure followed by silence (a break) induces a great deal of tension which is resolved by the pickup on beat four of the last measure of this section. Compare this with the 7th and 8th bars of "Speak No Evil" and many other melodies by Wayne Shorter.

Example 1.14c: "Caribbean Fire Dance" (ms. 9-12) by Joe Henderson

Most significant in the 4-bar bridge is the use of a single pitch as a melodic source developed rhythmically for the first three measures. The balancing of the section with a compressed Phrygian tetrachord in the last measure is particularly effective. The statement/response organization of this section is similar to many blues tunes with a statement, a response, a repeat of the first statement and then a new second response. (S1, R1, S1, R2)

The combination of the simplicity of tritonic and single-note melodic source as well as the implied pentatonic quality of tritronics organized rhythmically produces a dance-like quality that defines this melody as idiomatic folk.

C. IDIOMATIC PROGRAMMATIC

The programmatic intent of the next melody (Example 1.15) is to create a relaxed pastoral setting. Influenced by Austrian folk music, this Ionian linear modal composition accomplishes its goal by:

- The overall melody excepting one pitch is based on E Ionian.
- Most motifs and phrases start and cadence on pitches that either clearly define Ionian or are cadentially complete due to their consonance (see p. 20).
- Relaxed melodic rhythm and relaxed linear modal harmonic rhythm. (see p. 13, Vol. 1)
- Use of statement and response along with asymmetric, melismatic phrasing.
- The melody has a relaxed median tessitura.
- Balanced contrasts in direction.

- A clear final cadence includes: downward direction, expansion of intervals by skips, starting on the E, a m3 down to C#, a M3 down to A, a P4 down to E, and finally, a P5 down to the cadence pitch of B. Notice that an A triad is outlined for further consonance.

Example 1.15: "In a Silent Way" by Josef Zawinul

Example 1.16: "American Hope" by Ron Miller

31 $Db13sus$ *fp* *cresc.* *ff*

37 $Bb13sus$ $A13sus$ $B13sus$ $Ab9sus$ Bb/Gb *sfzp*

43 $F13sus$ $Eb9$ $C-9$ *(bassline & solos)* *D.C.*

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This composition, like the previous one, is programmatic and influenced by the qualities of folk music. In this case, the influence is American folk/pop as the following points will attempt to reveal. In addition, the composition is another example of Ionian linear modal, providing a point of comparison.

Comments and salient points include:

- A non-harmonic pickup ($C\sharp$) to bar 1 is found also in bar 9. Compare it to the use of NH tones by Joe Henderson (ex. 1.14) and Tchaikovsky (Ex. 1.20). In addition, the motif is a quote, taken from Gershwin's "Prelude No. 1."
- A G minor chordal outlined opening statement is balanced by a response which cadences on a consonant held pitch. Compare this with the cadence points in the previous example "In A Silent Way."
- Found in bars 9-16 is a metric shift to the right and a compression of the opening statement, with new material in its response (S1-R1, S1-R2).
- The motif in bar 13 is an extant folk/pop cliché.
- Part II of the melody (bars 16-29) is based on a C minor pentatonic source, further defining the composition's folk qualities.
- Bars 17 and 18 include a tritonic statement which is responded by a tritonic folk/pop cliché in a contrasting direction.
- There is increased rhythmic activity and typical pentatonic melody treatment in bars 20-22.
- More folk/pop extant material in bars 25-27.
- Examples of held cadence pitches over Mixolydian sus4 chords are found in bars 29-31, 33-35, 37-39, and 43-45.
- The goal of the heightened rhythmic activity along with the chromaticism of bars 41 and 42 is to significantly increase the melody's tension to emphasize a clear and final cadence pitch.

The use of a consonant (5th of the home key) cadence pitch (bars 47-50), further defines the cadence's finality and is definitive of Ionian Linear Modal melodies. Notice that excepting for the aforementioned NH tones and the short bit of chromatic material found in bars 41 and 42, the melodic source of the melody is generally diatonic to Eb Ionian. The melody performed monophonically should define Eb Ionian and be relaxed and peaceful, as Ionian is intended.

Other points of importance would include the melody's tessitura, motivic development, melodic form, general melodic rhythm, and specific melodic rhythm just prior to cadence points. Investigate these points.

ROMANTIC MELODIES

One usually associates romanticism in music with the general era known as the Romantic Period (ca. 1800-1900) and its associated composers. Although that era and its composers epitomize our perception of romanticism in music, it should be pointed out that romanticism as described in this book refers to a style of melody writing that can be found in the works of Bach, Mozart, Ellington, Jarrett and Shorter as well as Tchaikovsky and Rachmaninoff. Fortunately, the qualities that define a romantic melodic style are easy to implement into a pedantic formula.

In order to better clarify the goals of a romantic melody writing project, a brief description of romanticism is in order. Romanticism is not merely a musical style period but is an aesthetic "point of view;" a measure of the degree of expressiveness found in any of the forms of human endeavor including the arts as well as day-to-day existence. As an expression, Romanticism is easily recognized in the works of writers, visual artists, dramatists, philosophers and composers having that "point of view" or of being of the Romantic period. To fully grasp the general definitions of romanticism, it is suggested that the student, if not already having done so, study and experience the works of the Romanticists in all areas of endeavor. Listed not by time period but by similarities in intensities of expression, a partial listing includes the writers Poe, Twain, Hawthorne, Goethe, Shelley, Melville, Coleridge, and Byron and the painters Kokoschka, C.D. Friedrich, Derain, Van Gogh, Delacroix and Matisse. Not including drama and dance, it is still quite an undertaking - but is a strongly recommended regimen of study for the aspiring composer.

Descriptions of the works of the romanticists and romanticism in general include:

- A contrived intent of drama (melodrama)
- A degree of pretentiousness
- Exaggerated expressiveness
- Seriousness
- Overly emotional/sentimental/personal
- A striving, yearning quality
- Enraptured, beautiful, programmatic
- A quest for the ideal; the infinite

Depending on the listener's background and musical tastes, the traits of romantic music could be interpreted as beautiful, lyrical, ideal and perfect or contrarily could be thought of as simplistic, pedestrian, overdone, trite or "corny." Unfortunately, due to the caricaturization of the elements of romantic music in film scores, many agree with the later descriptions. The author has had both points of view and at the time of this writing is convinced that romantic melodies are the most beautiful and most sorely needed in today's music.

The following is a listing obtained by a careful comparison of a number of romantic melodies from all eras as to how the elements of a melody are worked to create a melody whose main goals are to dramatize, to overly express and to create a sense of striving for the ideal.

Found in romantic melodies are the use of:

1. Many upward skips (some downward) of a major or minor sixth. These skips are very dramatic and are traditionally known as the "heroic leap" or the "romantic sixth." Keep in mind that they are consonant intervals and singable.
2. Other intervallic skips both up or down for various degrees of tension and dramatic effect.
3. Final cadence pitches usually are consonant, the general intervallic quality is lyrical.
4. Use of melodic chromaticism as a tension inducing device, or as non-harmonic tones to emphasize emotional expression or to enhance cadential resolution (see No. 7).
5. Balanced three part motifs with statements having slow melodic rhythm contrasted by a response with fast melodic rhythm which then becomes slow again at the cadence. Also, there are many examples of truncated versions of the above: fast statements followed by a slow, or delayed cadence.
6. In general, many repeated notes.
7. In particular, many repeated notes that become non-harmonic tones that are sustained and then resolved at the appropriate emotional "moment." Their direction of resolution is dependent on the directional contour of the melody prior to the non-harmonic tone

or on the cadential quality of the tone. Usually, but not always, non-harmonic tones found in cadential resolutions go downward and non-harmonic tones found in motivic statements go upward.

8. Simple binary form:

Part 1 - an exposition section showing predominant use of simple diatonic motivic statement and development with themes clearly presented.

Part 2 - extensive use of repeated phrases or sequences usually developing upward to attain a sense of longing for the ideal. This is the most dramatic, emotionally fervent portion of the melody; all the expressive effects are used to the maximum.

Note that romantic melodies and compositions can range from being light and happy in tone to dark and melancholic. Other romantic defining devices include the use of 3/4 meter and the often found $b6$ pitch at key cadential points.

The following examples are short excerpts of melodies from diverse sources and disparate eras which still have many romantic melody writing concepts in common. In addition, most of the examples have a number of the above listed descriptions of romantic melody writing techniques implemented in tandem.

EXAMPLES OF THE USE OF ROMANTIC MELODY WRITING

Note that in the following excerpts (excepting the jazz tunes) and all remaining examples in this chapter, the original harmonic material has been changed by utilizing the reharmonization techniques that will be given in Chapter II. You may find that by doing so, many of the works from the classical repertoire can be performed in a jazz/pop setting.

Example 1.17a: "Prayer" by Keith Jarrett (Intervalic Skips)

(romantic/idiomatic)



Measure 3 has an upward skip of a m6, in addition, there are three repeated notes. Note the balanced melodic rhythm.

Example 1.17b: "Where Do I Begin" by C. Sigman

(romantic/ideal)



This excerpt has both downward and upward skips of a m6 in measures 1 and 2, many repeated notes and an upward leap of a M6 (romantic 6th) in measure 3.

Example 1.17c: "American Dirge" by Ron Miller

(romantic/idiomatic)



Measure 1 has a downward m6, measure 2 an upward M6.

Example 1.17d: A Theme from "Samson and Delilah" by Camille Saint Saëns

Chord symbols: G-6, F#° F-11, E° A13, D-9, G13#4, G-9, A/C7

Tempo markings: fast, slow, fast, slow

(Chord symbols are suggestions, not found in the original composition.)

This example has many romantic devices:

- An upward skip of a m7, in measure 1 and 3, it is more tense than the skips in the previous examples.
- Use of chromaticism in measure 1 and 3.
- Repeated notes that become a non-harmonic tone which resolves downward found both in measures 1 and 2, and 3 and 4.
- A slowing down of the melodic rhythm at cadence points.
- And lastly, although an incomplete example, it starts to show the typical development of part two of the melodic form in which multiple repetitions of phrases or motifs in an upward trend created a sense of yearning for the infinite.

Example 1.18a: A Theme from "Samson and Delilah" by Camille Saint-Saëns (Melodic Chromaticism)

Chord symbols: FΔ⁹, A-7, D7alt, G° D♭13sus, C9sus, B-11, E7

(Chord symbols are suggestions, not found in the original composition.)

As introduced in example 1.17d of the previous examples, the use of chromaticism in measures 1-3 creates an emotionalism desired in romantic melodies.

Example 1.18b: "Prelude to a Kiss" by Duke Ellington

Chord symbols: D13sus, D7alt G7#4, G7alt, G-7, C7b9, A/F, F#-9, B7alt, B♭7alt, A7#5, A♭7#4

From a contrasting source, again chromaticism for emotional effect:

Example 1.19a: "May Breezes" by Felix Mendelssohn-Bartholdy from "Songs Without Words"

(balanced melodic rhythm)

Chord symbols: D7/F#, G

Tempo markings: slow, fast, slow

As labeled in the excerpt, it has a symmetric balance of contrasting melodic rhythms. The fast rhythm prior to the cadence emphasizes the cadential effect. There is in addition, an example of a repeated tone becoming a non-harmonic tone that in this case resolves up to the cadence pitch.

Example 1.19b: "Ana Maria" by Wayne Shorter

slow fast slow (delayed cadence)

From a contrasting source, balanced melodic rhythm with the cadence resolving downward.

Example 1.19c: Adagio in B minor by Wolfgang Amadeus Mozart

fast slow fast slow

(Chord symbols are suggestions, not found in the original composition.)

Illustrating the diversity of romantic melody sources and that they are not tied to a specific time period, this excerpt is clearly romantic as is the whole piece. Compare it directly to the Mendelssohn and Saint Saëns melodies then consult a music history text for the working time periods of these composers. In addition to balanced and contrasting melodic rhythm, there are repeated notes that become non-harmonic tones which resolve downward – overt romantic melody writing techniques.

Example 1.19d: Theme from Symphony No. 6 by Peter I. Tchaikovsky

fast slow fast slow

(Chord symbols are suggestions, not found in the original composition.)

The theme from Tchaikovsky's Symphony No. 6 ("Pathétique") is another example which demonstrates the use of a number of the previously listed romantic melody concepts.

THE PROTOTYPICAL ROMANTIC/IDEAL MELODY

The following melody is a perfect example to be referred to for a complete understanding of the concepts of romantic melody writing. It has most of the previously given techniques used in the clearest ways; it is a melody that has become the "classic" reference and musical accompaniment to any romantic image whether presented seriously or as a joke. In spite of its caricaturization of all that is wrong with the concept of romanticism, it is nonetheless one of the most beautiful melodies ever written. The melody, of course, is:

Example 1.20: The Main Theme from "Romeo and Juliet" by Peter I. Tchaikovsky

(Chord symbols are suggestions, not found in the original composition.)

The melodic form is modified binary (two part with a repetition): an exposition, the dramatic "yearning for the infinite" second part and a repetition of the first part .

Salient points and romantic devices include:

1. The melody starts off with a non-harmonic tone which resolves upward. Found in ms. 22 is the converse, a non-harmonic repeated tone which this time resolves downward.
2. Clear statement (ms.1) and response (ms.2) with the opening statement having slow melodic rhythm and the response being faster, providing balance.
3. The cadential note (F) of measure three is consonant and final as are most of the significant cadence points.

This melody falls somewhere in between romantic/ideal and romantic/melodic with a typically romantic melody, but a not so differing harmonic foundation. Its harmony probably could be described as jazz-romantic with a few areas of stark slash chord formulae (see pp. 96-106 in Volume 1).

Romantic devices as labeled by letters on the score:

- (a) Repeated notes.
- (b) Repeated notes that become a NH tone, resolving upward.
- (c) A romantic leap of a M6.
- (d) A romantic cliché.
- (e) The expansion and sequence of the previous cliché.
- (f) Intervallic expansion in an upward contour to create tension and drama prior to a release.
- (g) The release of the previous tense expansion; it is also an extant romantic cliché (a quote) from the pop tune "If I loved You So" and many others.
- (h) Repeated notes becoming a NH tone which resolves downward.
- (i) More leaps of a M6.
- (j) Four consecutive skips upward creating extreme tension and drama for the final cadence. The final melodic resolution is by leading tone.

OTHER SALIENT POINTS OF INTEREST

- The opening statement in bars 1 and 2, of fairly fast melodic rhythm, is balanced by a slow response in bars 3 and 4.
- There is a transposition of the opening motif in bar 5.
- A compression of the phrase in bars 7 and 8.
- A quasi striving quality in bars 9 and 10.
- The motif in the beginning of bar 16 is inverted in retrograde the end of bar 16 to 17.
- The motif in bar 10 is sequenced and extended in bar 17.
- Bar 19 is a sequence of bar 12.
- Bar 23 shows a small compression of the material in bar 21.
- Looking at the motif labeled (d), one can identify a sequence of it at the end of bar 23 to bar 25.
- The figure found in bars 6 and 7 relates to the material in 15 and 16.

And so on... Quite a bit could be pointed out, but the main idea is to identify the elements of romanticism and strong melodic construction.

Example 1.22a: "Solstice" (ms. 1-4) by Keith Jarrett

Romantic and salient features include:

- Measure 1 has three repeated notes with the last becoming part of the response in measure 2.
- Measure 2 has an upward skip of a m6 which is part of a romantic cliché; it also has repeated notes (see Ex. 1.17b).
- Measures 2 and 3 are connected by the top pivot point pitch E, and there is an expansion of the intervals: a m6 (G# to E), a M6 (G# to E) and a b7 (F# to E) all contributing to the sense of development and defining romanticism.

Example 1.22b: "Solstice" (ms. 5-8) by Keith Jarrett

- The previous finally resolves to the C# in measure 4; a pickup at the end of the measure initiates a truncated version of the material found in measures 1 and 2 in measures 5-7.
- Measures 8 and 9 offer a relief from romanticism by the peculiar quality of the symmetric pattern of an augmented scale.
- All winds down with a return to romantic material in bars 10 through 12, with bar 11 containing a beautiful cliché, and 12 a final sequence of it.

Example 1.22c: "Solstice" (ms. 9-12) by Keith Jarrett

The very dark and stark harmonic foundation of this composition is balanced by its beautiful romantic melody giving this composition an ingratiating quality worth investigating.

Note: the harmonic analysis of this composition is included on page 106 of Volume 1 for those interested in further reference.

CONCLUSION

As initially stated, melody writing is a complex and comprehensive subject. No amount of reading or study can substitute for the years of listening to and/or playing of great melodies that is the most beneficial means of learning to construct a good melody. If the student does not have a repertoire of great melodies of diverse origins readily available from memory alone, now is the time to start a serious listening regimen!

The suggested exercises and the recommended listening list at the end of the chapter is a place to start. In addition to relegating numerous melodies to memory, one should be able to play or sing the important themes in any key; it will be of extreme benefit for both composition and improvisation. As suggested in Volume 1 of this book for harmonic materials, any time music is present, whether by car radio, home sound system, cinema, television or live performances, listen analytically. Generally, try to describe a melody's quality as folk or art influenced; its source (tritone, chromatic, modal); its style description (romantic, idiomatic, programmatic); try to recognize how the melody is balanced, both at the motific and phrase levels. Then determine if you like the melody or not, and why. The next step is to select a melody that particularly affects you, and analyze it, determining what it is that its author did to create a classic.

In the next chapter we will return to the concepts of harmony. Of importance are the techniques given to harmonize an extant melody. Very much a part of the "new jazz" scene is the reworking of materials from the "standard" repertoire. With that subject, we will combine harmonization, reharmonization, and melody writing into a unified whole.

SUGGESTED EXERCISES

1. Listen to 8 melodies of diverse styles. By section, comment on the following:
 - (a) Its placement in the folk/art spectrum
 - (b) Scalar source material(s)
 - (c) The use of statement/response
 - (d) Phrase quality
 - (e) Label the melodic style(romantic/ideal, idiomatic or others)
 - (f) Describe your emotional response.

EXAMPLES:

“Badia” by Joe Zawinul, Weather Report, from *Tail Spin*
 “One By One” by Wayne Shorter, The Jazz Messengers, from *Ugetsu*
 The Adagio from the Piano Concerto in A by W.A. Mozart
 “Blossom” by Keith Jarrett, from *Belonging*
 “Hoe Down” by Oliver Nelson from *Blues and the Abstract Truth*
 “Look to the Sky” by Antonio Carlos Jobim from *Wave*
 “Rufus” by Archie Shepp from *New Thing at Newport*
 “Work Song” by Nat Adderley, from *Cannonball in New York*

2. Compose four melodies following the specific directions listed below; harmonization is optional but recommended.
 - (a) With a tritonic source, phrase a 12-bar melody with this statement/response formula: || S1, R1 | S1, R2 | S2, R3 ||.
 - (b) An 8-bar form with four bars of increased activity to a held cadence pitch for the remaining four bars (see Ex. 1.11).
 - (c) A 3-bar single pitch melody, developed rhythmically, balanced by contrasting material in the fourth bar (see Ex. 1.14c, p. 27).
 - (d) Compose an 8-bar romantic melody which shows a striving quality toward the infinite. Label the use of motivic development (see Ex. 1.20, p. 34).
3. List ten melodies from the “standard,” jazz, Latin, or pop repertoire that can be labeled romantic.

EXAMPLES:

“Some Enchanted Evening” by Richard Rogers
 “Mayaka” by Wayne Shorter
 “Without You” by Irving Berlin
 “All the Things You Are” by Jerome Kern
 “Something to Remember” by Leonard/Madonna
 “Beauty and the Beast” by Menken

4. Compose a romantic melody.
 - (a) Following the form of your choice (at least ten bars).
 - (b) Harmonized in any style, but include at least two areas of slash chord technique.
 - (c) Include all performance directives: articulations, dynamics, phrasings, etc.
 - (d) Following the analysis guide found on page 40, include a comprehensive analysis; label specific romantic devices that you used.
5. Refer to the “Adagio” by Tomaso Albinoni included here. Completely analyze it using the analysis guide, include a labeling of the romantic devices which are used.

Adagio by Tomaso Albinoni

slow and dirge-like

The musical score consists of five staves of music in a 3/4 time signature, written in a key with three flats (B-flat major or D-flat minor). The melody is slow and dirge-like. Chord suggestions are provided above the notes. The chords are: Eb-, Fø^{♯2}, Bb7^{♭9}, Fø^{♯2}, Bb7^{♯5}, Bb/Gb, Eb13sus, Eb7^{♭9}, Ab-13, Db13sus, Db7^{♭9}, Bb/Gb, Eb-/Gb, Gb6₃, Fø^{♯2}, Bbsus2, Bb/Ab-, Eb7/G, Ab-, Eb-/Bb, FbΔ⁹, Eb-, Bbsus2, Bb7^{♯5}, Eb-9.

(Chord symbols are suggestions, not found in the original composition.)

SPECIAL PROJECT: FOLK MUSIC SURVEY

This is a comprehensive project that is related to the materials found in all chapters of this book – but in particular to the third: Pentatonic Compositions. It needs to be “in progress,” with most of the work being done now, with review and additions taking place later in the study schedule.

Researching both texts and recordings, select from the world’s folk musics, at least ten from different parts of the globe, and analyze, paying particular attention to the following:

- Source scalar material
- Statement and Response organization (S/R)
- Melodic rhythm relative to harmonic rhythm
- Expressive devices and pitch variations

EVALUATION

Select a number of the melodies that you particularly liked, to be used later as a model for your own melodies. Make a note about the peculiarities that endeared you to any melody.

Make note of any quality that is found in common with most melodies of all categories – that may prove to be a universal “truth” of affective melody writing.

It is suggested that the reader start with the folk sources closely related to jazz compositions than continue on to personal or nationalistic interests. Start with the following folk musics:

- African
- Japanese
- Brazilian
- American Indian
- British/Irish

Of the “new world” sources, try to determine the percentage of native to European influence; for instance, what is the real influence or source of the (Cuban) Clavé?

MELODIC ANALYSIS REFERENCE GUIDE

The following is an outline of the elements of a melody that were covered in the previous pages of this chapter and will be referred to in subsequent chapters. It should also serve as an “instant” guide to be used when analyzing melodies as assigned in this book.

A. Source Materials

1. Single notes
2. Tritonic scale fragments
3. Tetratonic scale fragments (tetrachords – see Vol. 1)
4. Pentatonic scales
 - (a) diatonic
 - (b) altered
 - (c) add note (sextatonic)
 - (d) blues scales
5. Diatonic and altered diatonic modes (sepratonic)
6. Symmetric scales
7. Harmonic references
 - (a) arpeggiations
 - (b) guide tones/common tones
8. Quotes
9. Non-western scales (octatonic and more)

B. MOTIFIC DEVELOPMENT

1. Repetition
2. Sequence
3. Inversion
4. Retrograde
5. Retrograde Inversion

6. Isorhythm
7. Isoarticulation
8. Truncation/extension
9. Displacement
10. Mutation

C. CONTOUR

1. Directional
2. Intervallic
 - (a) diatonic
 - (b) chromatic
 - (c) skips
3. Note value
 - (a) augmentation
 - (b) diminution
 - (c) compression
 - (d) decompression
 - (e) articulations
4. Point of climax
5. Balance

D. FORM

1. Statement and response
2. Phrasing
 - (a) antecedent/consequence
 - (b) symmetrical/asymmetrical
 - (c) sectional
 - (d) through composed

E. MELODIC RHYTHM

1. Melodic tempo
2. Cadence points
3. Syncopation

F. EXPRESSION

1. Articulations
2. Dynamics
3. Effects
4. Sound support phrasing
5. Tempo markings

G. KEY/TESSITURA

H. STYLE

1. Dance/rhythmic
2. Historic/ethnic
3. Idiomatic
4. Mixed/sectional style
5. Vocal/romantic

RECORDINGS AND READINGS

As a listening source for melody writing concepts, almost every available recording could be a suitable example. The following lists the sources that are referred to in the text plus a few more.

A. RECORDINGS

<i>At the Lighthouse</i>	Joe Henderson	Milestone 9028
<i>Silver's Serenade</i>	Horace Silver	Blue Note 84131
<i>Wave</i>	Antonio Carlos Jobim	A&M 3002
<i>Rhapsody Espagnole</i>	Maurice Ravel	misc. recordings available
<i>The Firebird</i>	Igor Stravinsky	misc. recordings available
<i>Black Market</i>	Weather Report	Columbia 34099
<i>Zawinul</i>	Josef Zawinul	Atlantic 1579
<i>Ballads</i>	John Coltrane	GRP156
<i>The Music of Ron Miller</i>	Ron Miller	CPP/Belwin
<i>The Sorcerer</i>	Miles Davis	Columbia 52974
<i>Samson and Delilah</i>	Camille Saint-Saëns	misc. recordings available
<i>Brooklyn Blues</i>	Danny Gottlieb	Big World 2005
<i>The Real McCoy</i>	McCoy Tyner	Blue Note 456
<i>Ju Ju</i>	Wayne Shorter	Blue Note 37644
<i>Schizophrenia</i>	Wayne Shorter	Blue Note 32096
<i>Out to Lunch</i>	Eric Dolphy	Blue Note 84163
<i>Death and the Flower</i>	Keith Jarrett	Impulse 9301
<i>Get Happy</i>	Tony Bennett	Columbia 30954
<i>Cinema LeGrand</i>	Michel Legrand	MGM 4491
<i>Songs Without Words</i>	Felix Mendelssohn-Bartholdy	misc. recordings available
<i>Symphonies No. 5 & 6</i>	Peter I. Tchaikovsky	misc. recordings available
<i>Romeo and Juliet</i>	Peter I. Tchaikovsky	misc. recordings available
<i>Belonging</i>	Keith Jarrett	ECM 1050
<i>Concerto No. 2</i>	Sergei Rachmaninoff	misc. recordings available
<i>Liberal Arts</i>	Elements	Novus 3058-N
<i>Native Dancer</i>	Wayne Shorter	Blue Note 54173
<i>Speak No Evil</i>	Wayne Shorter	Blue Note 32096
<i>Silver's Serenade</i>	Horace Silver	Blue Note 4131
<i>Adagio</i>	Charlie Mariano	LIP 8924-2

B. READINGS

<i>Romantic Music</i>	Leon Plantinga	W. W. Norton, 1985
<i>Contemporary Harmony: Romanticism Through the 12-Tone Row</i>	Ludmila Ulehla	Advance Music, 1994
<i>Changes Over Time: The Evolution of Jazz Arranging</i>	Fred Sturm	Advance Music, 1995
<i>Music Idioms</i>	G. Welton Marquis	Prentice-Hall, 1964
<i>Eric Dolphy</i>	Simoko & Tepperman	Da Capo Press, 1979

Chapter 2

REHARMONIZATION

WORDS OR CONCEPTS TO KNOW

- | | |
|----|---------------------|
| 1 | Standard Repertoire |
| 2 | Altered Modality |
| 3 | Substitution |
| 4 | Diatonic |
| 5 | Chromatic |
| 6 | Function |
| 7 | Harmonic Rhythm |
| 8 | Cadence |
| 9 | Cycle |
| 10 | Turnaround |
| 11 | Approach Chord |
| 12 | Added Chord |
| 13 | Target Chord |
| 14 | Pedal Point |
| 15 | Stock |
| 16 | Original |

HARMONIZATION

Every so often, a student may inquire, "in the compositional process, is it better to write the melody first or to come up with a set of chords first?" The answer of course, depends on the individual composer; most, like the author, probably work with melody, harmony, and rhythm simultaneously, each influencing the outcome of the others. Often, a composition may develop out of a seed idea in the form of three or four chords in a vamp, or from a peculiar bass figure. Other times, a particularly satisfying motif or melodic fragment may inspire the completion of a section, or a complete composition. The point is that the initial inspiration, in whatever form it emanates, is what really provides the basis of a composition of worth.

For those whose melody writing skills are more developed than their harmonic abilities - usually it is the student who has had extensive training in traditional theory/composition, but is relatively new to jazz composition and harmony - the following are some points to consider when attempting to create a harmonic progression to a given melody. Although the techniques are meant for use with a melody original to the composer, they could be applied to an extant melody of any era.

There are two ways of accomplishing the goal: the preplanned and the intuitive. The intuitive method seems less effective in creating harmonies though, probably due to the density of and the difficulty in "hearing" many notes simultaneously.

THE PREPLANNED METHOD

To be successful with this method, the student needs to be well accomplished with the materials found in Volume I of this text. In fact, the following could be thought of as a synopsis of the important features of Volume I. Of particular importance are the abilities to recognize and work with:

- Tetrachords, modes, and symmetric scales and patterns.
- Modal chord construction with the "grip" method.
- The connection of chords by common tones and structures.
- The concepts of harmonic contour.
- The concepts of momentum.

THE PROCEDURES

A. MELODIC ANALYSIS

Using the analysis guide found on p. 40 of this volume, note any peculiarities that may predict a harmonic definition, paying particular attention to:

- Important source materials - trichords, tetrachords, overall consonant, skips, symmetry and so forth.
- The emotional contour, cadence points, balancing techniques, and the point of climax.
- The general style description: folk, hardbop, ECM.

B. BASS MELODY CREATION

The importance of a strong, well developed bass melody cannot be overemphasized - it will hold together the harmonic foundation of any composition, and will contribute to the musical development of other areas. Consider the following when composing a bass melody:

1. Contour:
 - (a) symmetric or asymmetric note durations.
 - (b) direction, use of counterpoint to the given melody.
 - (c) intervallic trend.
 - (d) use of melody writing procedures and development.

2. Rhythm:
 - (a) slow/fast, sustained notes
 - (b) repose and transition, cadence and pedal point
 - (c) speed relative to the given melody
 - (d) the use of vamps

C. CHORD SELECTION

1. Determine the general harmonic style goal:
 - (a) bebop, hardbop, ECM, pop/Latin, free form modal,
 - (b) analyze a number of compositions in the selected style (see p. 24).
2. Review the descriptions of modal harmonic styles:
 - (a) linear
 - (b) plateau
 - (c) vertical
3. Review the concepts of modal contour for modal chord selection.
4. Select chords that fulfill a modal contour goal, use of "grips" aids in the process.
5. Create a chord-contour melody.

TO REVIEW, THIS IS THE MELODY DERIVED FROM ALL THE TOP PITCHES WHEN SPELLING OUT THE CHORDS.

- Use of common tones and structures.
- Use of counterpoint, intervallic and directional contour.

GETTING STARTED

This is the hard part - unless a lot of preplanning has been done and the goals are pretty clear. There are so many possibilities, that unless one has composed a lot and developed the decision making process to the point of being confident in the musical worth of one's initial selections, the whole process can be overwhelming to the point of "giving up."

Start by composing a bass melody that follows the contour you feel best suits the harmonic goal. Try a number of chords of varied modal qualities for the first chord that will set the tenor for the development of the remaining chords. The neat step is to add chords at the cadential points, then filling in with the remaining chords between those points according to a preplanned harmonic contour.

Unless you are evolving to the intuitive approach by this time, much experimentation will probably be needed. Trying many different chords and harmonic contours will require patience and perseverance. Being accomplished with the "grip" method of chord construction will be of great assistance in this process.

In a nutshell, this is the order of steps to follow to help organize your thoughts for the harmonization process:

- Create a bass melody, following the preplanned harmonic contour and being aware of bass melodic cadence.
- Select a "first chord" per section.
- Experiment with various chords that satisfy both the preselected modal contour and cadence resolutions.
- Re-voice the chords to create a chord melody that conforms to a preplanned melodic contour and cadential requirements.
- Continue experimenting and tweaking until both the aesthetic and style defining requirements are met.

The following examples may offer some clarity and/or insights into the process. The comments address the above steps in the order given, if applicable. The melodies of the examples were composed for illustrative purposes without any concern for aesthetics.

HARMONIZING GIVEN MELODIES

MELODY I

The source of this melody can be identified as being a diatonic G minor or B \flat major scale. Its directional contour is generally downward to the cadence pitch, with the cadence pitch not being balanced by an additional pitch in contrary direction. It has a final quality due to its melodic rhythm.

Example 2.1: Harmonization of a Diatonic Melody (I) and a Chromatic Melody (II)

I – Diatonic Melody

II – Chromatic Melody

(a)

(b)

(c)

Chord symbols for (a): Aeolian, Mixolydian 11, -9, Lydian, suspended, -11, -9, suspended.

Chord symbols for (b): Aeolian, Locrian, suspended, -9, suspended, -11, -11, -11, -11, -11, -9.

Chord symbols for (c): Lydian, suspended, Lydian+, 7 \flat 9, suspended, Aeolian, suspended, Lydian, suspended, altered.

COMMENTS:

HARMONIZATION (a)

The Bass Melody – starts with the same pitch as both the main and chord melody, creating a clear “harmonic statement.” It then goes upward in a direction contrary to the main and chord melodies, with intervals that get progressively smaller, providing an increase of tension that is resolved with the final cadence pitch a tritone away. Its general source, other than the cadence pitch, is diatonic to the main melodic source.

The Chord Melody – starting on the same pitch as the main melody, there is then a P5 skip downward to a cadence pitch, then another skip to a repose-cadence, defined by the use of common tones.

The Chord Selection - the harmonic rhythm is slow and symmetric, with the chord selection based on 3-note groupings (tritronics) of the main melody. The first tritonic - D, C, B \flat - implies B \flat major or G minor and the "first chord" choice of G minor/D is diatonically relative to the melody.

The second chord choice, diatonic to the A-G-F tritonic, gives an effect of being brighter after the first dark Aeolian chord, providing a sense of harmonic contour. The next chord, the tonic, provides a resolution of the drama created by the previous one.

The last chord, connected to the previous by common tone, has a subtle dominant quality due to the melodic quality of the bass pitch. Notice the alternating modal quality of the selected chords: dark/bright/dark/bright, this provides harmonic contour as well as a variety of modal description. Other considerations made in the selection process were the variety of "grips," and voice-leading.

HARMONIZATION (b)

The Bass Melody - starts with the use of pedal point on the main melody pitch, showing a repose/transition contour. The overall source is a chromatic fragment which implies Phrygian with the E \flat . Its directional contour is upward in contrary motion to the main and chord melodies.

The Chord Melody - is the same as the main melody due to the use of parallel "grips" to harmonize the melody.

The Chord Selection - starting with a tonic B \flat (Gm)/D, grip selection was made to increase the modal/spacing tension to the E minor chord which resolves to the F13sus4 in the form of a *parody cadence*.

HARMONIZATION (c)

The Bass Melody - a simple chromatic scale, downward to the target F, starts on a non-diatonic A \flat .

The Chord Melody - starting on a diatonic pitch, although its melodic shape shows obscured direction, it does move in contrast to the bass melody by groups of two. Ending on a nondiatonic pitch, the source of this melody is B \flat major.

The Chord Selection - alternating non-dominant (major 7) chords and dominant (b7) chords implies a modal cycle resolving to a dominant of the tonic B \flat .

MELODY II

This melody is purposely chromatic to introduce the problems peculiar to that source: that of selecting chords whose modality allow two or more pitches that are chromatic. In a general downward contour, the melody is resolved by balancing its direction with an upward skip of a P4. A general modality of the melody cannot be determined, but the cadence point implies F or B \flat major and their relative minor tonal centers.

In general, notice the nondiatonic quality of the bass melodies up to the cadence points. The chord selection and spelling, needing to include one the main melody pitches, is more diatonic, at least to one pitch at a time. Other than example (c), most of the selected modalities are homogeneous. These traits are descriptive of the means taken to harmonize a melody that is harmonically obscured by having a chromatic source.

By now, further comments may become redundant. It is suggested that a more detailed analysis and comments be completed by the reader. The subject of harmonization will be continued in Chapter III on page 96 under the subject of "Harmonization and Harmonic Rhythm."

Having created an initial set of chords for a given melody, one can further develop the skeletal harmonic material by the use of reharmonization techniques. Although the reharmonization process can be used to develop the harmony of one's own compositions, it is most often applied to the chords of the "standard" jazz repertoire.

REHARMONIZATION

THE JAZZ COMPOSER'S PREDICAMENT

Essential to the repertoire of the learning jazz performer are a number of compositions known as "standards." These are the popular songs, ballads and dance tunes of the 20s to the 50s that are the basis of the traditionalist, bebop oriented jazz performance.

Most jazz improvisors acquire their craft by learning standards, blues tunes and a few simple modal compositions. Having invested so much effort into the learning of the standard repertoire with its ties to tonal harmony and the symmetric AABA song form, it is understandable that many resist the selection of compositions with unconventional harmonic material and unusual form for the programming of concerts and recordings. Add to this the fact that once the voice-leading of the diatonic II-V-I cadence and tonal harmony is learned, it can be applied to all tunes that are based on that system. Consider also, that most of the hippest "licks" and melodic figures having been learned from the recordings of one's hero-of-the-day can be used as one's own in any tune having the same harmonic foundation. What it all means is that new music, with harmonic and melodic material unique to its creator requires that the performer, if other than the composer, must learn the new composition and its improvisational materials with little reference to already worked-out materials. Many of the more conservative performers resist this.

Another consideration is that of this writing, there is the perception that jazz is in danger of becoming like classical music, that of a re-creative music; that the thrust of jazz recordings and performances is that of re-creating the music of the past: tonal song form compositions with ties to bebop and hardbop.

All this presents a predicament for the serious jazz composer desiring an expression of originality and creativity. How does one get great players to play his tunes without coercion, and how does one address the trend toward jazz as a re-creative music?

One way is to have recorded examples of his or her works distributed widely enough that players hear them and learn to enjoy them to the point that they want to learn to play them. Of course, one needs to be in an environment where if one's compositional/performance skills are known and appreciated, and there is the possibility of attaining financial backing for the production of a recording.

A more flexible approach is work within the standard repertoire and rework the given materials in a way that the resulting product reflects the composer's personal aesthetic and creative abilities while allowing the improviser an access to his learned improvisational skills.

That is the goal of this portion of the chapter, to look at some techniques that allow the composer or composer/improviser to personalize a composition from the standard repertoire; from a mere "freshening up" of the changes to the creation of a totally new composition which is a pastiche of the original. In addition, the techniques can be used along with the previously given techniques, to harmonize a given melody for those composers who prefer to write melodies and then later add the harmony. And lastly, the techniques can be of use to the big band arranger who is desirous of creating an innovative version of an over-worked standard.

The information given presupposes that the student has a working knowledge of tonal harmony and the diatonic system and is aware of cadences, cycles, turnarounds and tritone substitution. If not, consult the books listed at the end of this chapter.

THE TECHNIQUES

In addition to the techniques original to the author, many were derived from an analysis of the recordings of Gil Evans, the "standard" harmonic approach of Herbie Hancock (particularly from the Miles Davis recording *My Funny Valentine*), and from the methods of the many unknown arrangers of "easy listening" music.

Although the techniques can be applied to established jazz compositions, it is recommended that students limit the first attempts to "standard" II-V-I songs as they are the compositions that most have a need to be personalized.

The techniques generally fall into the following categories:

A reworking of:

- the chords
- the harmonic rhythm
- the key, tempo and rhythmic style
- the form
- the melody

A. CHORDS

The chords given particular attention are chords that begin sections, target chords, and the chords of cadences, cycles and turnarounds.

The chords can have:

- changed modality (alteration)
- changed chord root (substitution)

Normally the modality of a chord is changed when the root is changed.

ALTERED CHORDS

A chord alteration is simply a change in the modality of the original chord without changing the original root. Usually the new modality maintains the functionality of the original, but it is not a strict requirement. If there is a number of notes within a phrase of the original melody, try to detect a tetrachord or modal fragment to assist in determination of the new chord's modality. If there is one melody note for the chord, using commontone technique (see Chapter VII in Vol. 1) will allow a wide variety of possible alterations.

CHORD FUNCTION

The *function* of a chord refers to its property of being at rest or desiring resolution. Chords defined as non-dominant have little or no desire to resolve, chords labeled dominant do have a desire to resolve or are in association with chords that need to resolve (see "Momentum" in Vol. 1). To maintain a function similar to the original chord, select an alteration with a resulting modality within one to two chords above or below in the order of modal resolution.

CHORD FUNCTION CATEGORIES:

Nondominant – chords having a natural 7 or no 7:

- Lydian #5
- Lydian ♯7
- Lydian #2
- Lydian ♯5
- Lydian ♭3
- Ionian #5
- Ionian ♯5
- Ionian ♭6
- Ionian ♭3
- sus4 no 7
- sus 2 no 3
- maj 9 no 7
- min 9 no 7

Subdominant – can function as either dominant or non-dominant

- Dorian ♯7, #5
- Dorian ♯7, ♯5
- Dorian ♯7, ♭5
- Dorian ♭7, ♯5
- Aeolian ♭7, ♭5
- Dorian ♭7, #4
- Dorian ♭7, ♯4
- Aeolian ♭7, ♯5
- Aeolian ♭7, ♭5
- Phrygian ♯7, #5

Dominant - chords having a b7 or a b2:

Mixolydian #2, #4
 Mixolydian #2, #4
 Mixolydian b6
 Mixolydian b2
 Mixolydian #2, 4
 Mixolydian b2, 4
 Phrygian #6, #4
 Phrygian #6, 4
 Phrygian #3, b6
 Phrygian b3, b6
 Locrian #6
 Locrian b6
 Locrian bb7
 Locrian b4
 Locrian #4
 Altered #6
 Altered bb7
 Altered bb6, bb7
 Mixolydian sus4
 Mixolydian no 4

Keep in mind that it is not really necessary to select a modality that has the same function as the original, that the overall style of the reharmonization will dictate the mode choice. (see the portion on "style")

GENERAL PRACTICE ALTERATION EXAMPLES

ALTERED DIMINISHED CHORDS

Diminished chords are nonmodal chords that can have a both a dominant and sub-dominant function. Due to their nonmodal character, their vertical construction tends to create an inconsistency of sonority as well as spacing quality when used in context with modal chords.

Diminished chords usually have a sub-dominant function to II minor or sus4 chords or a dominant function to I chords and are found both in cadential and non-cadential areas.

The following example is a listing of suggested alterations to the basic o7 chord to create a homogeneous modal sound.

Example 2.2: Altered Diminished Chords

COMMENTS:

- 1 Traditional resolution and spelling of the o7 chord.
- 2 Alteration of the o7 to a Dorian #5 chord (see Vol. 1, Chapter 15).
- 3 Downward resolution, alteration to a Dorian #7 (minor/major 7).
- 4 Use of the Locrian #2, half-diminished chord to a sus chord.

SUBSTITUTE CHORDS

A substitute chord will show a change in the root of the original chord; the chord's modality is usually altered as well.

The substitute root can be:

- a diatonic substitution with diatonic chord spellings
- a diatonic substitution with chromatic chord spellings
- a chromatic substitution
- a "special case" substitution based on the arpeggiation of a diminished seventh chord from the original root which includes the chromatically substituted minor third and the tritone as well as the diatonic substitution of the M6 (b7).

A. DIATONIC SUBSTITUTIONS

These reharmonization techniques have been designed to be applied to the diatonic tonal system, since much of the harmonic material of the original version will show clear diatonic key centers.

A diatonic substitution refers to a change of root that will be diatonically related to the Ionian mode of the key center of a particular section if not the entire composition.

As an example, if the chord being substituted is an Fmaj7,9 and the key signature shows the key of C, a possible substitute root could be selected from any of the notes of the C Ionian mode.

DIATONIC SUBSTITUTIONS, DIATONIC SPELLINGS

When a diatonic substitution is made and the melody note is diatonic to the key of the section or tune as a whole, the spelling of the new chord conforms to the diatonically related modality of the modes derived from the original Ionian.

The following table, based on the key of C, gives a cross reference to all of the diatonically related roots with diatonically spelled chords. The table is constructed by taking the seven basic triads constructed from the seven different steps of the Ionian mode and placing them over each of the seven different steps. As one can see, this produces a combination of 49 possible diatonically substitutable chords.

TABLE OF DIATONIC SUBSTITUTIONS:

Roots: Triads:	I C	II D	III E	IV F	V G	VI A	VII B
G	G/C	G/D	E-7	G/F	G	A9sus4	G/B
A-	C6	D-9	E4/6	FΔ	G4/6/2	A-	B Phr
Bo	CΔ2/4	D-6	E Phr	F6#4	G7	A Aeol	Bo
C	C	D9sus4	E Aeol	FΔno3	C/G	A-7	B Phr
D-	CΔ6/4/2	D-	E Phr	F6	G9no3	A Aeol	Bo
E-	CΔ	D2/4/6	E-	FΔ#4	G6	A9no3	B Aeol
F	F/C	D-7	E Phr	F	G9sus4	A Aeol	B Loc
preferred:	G/C	D9sus4	E-7	C/F	G9sus4	A9sus4	B Phr

DIATONIC SUBSTITUTIONS, CHROMATIC SPELLINGS

When the melody note of the original chord is not diatonically related to the composition's key, the chord spelling of the new chord also will be nondiatonic to the composition's key. In this case, the new chord will be selected from one of the group of altered-diatonic modes which has both the melody note and one of its pitches in common.

Referring to Volume 1, the chords found in both volumes are from the following sources:

- | | |
|------------------|--|
| unaltered parent | Ionian ♯3 ♯7 (Ionian) |
| altered no. 1 | Ionian ♭3, ♯6 (melodic minor) ♯7 |
| altered no. 2 | Ionian ♭3, ♭6 (harmonic minor) ♯7 |
| altered no. 3 | Ionian ♯3, ♭6 (harmonic major) ♯7 |
| altered no. 4 | Ionian ♭3, ♯5, 9 (melodic minor ♯5) ♯7 |

As an example, if the original melody note is $A\flat$, and the original chord is D Locrian $\natural 2$ (half-diminished), and the key of the tune or section is in C major (Ionian), any of the altered diatonic source scales and their modes that have the pitches of C Ionian and $A\flat$ in common will be workable substitutions.

There are quite a number of selections that will work:

C harmonic major	C	D	$E\sharp$	F	G	$(A\flat)$	B
C harmonic minor	C	D	$E\flat$	F	G	$(A\flat)$	B
F melodic minor	C	D	$E\sharp$	F	G	$(A\flat)$	B
F harmonic minor	C	$D\flat$	$E\sharp$	F	G	$(A\flat)$	B
$D\flat$ Ionian	C	$D\flat$	$E\flat$	F	$G\flat$	$(A\flat)$	$B\flat$
$E\flat$ Ionian	C	$D\sharp$	$E\flat$	F	G	$(A\flat)$	$B\flat$
A harmonic minor	C	D	E	F	$(G\sharp)$	$A\sharp$	B

And so on...

As will be covered in more detail later, the harmonic style and its bass melodic requirements will help determine which source scale to select.

As an example, some diatonic substitutions for D Locrian $\natural 2$ include:

FROM F MELODIC MINOR (REFER TO EX. 2.3 BELOW)

C Ionian:	C	D	E	F	G	A	B
F melodic minor:	C	D	E	F	G	$(A\flat)$	$(B\flat)$

G Phrygian $\natural 6$, F Dorian $\natural 7$, E altered and C Mixolydian $\flat 6$, having roots in common with C Ionian as well as an $A\flat$ in their chord spellings, are selectable substitutions for the original D Locrian $\natural 2$.

FROM $E\flat$ IONIAN

C Ionian:	C	D	E	F	G	A	B
$E\flat$ Ionian:	C	D	$(E\flat)$	F	G	$(A\flat)$	$(B\flat)$

C Aeolian, F Dorian, and G Phrygian $\flat 6$, having roots in common with C Ionian, as well as the $A\flat$ melody note in their spellings, are workable substitutions.

FROM A MELODIC MINOR:

C Ionian:	C	D	E	F	G	A	B
A melodic minor:	C	D	E	$(F\sharp)$	$(G\sharp)$	A	B

C Lydian $\sharp 5$, D Mixolydian $\sharp 4$, E Mixolydian $\flat 6$, B Phrygian $\natural 6$, and of course A Dorian $\natural 7$ are substitutable.

Example 2.3: Spelled-Out Versions

COMMENTS:

- 1 The original cadence with a D Locrian $\natural 2$.
- 2 A diatonic substitution of a Phrygian $\natural 6$ for the D chord with the G chord being an alteration, both are diatonic to F melodic minor.
- 3 Use of pedal point and a diatonic substitution.
- 4 Substitutions that are diatonic to A melodic minor.

As one can see, there is quite a large variety of selections to be made that are a workable substitution for one melodic note substitution.

Where there is more than one melody note per chord, possibly a melodic fragment or motif, the modality of that fragment will determine the source of substitution. If the melodic fragment does not have a clear relationship to any modality (probably because it is symmetric or chromatically disjointed – although this is rare in tonal based harmonic systems), the harmonic rhythm must be changed by the addition of more chords. (This will be covered later.)

To assist in the selection process one should pay particular attention to the melodic quality of the bass part with the substituted chord's root sustaining a melodic consistency with previous and later roots, or of a desire to keep the roots in intervallic ratios of a fourth or fifth.

Another consideration to be made in the selection of the new chord is the desire to maintain the functionality of the original chord. This should narrow down the selection a bit. Looking at the previous table of chords listed by function, one can see that of the listed chords, G Phrygian $\flat 6$, G Phrygian $\natural 6$ and E altered are some selections that one could make to conform to the original D Locrian $\natural 2$'s dominant function. In fact, G Phrygian $\natural 6$ is one of the most common diatonic substitutions for D Locrian $\natural 2$.

The next factor to consider when selecting the substitute chord is the overall style of the reharmonization. Style will be covered later in the chapter, but for now, one of the general styles is that of the blues/urbane description. This is a sound that is typical of the works of Mingus and some of Ellington and is characterized by the extensive use of all forms of the altered (Locrian $\flat 4$ and Locrian $\flat 4, \natural 6$) dominant chords. One's choice of substitutable chords in this case would be limited to that group.

Example 2.4: "You've Changed" (Turnaround, ms. 7-8 & 31-32) Blues/Urbane Style Alterations

Standard		Blues/Urbane						
G-7	C7	F-7	B \flat 7	Galt	Calt	Falt	B \flat alt	E \flat Δ^6
<p>The image shows a musical score for a turnaround in C major. It consists of two staves: a treble clef staff and a bass clef staff. The key signature has one flat (Bb). The time signature is common time (C). The score is divided into two sections: 'Standard' and 'Blues/Urbane'. Above the notes, chord symbols are provided for each measure. The 'Standard' section uses G-7 and C7. The 'Blues/Urbane' section uses F-7, Bb7, Galt, Calt, Falt, Bbalt, and EbΔ6. The notation shows the chord voicings in both hands, with the bass line being particularly important for the Blues/Urbane style.</p>								

B. CHROMATIC SUBSTITUTIONS

This technique is fairly easy for a chord with a single-note melody. Since it is a form of common-tone technique, one has a choice of all the possible chords that have the melodic pitch as a part of their construction.

Of course, the selection process is made more narrow by excluding those chords that don't meet a particular style or function requirement and by being aware of maintaining the melodic quality of the original bass line.

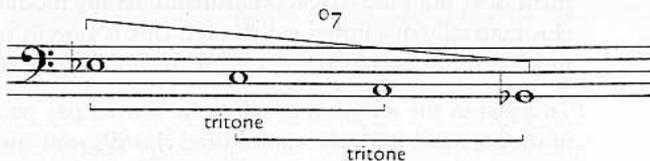
This method is still easy when there is a melodic fragment to contend with, if only because there are so many chords that will work.

SPECIAL CASE SUBSTITUTIONS: ROOTS OUTLINING A DIMINISHED CHORD

This refers to the substitution of a chord on any of the roots that are the pitches derived from an arpeggiation of a diminished seventh chord constructed on the root of the original chord (root, $\flat 3$, $\flat 5$, $\flat \flat 7$). What this means is that chords that are substituted to those roots seem to work particularly well. Included with the $\flat 3$ and the natural 6 ($\flat \flat 7$) is the very useful substitution of the original with the $\sharp 4$, $\flat 5$ or tritone. Tritone substitution is commonly found in all levels of reharmonization efforts as any reader of this text is well aware.

As with previous examples, choice of modality will be determined by style and function requirements. Note that the diminished 7th chord symmetrically divides the octave.

Example 2.5a: The Roots of the Diminished Seventh Chord from the 4th (Key of Bb)



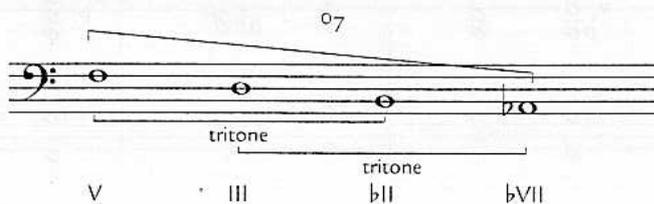
Example 2.5b: Substitution Examples

Bb : IV V II V7 VII^o I^Δ bVI¹³ V7^{#9}

COMMENTS:

- Bar 1: The basic IV-V cadence
- Bar 2: Substituted root (C) a third down
- Bar 3: A new root a tritone down (A)
- Bar 4: Substituted root a M6 down (Gb)

Example 2.5c: The Roots of the Diminished Seventh Chord from the 5th Including Tritone Substitution (see page 116)



Example 2.5d: Substitution Examples

Bb : V7 I^Δ bVII^{sus} I^Δ III^{Δ+} I^Δ bII⁷ I^Δ bVI⁻ bII⁷ I^Δ

COMMENTS:

- Bar 1: The basic V-I cadence
- Bar 2: A substituted bVII^{sus} chord for the V7
- Bar 3: A substituted III^{Δ+} for the V7
- Bar 4: A tritone substitution for the V7
- Bar 5: An added II chord to the tritone substitution

It is suggested the student continue the above process from the VI degree and from the root.

C. STYLE

The first consideration when starting a reharmonization project is to establish a stylistic goal. The style of the reharmonization will determine the choice of chord quality and/or function of alterations and substitutions; the amount of change in the harmonic rhythm, the selection of key, rhythmic concept, form and any other of the previously cited arranging concepts. Style is most clearly defined by what reharmonization processes are used at cadential areas: cycles, cadences and turnarounds.

Generally speaking, there are five basic styles:

1. **Standard** – as the composer intended, usually having:
 - (a) traditional dominant/non-dominant resolutions
 - (b) symmetric harmonic rhythm
 - (c) similar modality and key “quality”
 - (d) limited reharmonization – simple tweaking
 - (e) limited change in form
2. **Blues/Urbane** – similar to the sound of the Ellington and Mingus school:
 - (a) extensive use of altered or dominant 7th chord substitutions for all minor chords found in cadential areas
 - (b) selection of darker sounding “flat” keys
 - (c) lower tessitura
 - (d) use of blue notes in melodic variations
 - (e) “dark” colortones found at melodic cadence points
3. **Newbop** – based on the style of Charlie Parker’s rewriting of “standards” but moderated to conform to a more contemporary harmonic/melodic approach.
 - (a) extensive use of tritone substitution
 - (b) extensive use of parallel II-Vs
 - (c) symmetric harmonic rhythm
 - (d) limited use of rewritten melodies in a moderated bebop style
4. **Pop/Diatonic:**
 - (a) extensive use of diatonic substitutions
 - (b) use of dominant sus4 chords at all cadential areas
 - (c) selection of brighter key centers
 - (d) relaxed symmetric harmonic rhythm
 - (e) use of diatonic slash/chord construction (see Table of Diatonic Substitutions, p.51)
 - (f) use of relaxed, 8th-note subdivided rhythms
5. **Modal:**
 - (a) use of repose/transition harmonic rhythm
 - (b) extensive use of pedal point
 - (c) extensive use of the exotic modal chords
 - (d) use of nondiatonic slash chords

These general descriptions will be further illustrated and explained in subsequent examples.

D. HARMONIC RHYTHM

This refers to the speed of the occurrence of the original chords - where and how often chords occur relative to the pulse of the composition. The harmonic rhythm of compositions of the "standard" repertoire based on the song form usually is slow and symmetric. The goal of the reworking of the harmonic rhythm is to give it a more dynamic quality by offering a contrast of slow and quick movement and by offering a contrast of openness and density. In addition, the resolution quality of cadential areas can be enhanced by the judicious use of increased harmonic rhythm immediately prior to their resolution. The speed of the harmonic rhythm is increased by the addition of chords and is decreased by the deletion of chords or by the use of pedal point. Refer to the concepts of *Repose* and *Transition* given in Volume I of this book.

Mutations of a composition's harmonic rhythm are found at two areas:

CADENTIAL AREAS

Cadential areas are sections of a tonal harmonic scheme which show an active movement toward a resolution goal. Cadential areas are comprised of cycles, turnarounds and cadences. In addition to having root movements that are diatonically related and move by fourths or fifths, their definition is determined by the function and/or modality of the individual chords. The harmonic material of cadential areas can be of additional use in tags and endings - always a problem area for both the composer and performer.

1. **Cadences:** Chords following the function formula of dominant to non-dominant. The formula is that of the V-I, IV-V-I and the ubiquitous II-V7-I with its implied modality of Dorian-Mixolydian-Ionian.
2. **Cycles:** A group of chords having the same function and/or modality, or showing a symmetry of function and/or modality
3. **Turnarounds:** A group of chords of mixed function/modality that are organized to resolve to a target starting point, usually to the start of a section if not the beginning of the composition.

NON CADENTIAL AREAS

Those areas in a set of chords where the harmonic rhythm is slowest, usually by having only one chord for a measure or two, or where there is found a few passing chords that have a non-functional role.

REHARMONIZATION OF CADENTIAL AREAS

Most of the harmonic content of a tonal based composition is made up of cadential formulas. In addition, most of this material is directly interchangeable with all compositions based on that system. With this in mind, it is advantageous to have a number of variations (reharmonizations) of cadential materials at the disposal of the jazz composer/improviser. The following is a partial listing of examples of cadential reharmonizations with explanations of the process. In addition to changed harmonic rhythm, the techniques used will include alterations, substitutions, and permutations of the three. By now the student should be able to recognize that tritone substitution and some of the special case ⁹⁷ substitutions are chromatic and only those which are not of those groups will be pointed out in the comments.

Note that in many cases the melody note or notes may need to be changed to conform to a cadential reharmonization. There is no harm in doing so and usually the end result is aesthetically viable.

A "target chord" is usually the first chord of a section or of a phrase. It usually is identified by its being the release point of a tension/release cadence or its being the object of a group of chords in a modal tension contour.

1. CADENCES

The most basic cadence is the V-I or the more defined IV-V-I. Taking the IV-V-I as a skeletal starting point, the following example illustrates some of the above given techniques.

Example 2.6a: Cadential Reharmonizations

B \flat	IV		V		I		
	/	/	/	/	/	/	
1	E \flat		F		B \flat		
2	C-7		F7		B \flat Δ		
3	A \emptyset		Dalt		G-9		
4	G \flat 7		F7		B \flat Δ 9		
5	D \flat -	G \flat 7	C-	F7	B \flat Δ 9		
6	D \flat -	G \flat 7	F \sharp -	B7	B \flat Δ		
7	C-	G \flat 7	F7	B7	B \flat Δ		
8	C-	F7	F \sharp -	B7	B \flat Δ		
9	E \flat -9		F7 \flat 9		B \flat Δ		
10	C \emptyset		F7 \sharp 9		B \flat Δ		
11	G \flat 13		F7 \sharp 9		B \flat Δ		
12	F9sus4		D / F		B \flat Δ		
13	E \flat / F		G \flat + / F		B \flat Δ / F		
14	C- Δ		F9sus4		B \flat Δ 9		
15	F13sus4		A \flat 13/E \flat		D-9		G-9

COMMENTS:

- 1 The basic skeletal cadence.
- 2 The diatonic substitution of the II for the IV.
- 3 Tritone substitution of the VII chord for the IV, diatonic substitution for the remaining two, all three chords have altered modality - the result is a cadence to the relative minor key.
- 4 Tritone substitution of the II chord with alteration.
- 5 Increased harmonic rhythm by the addition of chords through the use of II-Vs.
- 6 Tritone substitution of the C- F7 (V) chords.
- 7 Upper neighbor approach chord to the target F7 and B \flat Δ .
- 8 Tritone substituted II-V for the V chord.
- 9 Alteration of the IV chord to minor.
- 10 Alteration of the II chord to Aeolian \flat 5 (Half-diminished).
- 11 Upper neighbor approach chord to the target V7 with slower harmonic rhythm.
- 12 Slower harmonic rhythm by the use of pedal point.
- 13 More use of pedal point, use of a IV/V to an altered V to a I/V.
- 14 Resolution by the inner voice-led B \sharp in the C minor chord to the B \flat of the F9sus4 chord.
- 15 The "Small Feats" cadence (see pg. 81).

Note the diminished 7th chord outline of the roots of the first chord of the first four cadences - this illustrates the use of that previously given concept.

The above listing could be increased significantly as could the following examples. The student, having understood the concept should continue the process.

Example 2.6b: Selected Spelled-Out Versions of the Cadences

2. CYCLES

Cycles are a form of turnaround; the skeletal form has roots moving in a series of fifths with chords of all the same modality. The reharmonization process is purposely simple to maintain a cycle's modal definition.

Example 2.7: Reharmonization of Cycles

	E	A	D	G	C	F
	/ /	/ /	/ /	/ /	/ /	/ /
1	E9	A13	D9	G13	C9	F13
2	B \flat 13	A13	A \flat 13	G13	G \flat 13	F13
3	G/E7	F \sharp /A7	F/D7	E/G7	E \flat /C7	D/F7
4	G \sharp /E	G/A	F \sharp /D	F/G	E/C	E \flat /F
5	B/E	E/A	A/D	D/G	G/C	C/F
6	D/B \flat	G/A	C/A \flat	F/G	B \flat /G \flat	E \flat /F
7	E7 \sharp 9	A13	D7 \sharp 9	G13	C7 \sharp 9	F13
8	B-11 E7	E-11 A7	A-11 D7	D-11 G13	G-11 C7	C-11 F7
9	F-9 B \flat 13	B \flat -9 E \flat 13	E \flat -9 A \flat 13	A \flat -9 D \flat 13	D \flat -9 G \flat 13	G \flat -9 C \flat 13
10	A/B B/E	D \flat /E \flat E \flat /A \flat	G/A A/D	B/C \sharp C \sharp /F \sharp	F/G G/C	A/B B/E
11	D/E	E \flat /E	C/D	D \flat /D	B \flat /C	B/C
12	B/E	D \flat /E \flat	A/D	B/C \sharp	G/C	A/B
13	E7 B \flat 13	A13 E \flat 7	D7 A \flat 13	G13 D \flat 7	C7 G \flat 13	F13 B7
14	B- E7	F- B \flat 7	E- A7	B \flat - E \flat 7	A- D7	E \flat - A \flat 7

COMMENTS:

- 1 A basic skeletal cycle of dominant chords.
- 2 Tritone substitution of the 1st, 3rd and 5th chords.
- 3 Altered modality of the basic chords.
- 4 Alternating change of function and modality: Lydian augmented to sus4 chords by slash chord construction.
- 5 A non-dominant cycle of slash chords.
- 6 The converse of #4.
- 7 Altered dominant cycle.
- 8 Increase of harmonic rhythm by the use of II-Vs.
- 9 As above with tritone substitution.
- 10 Alternating modality/function, slash chord construction; note the pattern of both the bass line and the upper structure triad in all the slash chord examples.
- 11 Partial pedal point, slower harmonic rhythm.
- 12 As above with different modality/function.
- 13 Added tritone substituted approach chord.
- 14 Use of II-Vs, shifted harmonic rhythm.

3. TURNAROUNDS

The selection of the skeletal turnaround depends on the target starting chord's root placement relative to the key of the section of the composition. Most compositions of the "standard" repertoire start on a I chord, a III chord (diatonic substitution of the I), a VI chord or a II chord. Of course, there is the possibility of finding a tune with a chord's root starting on a nondiatonic note but upon closer investigation it will likely be found that it had been reharmonized at some point before documentation. See the appendix for a partial listing of tunes and their starting chord roots.

Example 2.8a: Reharmonization of Turnarounds (From a I Chord to a I Target Chord)

C	I	VI	II	V	I (target)
	/ /	/ /	/ /	/ /	/ / / /
1	C	A-	D-	G7	C
2	E-7	A-9	D-9	G13	CΔ9
3	E7#9	A7b9	D7#9	G7b9	CΔ9
4	Bb13	A13	Ab13	G13	CΔ9
5	F-9 Bb13	E-9 A13	Eb-9 Ab13	D-9 G13	CΔ9
6	F-9 Bb13	Bb- Eb7	Eb-9 Ab13	Ab-9 Db13	CΔ9
7	B-9 E13	E-9 A13	A-9 D13	Ab-9 Db13	CΔ9
8	F#-9 B13	Bb-9 Eb13	Eb-9 Ab13	Ab-9 Db13	CΔ9
9	F13 Bb7	A13 Eb7	D13 Ab13	G13 Db7	CΔ9
10	B-9 E13	Bb- Eb7	A-9 D7	Ab- Db7	CΔ9
11	CΔ F9	E-7 A7	A-9 D7	Ab- Db7	CΔ9
12	CΔ	Eb9sus4	AbΔ9	DbΔ ⁶ 9	CΔ ⁶ 9

COMMENTS:

- 1 The basic skeletal I-VI-II-V turnaround.
- 2 Diatonic substitution of a III for the I chord - all roots in 5ths.
- 3 Altered modality of No. 2 above in a blues/urbane style.
- 4 Tritone substitution of the III and II chords.

- 5 Increase of the harmonic rhythm of the above by the use of II-Vs – this and the next (6) are in a bebop style.
- 6 Tritone substitution of the II-Vs of measures 2 and 4 above.
- 7 Use of II-Vs and tritone substitution.
- 8 A variation of the previous example.
- 9 The F chord has dominant function to the Bb7 tritone substitution approach chord to the A13; the remaining bars continue the process.
- 10 Another variation of #5 with the use of II-Vs and tritone substitution.
- 11 One more variation.
- 12 Slower harmonic rhythm in a modal style, chromatic substitutions.

Example 2.8b: Application of Methods to "I Can't Get Started" (ms. 6-8)

The musical score for Example 2.8b consists of four variations (1-4) of reharmonization for measures 6-8 of the song "I Can't Get Started". The score is written in 4/4 time and includes a vocal line and piano accompaniment for each variation.

- Measure 6:** The vocal line has a quarter note G4, a quarter note A4, a quarter note B4, and a quarter note C5. The piano accompaniment features a stock turnaround with a target III chord (E7) approached by an upper neighbor tritone substitution (Bb7).
- Measure 7:** The vocal line has a quarter rest, a quarter note D5, a quarter note E5, and a quarter note F5. The piano accompaniment features alterations in a blues/urbane style.
- Measure 8:** The vocal line has a quarter rest, a quarter note G5, a quarter note A5, and a quarter note B5. The piano accompaniment features increased harmonic rhythm by the addition of II-Vs.

COMMENTS:

- 1 Stock turnaround, target III chord approached by an upper neighbor tritone substitution.
- 2 Alterations in a blues/urbane style.
- 3 Increased harmonic rhythm by the addition of II-Vs.
- 4 Parallel II-Vs – bebopish in style.

Example 2.8c: From a I Chord to a Target II Chord

C	I	(VII)	III	VI	II (target)
	/ /	/ /	/ /	/ /	/ / / /
1	C		E-	A7	D-
2	CΔ	F7	E-7	A7	D-7
3	F#-9	B7	E-	A7	D-7
4	CΔ	A13	E7#9	A13	D-11
5	CΔ	F9	Bb13	Eb13	D-9
6	F#ø	B7#9	Bb7#9	Eb9sus	G9sus
7	C13	Ab/B7	Bb13	A9sus	G9sus
8	G- C7	Bb-9 Eb13	F- Bb7	Bb- Eb7	D-11
9	F#- B7	C- F7	B- E7	E- A7	D-9
10	A/B	Ab/B	G/A	Gb/A	F/D

Example 2.8d: Application of Methods to "Body and Soul" (ms. 6-8)

A-9 D-9 G7 CΔ

Target: II-(9/11)

COMMENTS (TABLE 2.8c):

- 1 The basic turnaround.
- 2 Added dominant upper approach chord to the target III chord, also the tritone substitution of the dominant VII chord.
- 3 Tritone substitution and alteration of the I chord, also the II chord of a II-V to the target III chord - bebop style.

- 4 Altered modality.
- 5 Tritone substitution and alteration of the III and VI chords.
- 6 More substitutions and alterations - Mingus/blues/pop.
- 7 Another variation of #6.
- 8 Increased harmonic rhythm by the use of II-Vs, the Gb7 is an upper neighbor approach chord to the target F minor.
- 9 A II-V and altered version of #3.
- 10 Use of pedal point to slow the harmonic rhythm.

COMMENTS (EXAMPLE 2.8d, "BODY AND SOUL"):

- 1 The stock variation with a tritone sub approach chord to the III chord in ms. 8.
- 2 Added harmonic rhythm, blues/bop in style.
- 3 Simple chromatic bass line, blues style alterations.

Example 2.8e: From a Minor I Chord to a Target Minor I Chord

F-	I	VI	II	V
	/ /	/ /	/ /	/ /
1	F-9	D \emptyset	G13	Calt
2	F-9	A \flat 13	Galt	Calt
3	F-9	A \flat 13	D \flat Δ	G \flat 13
4	F-9	Dalt	G \emptyset \sharp 2	Calt
5	F-9	E \flat ⁶ 9	D \flat ⁶ 9	C7 \sharp 9
6	F-9	E \flat - A \flat 7	A \flat - D \flat 7	D \flat - G \flat 7
7	F-9	A \flat /B7	B \flat 13	A9sus
8	C-7 \flat 6	C-9	C Δ \sharp 5	B \flat 13sus4

COMMENTS:

- 1 The basic turnaround.
- 2 Tritone substitution of the VI chord, alterations.
- 3 Alterations and tritone substitution for the II-V cadence.
- 4 Alterations in the Mingus/blues style.
- 5 A pop/blues style, i.e., "Hit The Road Jack."
- 6 Increased harmonic rhythm, closer to a bebop style.
- 7 Obscure modal variation.
- 8 A modal/pedal point variation.

Turnarounds and cycles are of extreme importance for both the composer and the improviser; a thorough understanding of their construction, voice-leading and function is a top priority in the learning process. It has been stated (by Kenny Werner) that knowledge of, and the ability to improvise over turnarounds will assure the aspiring jazz artist "gigs galore."

SUBSTITUTE SYMMETRIC PATTERNS

This is a method of reharmonizing a cadential or turnaround area by substituting all of the roots of the original with those that are derived from a created symmetric pattern. The goals that are usually met are that the substituted group resolve to the target chord in the same cadential manner as the original and that the starting chord's root be the same. There is quite an increase in harmonic rhythm with this technique so experimentation must be done until the resulting number of chords works with the specified tempo. Of course, this technique will require that the melody be Altered, recomposed or even deleted for that section. Substitute symmetric patterns can be of musical use at final endings or codas where there is always the problem of redundancy at the least, and indecision at the most. And in some cases, where the pattern is long enough, one could substitute an entire section, usually the bridge, with symmetric material.

This method is most represented by the reharmonization efforts of John Coltrane, Joe Henderson and Jerry Bergonzi and because of the intrinsic qualities of symmetry, the method should be used only occasionally and with caution.

There are two methods of creating symmetric patterns for use as substitute roots in cadences and turnarounds. A simple, yet effective method is to merely set up target pitch tonalities that symmetrically divide the octave, then add cadential material that defines the target tonalities. The two considerations to be made are the resulting harmonic rhythm and overall direction of the target tonality pitches. For instance, you can divide the octave in an upward or downward direction the following ways:

Symmetric Division	Tonal Centers	Measures
#4, tritone	2	2-4
M3, augmented	3	2-4
m3, diminished	4	4-8
M2, wholetone	6	4-12
m2, chromatic	12	6-24

The fewer tonal centers involved, the less dense the harmonic rhythm and number of measures, and the more similar the new material will be in function to the original. Selection of the octave division will depend on the number of measures to be reharmonized and the number of chords to be included in the skeletal harmonic rhythm. Having established the skeletal material, the next step is to add material to change the harmonic rhythm, change modalities, or to reharmonize as in previous examples to meet a style goal.

For a more comprehensive approach to creating symmetric patterns, refer to Chapter XIII, p.98 of Volume 1 of this book.

Example 2.9a: Substitute Symmetric Patterns

The equal division (tritone) of the octave, direction does not affect the result. This is a concise two to four bar example, that would be a good final ending.

COMMENTS:

- 1 The skeletal turnaround with its two tonal centers and basic dominant chords.
- 2 An increase of harmonic rhythm by adding the II chords of the V7s.

COMMENTS:

- 1 Key centers established by the skeletal pattern.
- 2 Added II-V cadences.

Example 2.9e: Diminished Upward

The musical score for Example 2.9e is divided into two systems. System 1, labeled '1', is a single bass clef staff in common time. It contains five measures of music, starting with a whole note chord (F2, A2, C3) and moving through a series of notes and chords that establish a key center. System 2, labeled '2', is a grand staff (treble and bass clefs) in common time. It contains five measures of music, featuring a four-part division (diminished) with various chords and accidentals, including a key signature change from one flat to two flats.

COMMENTS:

- 1 Key centers established by the skeletal pattern.
- 2 Added II-V cadences.

The four-part division (diminished) can get quite active with the increase of harmonic rhythm.

As mentioned before, one should be careful when working with symmetry, as it can sound contrivial with over-use.

The above examples being skeletal could be further reharmonized by changed modality, tritone substitution, or by increasing the harmonic rhythm with the addition of more II-Vs or by slowing it down with the use of pedal point, or use of any of the techniques that were demonstrated in previous examples.

CHANGING THE HARMONIC RHYTHM OF NON-CADENTIAL AREAS

As stated earlier, this is the changing of the harmonic rhythm by the addition or deletion of chords in the areas of a tonal-based composition that are not defined as cadential. These areas can be one or two measures of the same chord or areas where there is parallel chord movement toward a target chord or section. Depending on the tempo of the composition, the technique for increasing the harmonic rhythm can include the simple addition of a chord immediately prior to a target chord to the adding of as many as eight chords to a measure (in 4/4 time). Also of use is the addition of cycles and cadences. The slowing of the harmonic rhythm is accomplished by either deleting chords or by the use of pedal-point.

Arranger/composer Gil Evans used these techniques extensively, as a bit of listening to his works will reveal. The rhythm section team of Herbie Hancock and Ron Carter while with Miles Davis also used this technique often when performing "standards" although to a lesser degree than Gil.

THE TECHNIQUES:

The simplest change in harmonic rhythm is to add a chord immediately prior to a target chord. These target-seeking chords are called **approach chords**.

Approach chords can number more than one and are often used in groups of two or three depending on the tempo of the composition. The use of more than three chords found prior to the target chord produces the perceived effect of being parallel "added chords."

In addition, approach and added chords usually are of the duration of a half note or less dependent upon tempo. The root selection of the added chord(s) is determined by the melodic quality of the bass line; the desire to adhere to the modality (diatonicism) of the phrase or section or the desire to use free-form chromaticism. If one chooses to insert a cycle or cadence, the root movement is predetermined as skips of a fifth or fourth.

Example 2.10a: Added Harmonic Rhythm ("I'm Getting Sentimental Over You," ms. 1-5)

The score shows five different harmonic realizations for the first five measures of "I'm Getting Sentimental Over You." The original chords are Eb, D6, Db6, C7, and F7. The realizations are as follows:

- 1:** Eb Δ ⁹, A-9, D13, G \circ ^{b2}, G-11, C7, F13
- 2:** Eb Δ ⁹, C-9, Bb-9, A-11, Ab13^{#11}, G \circ ^{b2}, G-11, C7^{#4}, C-9, F13
- 3:** Eb Δ , Dalt, C-9, Bb-9, A \circ , Dalt, Galt, Db13, C13sus, Gb13, F13sus
- 4:** Eb, Ab13, G7^{#5}, Db13, C-9, Bb13, A-9, Dalt, Galt, Calt, F13^{#4}
- 5:** A-11, D7^{b9}, G7^{#5}, Db13sus, C9sus, B-11, Bb13, A \circ , Ab-9, Db13, G-11, C7^{#4}, C-9, F13

With the above in mind, one could approach the target chord by either a half or whole step above the target (upper neighbor), or a half or whole step below the target (lower neighbor).

The selection of the approach chord's modality depends on the need to define chord function, maintain a homogeneous modal contour or just to satisfy one's personal preference. In most cases an approach chord's modality will be the same as that of the target chord.

For subsequent examples the term *original* will be used to refer to the chords that are presumed to be the composer's; the term *stock* will be used to mean the chords that are found in "fake books" and common practice performances.

COMMENTS (EXAMPLE 2.10a):

- 1 The original D6 and C7 made into a II-V, tritone substitution of the D \flat 6 with a modal alteration.
- 2 Two added approach chords of the same modality just prior to the first target chord A-11, an added upper neighbor (tritone substitution) chord prior to the G half-diminished target chord.
- 3 One more added chord, D Altered, completing the group of approach chords to measure 2; the use of the D, G Altered, the added upper neighbor D \flat 13 and G \flat 13 put this version in a "blues/urbane" style.
- 4 Starting with the diatonic substitution of a C minor for the previous A \flat chord, the approach chords now have a new target. The A \flat 7 acts as an upper neighbor to the G7 in addition to being a tritone of the A \flat chord of the previous version; the G7 to D \flat 13 is an added cycle to the target C-9; the B \flat 7 is an upper neighbor to the A-9 with the remaining chords a dominant cycle to the primary target F chord in a bop/blues style.
- 5 The final version is in a quasi-modal style with the alteration of the C-9 to a C9sus4 and the addition of the B-11. Measures 3 and 4 show the use of parallel II-Vs in a bebop style. Note the overall diatonic relationship of the bass melodies of each version to E \flat Ionian, the song's key. Also, the bass melody moving in generally contrary motion dramatically increases the tension until resolved by the target chord.

Example 2.10b: Spelled-Out Examples of Versions No. 4 and No. 5 of Example 2.10.a

The image displays two musical examples, labeled 4 and 5, in a grand staff format (treble and bass clefs). Both are in common time (C).
 Example 4 (top) shows a progression starting with D6 and C7 in the first measure. The second measure features D \flat 6 and G7. The third measure has D \flat 13 and G \flat 13. The final measure is F. The bass line moves from D to C, then D \flat to G, then D \flat to F, and finally D to C.
 Example 5 (bottom) starts with D6 and C7. The second measure has D \flat 6 and G7. The third measure has A \flat 7 and D \flat 13. The fourth measure has G \flat 13 and C9sus4. The fifth measure has B-11 and F. The bass line moves from D to C, then D \flat to G, then D \flat to F, then D to C, and finally D to C.

See pg. 118 "Semi-Mental."

Those who have played "Yesterdays" know of the problem area of measures 5-8 where the harmonic rhythm is very slow as compared to the melodic rhythm. The following shows two ways to resolve that problem.

Example 2.10c: "Yesterdays" (ms. 5-8, spelled out) by Jerome Kern

1 2 3 4

Original: D- G B \emptyset E7

Reharm.: D- D \flat - C-11 B alt B \flat -9 A-9 A \flat -9 G-11 F9sus E9sus

Fast harmonic rhythm for a version with a slow tempo.

COMMENTS:

1 & 2: Parallel chords of the same modality as the first in the bass melody in contrary motion to the main melody. The B alt acts as a dominant chord to the target B \flat -9.

3 & 4: The F9sus4 is a tritone substitution of the B \emptyset , with a change in modality; it also is an upper neighbor dominant chord to the E9sus4 target.

Example 2.10d: "Yesterdays" (ms. 5-9, spelled out) by Jerome Kern

5 6 7 8 9

D4 D \flat Δ \sharp 5 C Δ \sharp 5 B alt F9sus E9sus E \flat 9sus

Slower harmonic rhythm for versions requiring improvisation.

COMMENTS:

5 & 6: Harmonized by two-note melody groupings with parallel Lydian augmented chords, the style is contemporary-modal. The second half of the phrase is the same as the previous example.

In Example 2.11a (next page), notice that the selected substitutions for the original B Δ are from the previously mentioned "special case" \circ 7 chord: B-D-F-A \flat . The selected substitutes are then put over the dominant B \flat pedal point producing an increasing tension that will ultimately be resolved when the B \flat becomes an E \flat . Part II is of slower harmonic rhythm - although there is no melodic movement in the bass part, the upper structures do affect the overall harmonic tension/rhythm.

In Example 2.11b (I) the selected pedal point is the tonic and has a lesser need for a bass melodic resolution and tends to be slightly more relaxed than part II. Notice that the original and the substituted chords in the last measure are diatonically in common with A \flat melodic minor (A \flat Dorian 7). The chord in measure 2 of II is derived from harmonic major (Ionian \flat 6) for those not having studied Vol. 1 of this text.

Before going on to the final group of reharmonization techniques, we will look at an example which includes various versions of a complete composition that utilizes all of the methods discussed previously.

Example 2.11: Slowed Harmonic Rhythm, Excerpt from "Night and Day" by Cole Porter

The score for Example 2.11 consists of three staves. The top staff is the vocal line in C major, 4/4 time, with a tempo marking of *Andante*. It features a melodic line with a triplet of eighth notes in the second measure. Above the staff are the chord symbols: $Cb\Delta$, $Bb7$, and $Eb6$. The first two piano accompaniment parts, (a) and (b), are in the same key and time signature. Part (a) shows a piano accompaniment with a slower harmonic rhythm, with chord symbols $F\flat/B\flat$, $G/B\flat$, $D/B\flat$, and $Eb\Delta^9/B\flat$ above the staff. Part (b) shows an alternative accompaniment with a Phrygian mode over $B\flat$ and a $Eb\Delta^9/B\flat$ chord, with a pedal point on $B\flat$ in the bass line.

Slowed harmonic rhythm by the use of pedal point (see pg. 120 and pg. 80).

Example 2.12: Excerpt from "Dancing In The Dark" by Dietz and Schwartz

The score for Example 2.12 consists of three staves. The top staff is the vocal line in E-flat major, 4/4 time, with a tempo marking of *Andante*. It features a melodic line with eighth-note patterns. Above the staff are the chord symbols: $Eb\Delta$, $Eb\flat7$, $F-9$, and $F\flat\sharp2$. The first two piano accompaniment parts, (a) and (b), are in the same key and time signature. Part (a) shows a piano accompaniment with a slower harmonic rhythm, with chord symbols $Eb\Delta\sharp4$, $D/E\flat$, $F-9/E\flat$, and $Db13\sharp11/E\flat$ above the staff. Part (b) shows an alternative accompaniment with a Phrygian mode over $B\flat$ and a $Eb\Delta^9/B\flat$ chord, with a pedal point on $B\flat$ in the bass line.

Slowed harmonic rhythm by the use of pedal point.

“Autumn Leaves” is an appropriate first example in that its harmonic construction includes extensive use of cycles and turnarounds. Additionally, it is a very popular harmonic formula among improvisors, composers and the listening public. There are many recorded versions of the tune; the most sophisticated is probably by Miles Davis. The harmonic material seems to have ties to folk music, probably of South Western European source. Refer to the “Theme From M.A.S.H.” and “Europa” (Gato Barbieri) for other songs based on the chords of “Autumn Leaves.”

Example 2.13a: “Autumn Leaves,” by Kosma/Prévert (Reharmonization Table)

Bb		A sections							
Style	////	////	////	////	////	////	////	////	////
Stock	C-	F7	BbΔ	EbΔ	Aø	D7	G-9	G-	
1	Bop	C- Gb13	F7 B7	BbΔ E7	EbΔ Bb-	Aø Eb7	D7 Ab7	G-9	Galt
2	Bop	Db- Gb7	C- F7	B- E7	Bb- Eb7	Aø Eb13	Dsus Ab13	G-9	Galt
3	Pop	Gb9sus	F9sus	Esus	Asus	Dsus	Gsus	Csus	Dbsus
4	Modal	F9sus	D/F	Esus	Asus	D Phrygian	∕	D Aeolian	∕

		Bridge							
Stock	Aø	D7	G-	G7	C-	F7	BbΔ	EbΔ	
1	Pop	Eb7#11	D9sus	Db9sus	C9sus	Gb13#11	F9sus	E9sus	A9sus
2	Modal	D Phrygian	∕	D Aeolian	∕	F9sus	∕	E9sus	∕
3	Modal	F# Dor #5	G Dor #5	Dalt	Dbsus	Ealt	Ebsus	Dsus	Dalt ^{#6}
4	Blues	Aø Eb7	Dalt Ab13	Galt	Dbalt	C- Gb13	F7 ^{#9} B13	BbΔ E7	EbΔ
5	Bop	Bb- Eb7	A- D7	Ab- Db7	G- C7	C- F7	F#- B7	BbΔ E7	EbΔ

		C sections							
Stock	Aø	D7	G- C7	F- Bb7	EbΔ	D7	G-	G-	
1	Pop	Eb9sus	D9sus	C9sus	∕	Eb9sus	D9sus	C9sus	∕
2	Modal	Eb9sus	D Phrygian	C9sus BbΔ	Bbsus Asus	Ab13 ^{#11}	Aø Dalt	G-9	Galt
3	Pop	Aalt	Dalt	B-9 E-9	F9sus	Eb9sus	Dsus D7 ^{b9}	C9sus	
4	Bop	Bb- Eb7	A- D7	G- Calt	B- E7	Bb- Eb7	A- D7	G- C7	Ab- Db7
5	Bop	Eb9sus	A- D7	G- Calt	F- Bbalt	Ebsus	A- D7	G-9	Galt

The comments for the above and subsequent examples will include only the most salient as by now the reader will have become quite familiar with the techniques.

COMMENTS:

A SECTIONS:

1. The use of the G altered in the turnaround of version 2 provides a strong dominant function to the II minor starting chord.
2. Version three with its parallel II-Vs is a popular one among the beboppers and is heard often at concerts and “jams.”
3. The use of sus4, Phrygian and Aeolian chords in slow harmonic rhythm, as well as the use of pedal point, easily defines version 5 as a modal reharmonization.

Bridge sections:

1. Version three provides an affective balance to a "busy" bop version such as version 3 above, with the use of pedal point and modal chords.
2. Version 4 is of interest due to the use of chords from the unusual source, melodic minor #5 (Dorian #5 & altered #6).

Example 2.13b: "Autumn Leaves" (Illustrating a Combination of Many of the Above Given Reharmonization Techniques)

Chord progressions shown in the score:

System 1: C-7 Gb7 F13sus B13sus BbΔ#5 E9sus EbΔ#5

System 2: Eb9sus D9sus D9 Db13sus C9sus G9sus Galt Db-9 Gb13 C-7 F13

System 3: B-9 E7#9 Bb-7 Eb7 Aø Eb9sus D9sus Dalt G-9

System 4: F#-6#5 G-6#5 Dalt Db13sus Ealt Eb9sus

System 5: D9sus Dalt#6 Bb-11 Eb13#11 D9sus Dalt G-9 C7#11 F-13 Bb13

System 6: Eb13sus D9sus Dalt Db9sus Galt Gb13sus F13sus

etc.

It is suggested to the players reading this book that for this and other multi-versioned reharmonizations that a performance include a different version for each chorus. As an example, the author uses the following format when performing the tune:

[A1] version 2, [A2] version 3, [B] version 3 and/or version 4, [C] version 2 and/or version 3

Of course, alternating during the "blowing" choruses is also suggested.

COMMENTS:

A SECTION

Bars 1-4: A combination of the reharmonizations No. 1 and 3 found in Example 2.13a above. The inclusion of the Lydian augmented chords gives it a contemporary modal sound as well.

Bars 5-8: Like 1-4, a combination of versions 1 and 3 above.

Bars 9-12: A bit more bop-like with the included II-Vs.

Bars 13-16: Similar to reharmonization of version 2 from above.

THE BRIDGE

Bars 17-20: Spelled-out example of version 3 above.

Bars 21-24: Continuation of version 3 above.

C SECTION

Bars 25-28: Like version 5 from Example 2.13a.

Bars 29-32: Continuation of version 5.

ARRANGING TECHNIQUES

In addition to changing the chords, harmonic rhythm and melody of a preexisting composition to meet our creative goals, a number of methods can be applied that fall within the category of arranging techniques.

CHANGE OF KEY

An often overlooked but effective modification of a "standard" is to simply put it in a key that is rarely used for that particular song. In most cases, what is referred to as the original key of a song differs from the original since it is rare to have access to original documentation of the source "standard" whether in written or recorded form. A good example is the composition "Stella By Starlight." "Stella," a beautiful although over-played jazz standard is the main musical theme of the movie *The Uninvited*. The original version, quite different from the familiar jazz version, is a rhapsodic, romantic theme in the key of D major. Most jazz performers play "Stella" in the key of B \flat major. The change of key was most likely due to the desire to put it in a key that works well for trumpet and tenor saxophone, both B \flat keyed instruments. Since concert B \flat is the written key of C for trumpet and tenor sax, the new key choice is probably related to a desire to ease the improvisation difficulties of what can be a difficult tune in any key.

Rather than change the key to accommodate any perceived instrumental problems, attaining a freshness of sound or a sense of an improvement of the original should be the primary purpose for a key change. When selecting a new key, consider the following:

BRIGHTNESS/DARKNESS

Although open to discussion, many respond to the the sharp keys as being bright-sounding with the flat keys sounding dark. There may be some validity to this perception with stringed instruments but it best to make your own judgment by experimentation.

TESSITURA

"Tessitura" denotes the general placement of the range of the song within the grand staff, this has a clearer effect on the bright to dark quality of a tune due to the laws of acoustics. If the selected new key places the overall range of the tune much lower or higher than it was, it affects how the fundamental of each chord is perceived which subsequently affects the sonority of each chord. (see Vol. 1 appendix)

STYLE

Select a key that enhances the stylistic qualities of the reharmonization: a lighter, higher, brighter key for a pop style; a lower, darker key for the Mingus/urbane style. You will find that the key choices that work well for the Mingus/urbane are B \flat , D \flat , E \flat and G \flat with C, D, E, F, G and A for a lighter style.

INSTRUMENTATION

If you are reharmonizing for a specific instrument, consider the sound characteristics of that instrument by register and select the key that best satisfies that goal. That the keys of B \flat and D \flat tend to sound dark and warm on tenor sax may be a partial explanation for the use of those keys with the urbane style.

All of the above being subjective, the best approach is again - experimentation. Play the already reharmonized chords in various keys keeping the stylistic goal in mind. If there is no strong stylistic goal, start by selecting a key that is opposite in quality from the reference key. If the reference key is dark and low as in B \flat minor, try E or F \sharp minor. If the original key is E \flat or F major, try A or B major. As an example, the author, tired of playing "The Girl From Ipanema" in F major at as the usual medium paced bossa nova put it in B major to be performed very fast in a swing style, the result was a renewed and exciting sound. The new chord voicings took on a refreshing brightness due to the change of tessitura, particularly the $\Delta 6/9$ and sus4 chords. The bridge, now in C major also took on a whole new quality.

MODULATION

This term denotes the changing of the key of a section or all of a composition within its arrangement. Modulation can provide a dramatic effect if the new key(s) are brighter and/or higher than the starting key. It is common to find a modulation up a whole tone or a third for the last chorus of an arrangement. Not as common, but recommended is the changing of the key by section: the first key AAB, with a higher key last A. Or put the bridge (B) in a different key: first key AA, new key B, first key A. There are so many possible variations of the use of modulation you must again – experiment.

RHYTHMIC STYLE/TEMPO/METER

Another non-harmonic/non-melodic variation that can be made is to change the rhythmic style of the original version. This can be a change in the tempo, the meter and/or the intended performance style (swing, bossa nova, Afro/Latin). A change of tempo is the simplest to accomplish: playing what is normally an up-tempo as a slow ballad. Or both a change in tempo and style: a slow bolero played as a very fast swing tune. Lastly, changing the meter can be an affective means of creating a “fresh” version of a “tired” overdone standard. Try changing a 4/4 swing tune to 3/4, 6/8 or the more exotic 10/8, 7/4 or 11/8. Of course you must consider the change in harmonic and melodic rhythm as a result of the changed meter. Even more exotic is the changing of the meter by sections: AA 4/4, B 7/4, A 4/4. The possibilities are extensive – so imagine and experiment!

FORM/TIMBRE

These two are the last items to investigate to complete the project to a finished end-product. Whatever the form of the original source material (most will be song form AABA), the adding of extra sections will allow the composer to express his/her most personal creative abilities as the new material will be most original to the composer. Consider adding to the basic form an introduction, a coda, interim linking sections within the arrangement and totally new unrelated sections if desired. The new sections can be based on the original source material or completely new.

Timbre refers to instrument selection for the ultimate performance. Scoring, orchestration or instrumentation should be considered in tandem with style, tempo and key selections; all combined together toward an end-product. Orchestration is beyond the scope of this book and it is assumed that the general reader has some background study in instrumentation. If not consult the recommended readings at the end of the chapter.

At this point, much information has been presented which can be applied to the task of a reharmonization project. Realize that not all the techniques will be used at one time but all certainly should be considered.

The last subject of this chapter is the reworking of the melody of the original source song. Melodic alteration could include the simple tweaking of a few notes to match a change in a chord to the composing of a whole new melody as in bebop compositions. But first we will look at a number of reharmonization examples which will include comments regarding their most salient features.

REHARMONIZATION EXAMPLES

Example 2.14a: "Body and Soul" by Johnny Greene

(original key: C, new key: D \flat)

D \flat	/ / / /	/ / / /	/ / / /	/ / / /
1. Stock	E \flat -9	B \flat 7 \sharp 5	E \flat -9	A \flat 7
2. Urbane	E \flat -9	B \flat 7 \sharp 5	A13sus	F/A \flat
3. Modal	Absus	B \flat /A \flat	G-9	C7 \sharp 9
4. 'Trane's	Absus Vamp *	—————	F/A \flat 7	D \flat Δ /A \flat

1.

	/ / / /	/ / / /	/ / / /	/ / / /
1. Stock	E \flat -9	F7	B \flat -9	A \flat 7
2. Urbane	E \flat -9	D \flat -9 G \flat 13	C \emptyset	F7 \flat 9
3. Modal	E \flat -9	D \flat -9 G \flat 13	C \emptyset B \flat -	A \emptyset Dalt
4. 'Trane's	Absus Vamp *	—————	Absus	C \emptyset F7 \flat 9

2.

	/ / / /	/ / / /	/ / / /	/ / / /
1. Stock	D \flat	E-9 A7	D Δ	E-7 A7
2. Urbane	D \flat Δ	A/C B9sus	D Δ /A	A9sus
3. Modal	D \flat Δ	E-9 A13	D Δ	A Phr. Gsus
4. 'Trane's	D \flat Δ	E-9 A13	D Δ 9	E-7

	/ / / /	/ / / /	/ / / /	/ / / /
1. Stock	D Δ	D-7 G7	C Δ	E \flat \emptyset
2. Urbane	D Δ /A	Asus	F/G	E/G
3. Modal	D Δ	Asus Absus	Gsus	E/G
4. 'Trane's	G \flat Δ	A13 D Δ 9	E-9	D \emptyset G7 \flat 9

(* see Ex. 2.14b)

COMMENTS:

VERSION #1: (STOCK)

The reference set of chords and key for this tune is the generic "fake book" changes. The original key is C but jazz performers prefer D \flat which is great for tenor saxophone as well as for the dark quality that the key implies.

VERSION #2: (URBANE) see pg. 83

The overall style, showing the influence of Monk and Mingus, is the urbane style. This is a reharmonization by the author and is the harmonic basis of the composition "Soul Bod" found later in the chapter among the examples of reharmonizations with a new melody.

The amount of non-diatonic substitution requires that a new melody be included. Note the degree of chromaticism in the bass melody. The use of a tritone substitution for the B \flat 7 \sharp 5 in bars 1 and 2 would have made the bass melody almost completely chromatic. The pedal point bridge offers a clear contrast to the bass melody of the A section both melodically and with its harmonic rhythm. The extensive use of altered, 7 \sharp 5 and 7 \flat 9 chords is typical of the blues/urbane style.

VERSION #3: (MODAL)

The prominent use of sus4 chords as well as the inclusion of Phrygian and Aeolian chords suggests a modal style. The modality is moderated by the use of altered, half-diminished and minor/major seventh chords: chords found in use with the urbane style. The Coltrane symmetric substitution is found at the last half of the bridge.

Of note is the following:

- The G-9 to C7#9 is a II-V to the diatonically substituted F-Δ for the DbΔ in bar 3.
- The Bb/Ab acts as an upper neighbor dominant chord to the G-9.
- The use of the bVII° lower neighbor to the V9sus4 (Go to Ab9sus4) in bar 7 and 19 (Ab° to A9sus4).
- An added chord D9sus4 in bar 18.

VERSION #4: ('TRANE'S)

In cut time, John Coltrane's version has extended use of a pedal point vamp in the A sections; the use of whole tone harmony at the turnarounds, (note the augmented triadic upper structures moving in whole tones) and of course the use of the symmetric substitution pattern in the bridge area. On the recording, there is an opening vamp figure and an out-of-tempo reading of the final turnaround before going into an in-tempo coda (shown below).

Example 2.14b: Absus Vamp

Ab13sus4 #4 b4 b3 b4 #4

Coda: DbΔ | FΔ | AΔ | Eb-9 Ab7 | DbΔ GbΔ | F-9 Eb-9 | DbΔ

Note the outline of the augmented triad for the first three roots.

Example 2.14c: Version No. 3 (Spelled Out)

Ab13sus Ab13#11 G-7 C7#9 F-Δ F#sus F-11 Bbsus

Eb-11 Db-11 C-11 Bb-11 Aø D7#9 Gø Absus DbΔ Bsus Bbsus

DΔ/A D Phryg Dsus F# Aeol C9susD9sus A♭ø Asus D6⁹

Gsus G13^{b9} CΔ⁹ B♭- E♭-7 A♭Δ B13 EΔ G13 C13 B13 B♭13 A13sus

“Stella by Starlight,” a very popular standard in the jazz community, has a beautiful melody and great “blowing” changes. As mentioned previously it is another song that came from the pen of a movie composer. It became popular after Frank Sinatra recorded it and Miles Davis under Sinatra’s influence subsequently took it as “his own.”

Example 2.15: “Stella by Starlight” by Victor Young

	1	2	3	4	5
1. Original	B♭øΔ	B♭ø	F13	F7 ^{#5}	F-9
2. Generic	Eø	A7 ^{b5}	C-Δ	F9sus B13sus	B♭13sus
3. Miles	Eø	Aalt	C-9 (D♭-9)	F9sus B13sus	B♭13sus
4. Herbie	<i>(starts at measure 9)</i>				

	6	7	8	9	10
1. Original	B♭7 ^{b5}	E♭Δ ⁹	E♭-6	B♭(Δ)/F B♭/F	Eø
2. Generic	B♭13 ^{b9}	E♭Δ Asus	A♭13sus	B/B♭ A-9 G-9 F-9	Eø A7 ^{b5}
3. Miles	∕	E♭Δ A13sus	A♭9#11	B♭Δ	Eø A7 ^{b5}
4. Herbie				B♭Δ	Eø Aalt

	11	12	13	14	15	16
1. Original	D-	D♭6	F/C	B♭-Δ6	Aø	Aø
2. Generic	D-Δ C-Δ	B♭-9 E♭9sus	F# / A D7 ^{#9}	C9sus	E♭9sus	D9sus D7 ^{b9}
3. Miles	D- ⁶ 9 C-6	Bø B♭-9	Aalt Dalt	G-9 Csus B♭-	Aø	Dalt
4. Herbie	D- ⁶ 9	G13 Calt	FΔ F#-6 ^{#5}	G Aeol G# Aeol	A Aeol B♭-7	A-9 Dsus Dalt

	17	18	19	20	21
1. Original	G7 ^{#5b9}	∕	C-9	∕	E♭-Δ
2. Generic	Galt	∕	C-Δ	G-9 F-9	Eø
3. Miles	Galt	∕	C-9	∕	E♭-Δ13
4. Herbie	G13sus Galt	∕	C-9/G F-9/G	∕	G♭Δ G♭9sus

	22	23	24	25	26
1. Original	∕	D-7 ^{b6}	∕	D ^b -6 ^{#4#5}	∕
2. Generic	E ^b -Δ 6	D7 ^{#9}	G-9 F-9	E-11	A13sus
3. Miles	∕	Eo7	B ^b 6 ⁹ /F	E-11	A13sus
4. Herbie	G ^b Δ G ^b Δ 4	E-Δ 6	B ^b 6/F	E-13	A Phrygian

	27	28	29	30	31	32
1. Original	A ^b 6	G7	C ^o	F7 ^{b9}	B ^b	∕
2. Generic	A ^b 13sus	G13sus	G ^b 13sus	F7 ^{#9}	B ^b Δ A-9	G-11 F-11
3. Miles	A ^b sus A ^b alt	G Phr. Galt	Calt	Falt	B ^b 13 E ^b 13	B ^b 13 F-11
4. Herbie	A ^b 13sus	Galt	D ^b -9 G ^b 13	Falt/C Falt	A ^b /B ^b B ^b 6 ⁹	∕

COMMENTS:**VERSION #1:**

The original chords as heard on the movie sound track, transposed to B^b for referential purposes. The original key is D major.

VERSION #2:

A slight enhancement of the stock "fake book" source changes, put more into an open modal style - important points are:

1. Use of the II min/maj7 to V9sus4 in bar 3 to 4
2. Use of upper neighbor approach chords in bars 4 and 7, and increased harmonic rhythm by added chords in bars 11, 20, 24, 31 and 32
3. An example of a tritone substituted sus4 chord for a half-diminished in bar 29.

VERSION #3:

A generalized compilation of what occurs on the Miles Davis recording "My Funny Valentine." There are so many variations by each chorus that the whole performance would have to be represented to be complete. For instance, when the band goes into double time the harmonic material shifts into more of a bebop style with the use of side-slipping II-Vs and less use of modal chords.

1. The use of approach sus4 chords and/or added chords - bars 4, 7, 11, 12 and 14.
2. The use of bluesy altered chord cycles - bars 13, 16-7, 29-32.
3. Use of modal chords (sus4, Aeolian, Phrygian.) in bars 4, 5 and 26-28.
4. In essence, the reharmonization shows the influence of Herbie Hancock.

VERSION #4:

This is Herbie Hancock's solo and clearly reveals the depth of his harmonic sophistication due to his musical education as it has overt ties to classical music as well as jazz.

1. Extensive use of modal chords - the use of a an diminished chord altered to sound modal in bar 13 and 23; Aeolian chords in bars 14, 15, 19 and 20; Phrygian in bars 19, 20 and 26, sus4s in 17, 18, 21, a Lydian augmented in bar 22 and a Lydian #2 in bar 31.
2. Still some reference to the blues in bars 11 and 12, and 30.
3. Use of pedal point in bars 17 to 21.

The remainder of the solo, going into double time, changes harmonic style with qualities of both blues/urbane and bebop. It is suggested the interested student study the transcription as found in the book *Herbie Hancock: Classic Compositions & Piano Solos* by Bill Dobbins, Advance Music.

Before we look at some reharmonization examples with altered or new melodies it should be pointed out that rewriting the melody over a set of standard changes is intrinsic to the bebop style. It is suggested that in order to create a more contemporary end-product, one should strive to limit any referral to a bebop melodic style when rewriting the melody.

NEW TITLES

Regarding the project's title, most composer/reharmonizers tend to include some verbal reference to the original title in the new title. How cryptic and clever the new title will be can be one of the more "fun" chores of the reharmonization project. If the degree of departure from the original is subtle, the original title is usually kept.

EXAMPLES OF REWORKED MELODIES

Example 2.17: "Dark Dance" by Ron Miller

1. $E_b\Delta$ D/E_b

5 $F-9/E_b$ D_{balt}/E_b

9 1. $E_b\Delta$ D_{alt} $G\circ\sharp^2$ C_{alt}

13 $F-9$ D_{bsus} $B13_{sus}$ B_{bsus} $B\flat$ Phrygian

17 2. $E_b\Delta$ D_{alt} B_{sus} B_{bsus}

21 $A\circ$ $A\flat-9$ $G\flat\Delta$ $E\Delta$

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MELODIC FEATURES

Based on the show tune "Dancing In The Dark," the melody is partially rewritten with alternating sections of new melody and very slightly altered original melody. In addition, the new melody falls in the areas where the reharmonization shows the most departure from the original.

The sections of new melody are typical of the melodies of the hardbop style of reharmonization melodies: dramatic skips, rhythmic motifs, tension inducing cadences and covert bebop ornamentation. Note the use of chromaticism where ornamentation is used.

Harmonic features include: (see Ex. 2.11, p 69)

- Use of pedal point (slow harmonic rhythm) ms. 1-8, 17-24 which enhances the contrast of the fast harmonic rhythm of the swing sections - ms. 9-16, 25-32. This is typical of the hardbop style.
- More of a bebop style of reharmonization at the swing sections.
- Substitution of the final target I chord with a bII - E Lydian.

Example 2.18: "Small Feats" by Ron Miller

The musical score for "Small Feats" by Ron Miller is presented in a single system with eight staves of music. The key signature is one flat (Bb) and the time signature is 4/4. The score includes various chords and melodic lines with ornaments and triplets.

Chords and measures indicated in the score:

- Staff 1: Eb-9 (m. 1), Ab-9 (m. 2), A9sus (m. 3), G/Bb (m. 4), Ab13 (m. 5)
- Staff 2: G-9 (m. 6), C-9 (m. 7), D13sus (m. 8), C-Δ6 (m. 9)
- Staff 3: B-9 (m. 10), E-9 (m. 11), F9sus (m. 12), Gb13 (m. 13)
- Staff 4: Eb-9 (m. 14), Ab-9 (m. 15), Bb13sus (m. 16), Ab-6 (m. 17)
- Staff 5: Galt (m. 18), Calt (m. 19), D9sus (m. 20), C-Δ (m. 21)
- Staff 6: B-9 (m. 22), E-9 (m. 23), E/F# (m. 24), Eb/F# (m. 25)
- Staff 7: A13 (m. 26), Ab9sus (m. 27), Bb13sus (m. 28), Ab-Δ (m. 29)
- Staff 8: G-9 (m. 30), C-9 (m. 31), Db-9 (m. 32), Gb13 (m. 33), BΔ9 (m. 34)

MELODIC FEATURES

This example has a completely new melody in a diatonic, relaxed and lyrical style. Based on the jazz standard "Giant Steps" by John Coltrane, the composition is the result of the author's need to provide an example of the use of extensive diatonic substitutions for the jazz composition class at the University of Miami. The resulting reharmonization sounded so good, the process was completed by the inclusion of a new melody. The lengthened harmonic rhythm allowed the creation of a more relaxed and lyrical melody as compared to the original which is essentially a chordal-outline symmetric pattern as found in Slonimsky's *Thesaurus of Scales and Melodic Patterns*. The most salient feature of this melody which is a result of the diatonic quality of the reharmonization is the extensive use of triadic motifs.

Triad:	C \flat	B \flat	E \flat	G	D	G	C \flat	D	G	G \sharp -	F \sharp	B-	C-	B \flat	E \flat
Measure:	2	5	6	7	9	10	14	21	22	23	24	25	27	29	30

Most of the remaining melodic material is based on tritonic source material maintaining a consistent simple quality. (see Chapter 1, p. 13)

REHARMONIZATION FEATURES

The prominent technique used is diatonic substitution. There is a short area of pedal point, but mostly the reharmonization follows the symmetrical harmonic rhythm of the original. The biggest difference is in the doubling of the harmonic rhythm which allows both a more lyrical melody and an easier time-of-it during improvisation. Of note is a series of reharmonized II-V-Is based on diatonic substitutions where the II is replaced by a V9sus4, the V by a iv minor/major 7, and the I by a III minor or a III altered (ms. 4-5, 8-9, 10-11 and 14-15). Both the original and the new version's cadential areas move toward target roots based on an augmented triad. The important point is not to depart too much from the original's strong target cadential areas; it is the means of keeping the harmonic intent of the original.

Example 2.19: Ron Miller's Reharmonization of "Giant Steps" by John Coltrane

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Example 2.20: "Soul Bod" by Ron Miller

The musical score for "Soul Bod" by Ron Miller is presented in a single staff with a treble clef and a common time signature. The melody consists of several phrases, each with specific chordal accompaniment indicated above the notes. The first phrase (measures 1-4) features chords Eb-9, Bb7#5, A13sus, and F/A#7. The second phrase (measures 5-8) features Falt, Bbalt, Eb-11, Db-11, Gb7, Cø, and D/F7. The third phrase (measures 9-12) features Bb-9, Absus, and a first ending with DbΔ, A/C7, B13, and Bb7#5. The second ending (measures 13-16) features DbΔ, A/C7, B13, and Bbalt, ending with a *fine* marking. Below the main melody, two bridge sections are shown with a double bar line and a slash through the staff, indicating they are to be played without the melody. The first bridge (measures 17-20) has chords DΔ/A, Asus, DΔ/A, G-/A, DΔ/A, Asus, DΔ/A, and Absus. The second bridge (measures 21-24) has chords Gsus, E/G7, CΔ/G, B/G, F/G, G7, C7b5, B7b5, and Bb7b5. The score concludes with a *D.C.* (Da Capo) instruction.

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Note: ritardando & fine at 2nd ending

MELODY - IMPORTANT POINTS:

- The melodic cadences resolve to "darker" modal character tones: M1-#5, M2-b9 & 13, M3-b5, M4-b6 and M6-b5 and 13.
- A Gb (F#) acts as a pivot point for most of the melody.
- A low tessitura enhances the melodie's dark quality.
- Upward skips in Ms. 1, 4, and 8 are dramatically resolved in the 2nd ending. The upward skips at the 2nd ending set up a climactic release to the brighter key of D major.
- Use of the deleted-melody method for the bridge.

REHARMONIZATION - IMPORTANT POINTS:

- The A sections are reharmonized in a darker, blues/urbane style showing an influence of Monk and Mingus.
- Contrasting bright pedal point/modal style of reharmonization in the B (bridge) section.
- Refer to Example 2.14a version #2 for more details.

The last composition included as an example illustrates the use of a melody that has no overt ties to the original; the only clear reference to the original is the "blowing" changes which are only slightly reharmonized.

Example 2.21: "Meeting At Terminus Corner" by Roland Kirk

directed, rubato

1. 2.

in tempo

fine

B \flat Δ Db13 C13 B13

Ab13 G7 1. C-9 F7 F-9 B \flat 7

2. Eb-9 Ab7 Db Δ C-9 F7 C-9 D7

G-9 C \sharp o7 D-9 G7 C-9 F7 B \flat Δ C-9 F7

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THE MELODY

This melody, like "Soul Bod's," has a quality that defines it as an obligato melody or perhaps a bass line. The melody of "Soul Bod" was in fact written to be a tenor saxophone counter-melody in a two horn arrangement. One can speculate that the melody to "Termini's Corner" possibly has its genesis in a similar manner. Whatever the composer's motifs, the melody has little resemblance to the original which is "On Green Dolphin Street." Notice that the last two bars outline a turnaround to the key of B \flat .

THE REHARMONIZATION (BLOWING CHANGES)

As pointed out above, this composition is based on "On Green Dolphin Street," a popular jam session tune, recorded extensively by Miles Davis. The original key is probably C major. Most jazz versions are in Eb major or C major. Roland Kirk's as you can see is in Bb major. Of interest is the use of a bIII 13 (Db13) substitution for what is usually a I-9 (Bb-9) in bar 3. Bars 5 through 8 show the use of a chromatic turnaround to the target C-9 chord of bar 8. The rest of the harmonic material is close to both the original and other jazz versions.

PIANO ARRANGEMENTS

A recommended reharmonization project to undertake is that of an arrangement for solo piano. It has the added merit of being a condensed score to be used for possible expansion by orchestration.

CONCLUSION OF CHAPTER II

Much information has been presented on the previous pages, hopefully not so much as to be overbearing or too little to be unclear. Bear in mind that not all the techniques will be used in any one project and that there should be some perceived reference to the original song by the astute listener. The following suggestions will help to accomplish the desired result.

- Have a stylistic goal in mind before starting the project. Sometimes you may change styles within the project by section.
- Having established a stylistic goal, select a key and tessitura that is appropriate for the style selection.
- Reharmonize the turnarounds and cadences.
- Add only a few chords prior to target chords at first. Extensive playing of the project at this point will help determine how many more chords can/should be added.
- Try to keep the original cadence points and chord function at those points. Keep the reharmonization simple at these areas.
- Don't overlook the strengths of modulation and added sections.
- If keeping the original melody, don't be afraid to make slight adjustments to match any change in chords.
- Don't let the project become too abstract - get too removed from the original. The aesthetic problems that have been revealed in a number of student reharmonization efforts have been traced to the use of too many techniques and not following the cadential and modal contour of the original. So edit the project and keep it simple.

Many of the songs that have become part of the jazz repertoire were introduced to the listening public by vocalists. It has been written that much of the Miles Davis repertoire came from the Frank Sinatra song book. It is recommended that those seeking "good" songs to add to their list listen to the recordings of Frank Sinatra and Tony Bennett; an added benefit is that the arrangements are of the highest quality including the reharmonizations.

SUGGESTED EXERCISES

1. List at least twenty tunes by their starting chords: I major, I minor, II minor, II dominant, VI minor and so forth.
2. Referring to the tables of reharmonized cadences, cycles and turnarounds, continue by adding at least 10 more examples to the table of turnarounds, a I to a I and a I to a II.

REHARMONIZATION PROJECTS

1. Select a standard tune of a medium tempo and reharmonize according to a preselected goal; alter the melody to some extent.
2. Select a standard with a slow tempo and reharmonize following a vertical modal model: use both pedal point and many areas of added chords.
3. Include comments about goals, procedures and anything else that was considered when initiating with the project.

EXTRA

Listen to the Jerry Bergonzi version of "Just Friends" from the CD *Standard Gonz* - what Coltrane tune provided the model for this reharmonization? List the similarities.

RECORDINGS AND READINGS

From the mid 80s to the early 90s, almost every major and many minor jazz performers had to present a CD of "standards." There is no problem finding listening material for this subject. The following list is a good place to start - each is of the highest quality and highly recommended.

A. RECORDINGS

<i>Alone Together</i>	Clare Fischer	Advance 9709003
<i>Setting The Standard</i>	Dave Liebman	RED 235
<i>Standard Gonz</i>	Jerry Bergonzi	BN 936
<i>My Funny Valentine</i>	Miles Davis	CK 48821
<i>Quiet Nights</i>	Miles Davis/Gil Evans	COL
<i>Miles Ahead</i>	Miles/Gil Evans	CK 53225
<i>Coltrane's Sound</i>	John Coltrane	ATL 1419
<i>Portraits From The Past</i>	Frank Sinatra	BRM 101
<i>Jazz</i>	Tony Bennett	CBS 40424
<i>Ballads</i>	John Coltrane	GRP 156
<i>Standards Live</i>	Keith Jarrett	ECM 1317
<i>Dancing In The Dark</i>	Fred Hersch	Ches JD90
<i>Domino</i>	Roland Kirk	MG 20748
<i>Cinema LeGrand</i>	Michel Legrand	MGM 4491
<i>Something</i>	Tony Bennett	COL30260
<i>The Kicker</i>	Joe Henderson	OJC 465

B. READINGS

<i>Clare Fischer: Alone Together/Just Me</i>	Bill Dobbins	Advance Music
<i>Herbie Hancock: Classic Jazz Compositions & Piano Solos</i>	Bill Dobbins	Advance Music
<i>Jazz Harmony</i>	Andy Jaffe	Advance Music
<i>Chord Scale Theory & Jazz Harmony</i>	Nettles/Graf	Advance Music
<i>Hearin' The Changes</i>	Coker/Knapp/Vincent	Advance Music
<i>Changes Over Time: Evolution of Jazz Arranging</i>	Fred Sturm	Advance Music
<i>Miles Davis</i>	Ian Carr	Quill
<i>Giants of Black Music</i>	Rivelli & Levin	DaCapo Press
<i>Inside, Outside</i>	Reese/Markewich	New York
<i>World's Greatest Fakebook</i>	Chuck Sher	Sher Music
<i>Melody Writing</i>	Kasha & Hirshorn	Songwriters
<i>Jazz Keyboard</i>	Jerry Coker	CPP/Belwin

PENTATONIC COMPOSITIONS

DESCRIPTION AND DEFINITION

For the composer who is looking for an under-represented mode of expression – a means of attaining a “fresh” sound, pentatonic compositions are a recommended source to pursue. Certainly, there are many recorded or documented jazz compositions based on a pentatonic scale, but only a few that either are based on altered pentatonic sources, or are harmonized with advanced modal techniques. Also, with pentatonic compositions, the emphasis is on melody writing – continuing the covert premise of this volume.

That is the goal of this chapter – the creation of a composition based on a simple, lucid pentatonic source which is balanced by a contrasting complex harmonization. The simplicity and purity of the folk-based pentatonic melody, particularly when organized following folk melodic procedures, seems instantly to endear the listener; it is hard not to compose a good melody based on a folk-music model.

KINDS OF PENTATONIC COMPOSITIONS

There are three general categories of pentatonic compositions:

1. Harmonizations of documented extant pentatonic folk melodies.
2. A newly composed melody based on the motivic and phrasing formulae of extant folk melodies.
3. A completely new melody with little reference to an existing melodic shape or organization, but still being based on a pentatonic source scale.

To assist in reader comprehension, a few representative compositions from each group include:

Reharmonizations of an extant composition:

- “Oriental Folk Song,” by Wayne Shorter, *Night Dreamer*
- “Yaqui Folk Melody,” by Keith Jarrett, *Treasure Island*
- “Gula Gula,” by Jan Garbarek, *I Took Up The Runes*

New melodies based on folk organization:

- “Badia,” by Josef Zawinul, *8:30*
- “Ponte de Areia,” by Milton Nascimento, *Native Dancer*
- “Tokyo Blues,” by Horace Silver, *Tokyo Blues*

New melodies, pentatonic source scales:

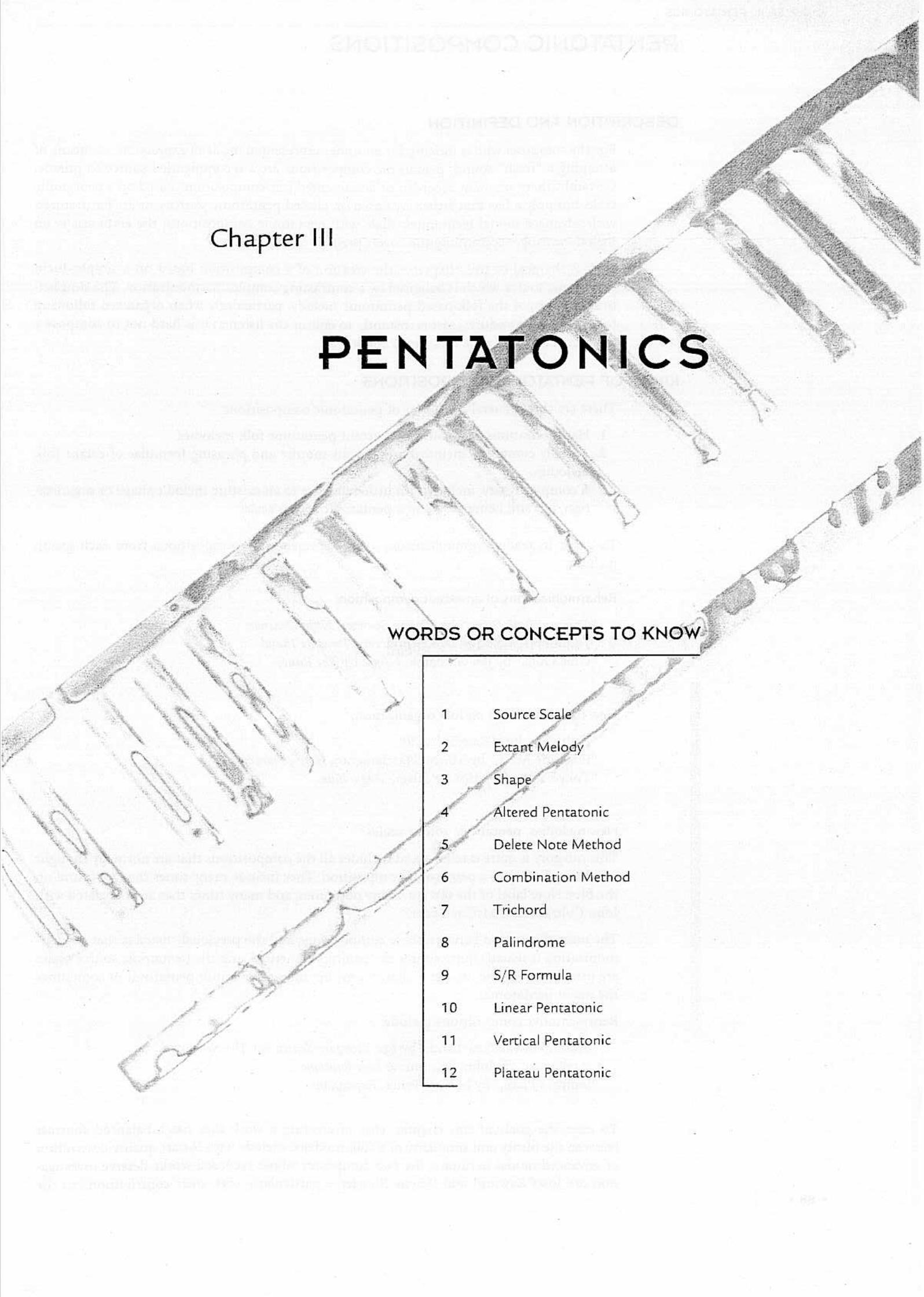
This category is quite extensive and includes all the compositions that are normally thought of when referring to a pentatonic composition. They include many tunes that are found on the Blue Note label of the 60s era, many pop tunes, and many tunes that are associated with John Coltrane and McCoy Tyner.

The main distinction between these compositions and the previously listed is that the harmonization is usually quite simple or “common practice,” and the pentatonic source scales are usually that of the unaltered diatonic group: the simple minor pentatonic or sometimes the major pentatonic.

Representative compositions include:

- “Search For the New Land,” by Lee Morgan, *Search For The New Land*
- “Pursuance,” by John Coltrane, *A Love Supreme*
- “Smitty’s Place,” by McCoy Tyner, *Expansions*

To meet the goals of this chapter, that of creating a work that has a balanced contrast between the purity and simplicity of a folk-modeled melody with the art quality description of advanced modal harmony, the two composers whose recorded works deserve investigation are Josef Zawinul and Wayne Shorter – particularly with their contributions to the



Chapter III

PENTATONICS

WORDS OR CONCEPTS TO KNOW

- | | |
|----|---------------------|
| 1 | Source Scale |
| 2 | Extant Melody |
| 3 | Shape |
| 4 | Altered Pentatonic |
| 5 | Delete Note Method |
| 6 | Combination Method |
| 7 | Trichord |
| 8 | Palindrome |
| 9 | S/R Formula |
| 10 | Linear Pentatonic |
| 11 | Vertical Pentatonic |
| 12 | Plateau Pentatonic |

group Weather Report. Joe, in particular and at present time shows an affinity for folk-based and "world music," and should be a first choice for study.

At this point in the chapter, the reader should review the concepts of the placement of music in general, and melodies in particular, within the folk/art spectrum. (see p. 11). In addition, the reader should have completed the special assignment found on page 40.

PENTATONIC MELODIES

SCALE SOURCE, DEFINITION AND CONSTRUCTION

Definition:

As the name implies, a pentatonic scale is a grouping of five different pitches within an octave; a 5-note scale fragment. Because there are missing pitches, modality is obscure or implied, or more than one parent modality is represented.

There are some melodies that although based on a pentatonic source, will be seen to have added pitches at key cadential points. They will be referred to as added-note pentatonics in subsequent examples.

Pentatonic source scales and subsequently, a composition's description, fall into two groups - those based on an unaltered source pentatonic and those based on an under-used altered pentatonic. It is recommended that an emphasis be placed on a consideration of using one of the altered pentatonics for attaining a desired "fresh" sound. Most well known pentatonic compositions are based on the common-practice minor pentatonic, as the examples given later will reveal. An unaltered pentatonic source will be referred to as a common-practice source scale.

CREATING PENTATONIC SOURCE SCALES

There are three ways of creating pentatonic source scales:

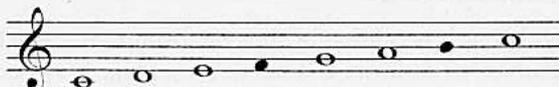
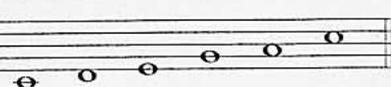
1. The delete note method
2. The combined trichord method
3. The shape creation method

THE DELETE NOTE METHOD

With this traditional method, one simply deletes any two pitches of any one of the 210 usable modes, (see page 128 in the appendix) reducing what was a seven pitch scale to a five pitch scale - the resulting modal definition is dependent upon which pitches are deleted. The resulting "shape" of the truncated scale also should be considered with this method. We will look at that concept in more detail when covering shape creation later in the chapter.

The usual notes deletion procedure is to extract the pitches that make up the interval of a tritone - some altered modes have two or more sets of tritones. Looking at the major scale (Ionian mode), the tritone is found on the fourth and seventh degrees. Erasing those pitches creates the major pentatonic. The melodic quality of this pentatonic - its harmonic definition and pitch resolution qualities - will show a significant change; refer to pentatonic scales in the appendix.

Example 3.1a: The Unaltered Major Scale

	Source Mode	Pentatonic Result
a		

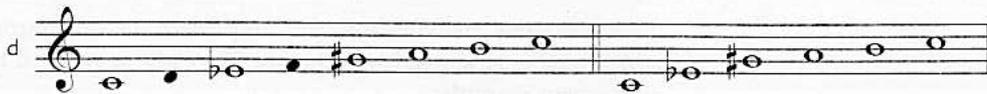
Example 3.1b: Altered Diatonic No. 1



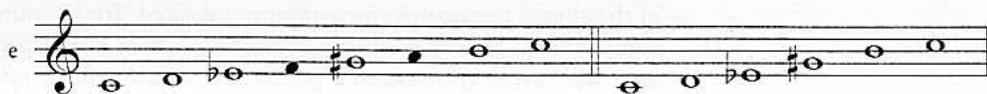
Example 3.1c: Altered Diatonic No. 2



Example 3.1d: Random Deletion of Pitches



Example 3.1e: Random Deletion of Pitches



Traditionally, once a source pentatonic is created by the deletion method, the remaining diatonically related pentatonics are created by pitch transposition.

THE TRITONIC COMBINATION METHOD

This method is the corollary of the tetrachord method found in Volume 1 of this text. Like the creation of the modes, creating pentatonic scales by this method also gives an order to the created list. An order of brightest to darkest is apparent as well as an implied order of modality. Where in Volume 1 tetrachords were combined to create modes, we will now combine trichords to create pentatonic scales. Like the creation of modes by this method, the procedure requires that the sum of the tones, semitones and the “connector” pitch should equal twelve. The difference in this case is that the number of different pitches will be five.

Trichord (*tritonic*, see p. 13): pure, primeval, natural and singable, a trichord is a three-note scale fragment and is the simplest of melodic shapes; it is the basic melodic structure of the pentatonic scale.

If the reader were to construct a simple two stringed lute-like instrument out of a box and spare wood, then by plucking an open string and then stopping the string with one finger then plucking the string again followed by plucking the next open string, the result would be a trichord. This event, were it to have happened in early history, suggests the process for the advent and evolution of scales. Notice that many trichords are the linear representation of structures: the sus2, sus4, Phrygian, and more. We will return to this when covering harmonization techniques.

The following is a listing of all the trichords that when combined will produce a set of usable pentatonic scales.

The table below is organized by interval formula, it could be reorganized by order of increasing brightness to darkness if desired. The checked (✓) items are trichords that are *structures*.

Example 3.2: The Table of Trichords

1) 3 semitones (m3rd)

2) 4 semitones (M3rd)

3) 5 semitones (P4)

4) 6 semitones (#4, b5)

5) 7 semitones (P5)

The creation of pentatonics by the combination method requires that there be five different pitches, and including the connector pitch, the sum of the intervals equal twelve. The process is to place a trichord going upward on the tonic pitch and a trichord going downward from the pitch that is found an octave above the tonic pitch. The connector interval is found between the two. Care must be taken that the sum of the two selected trichords does not exceed eleven; there needs to be room for at least a single semitone “connector” pitch.

Example 3.3: Creating Pentatonics By The Combination Method

(5) + (2) + (5) = 12 (5) + (1) + (6) = 12

Note: A complete listing of all usable modes and pentatonic scales is found in the appendix on page 122. These listings were created by a computer program - the C programming language listing is included on page 134 as well for the interested computer-literate reader.

SYMMETRIC PENTATONIC SCALES

These are scales that either are derived from symmetric scales or are themselves symmetric in their intervallic formula.

To create a pentatonic scale which implies the sonic quality of the source symmetric scale, the procedure is to write out the source scale and then delete the number of pitches that will produce a 5-note scale. The primary consideration is the resulting shape and melodic quality of the created scale and how well it defines the sonic definition of the original.

Another method is to combine trichords in a way that the resulting tone to semitone formula shows a symmetric pattern. An interesting grouping among these is the palindrome - a number of these will be included in the following examples.

DELETED NOTE

Example 3.4a: Source Symmetric Scale - Dominant Diminished

Created pentatonic scales:

Example 3.4b: Source Symmetric Scale - Augmented

Created Pentatonic Scales:

SYMMETRIC BY INTERVAL

It may be that there is only one usable pentatonic which is found in this category: perhaps the astute reader may find more. The one listed is also a palindrome. Of course, if we were allowed to break the bounds of the octave, the list would increase significantly.

PALINDROMES

These are symmetric patterns in which the pattern is a mirror image from the center pitch to both the left and right outer limits. Or it is a pattern that will read the same from left to right, or from right to left.

Table of Intervals for Pentatonic Palindromes

Trichord (c)		Trichord		
1	2	6	2	1
2	1	6	1	2
1	3	4	3	1
3	1	4	1	3
3	2	2	2	3
2	3	2	3	2
2	2	4	2	2
4	1	2	1	4
1	4	2	4	1

Note that like the previous examples of construction by the combination method, the tones and semitones add up to 12.

Example 3.5: Palindromes (listed in the same order as in the above table)

The image displays nine pentatonic scales arranged in three rows of three. Each scale is written on a treble clef staff with notes and fingerings indicated below. The scales are:

- Row 1: C Phrygian #6, #7 (fingerings: 1, 2, 6, 2, 1); G Aeolian (fingerings: 2, 1, 6, 1, 2); C Phrygian #7, #3 (fingerings: 1, 3, 4, 3, 1)
- Row 2: C Altered b6 (fingerings: 3, 1, 4, 1, 3); F Mixolydian 11 (fingerings: 3, 2, 2, 2, 3); C Mixolydian sus (fingerings: 2, 3, 2, 3, 2)
- Row 3: C Mixo b6 (fingerings: 2, 2, 4, 2, 2); Bb Lydian Dominant (fingerings: 4, 1, 2, 1, 4); C Phrygian #7 (fingerings: 1, 4, 2, 4, 1)

By having covert symmetry, palindromes offer an organizational model that can create an interesting and musical result – they should be considered when organizing any or all the elements of music: harmonic rhythm or mode selection, counterpoint, and form, as well as scale creation.

CREATION OF PENTATONICS BY SHAPE CREATION

This process actually duplicates the previous two but differs by its goal and procedure. One of the attributes of a pentatonic melody is its clarity of contour. The idea here is to visually draw-out a contour, or shape and manipulate the pitches to conform to it. This is another example of working with the concept of *balance*; it is also a technique that is intuitive and requires that the composer be confident in decision-making abilities.

Looking at the *shape* of a pentatonic scale created by one of the previously given techniques is a recommended editing activity. The contour of a created pentatonic scale should not be so asymmetric or jagged that it loses its folk-like simplicity. More will be said about this later.

Another form of shape-based scale construction process is to take the unaltered major pentatonic, and add a number of sharps and/or flats to create a desired shape.

Note that the three means of creating pentatonics overlap – that each method creates pentatonics that can be created by the other. After creating a number of pentatonics with the methods given on these pages, turn to the listing in the appendix to verify that the created scales are indeed listed there – all usable pentatonic scales should be included.

Clarification and Listing of the Common-Practice Pentatonics

Major Pentatonic: C D E G A C

Simply, the major scale without the tritone intervals (F and B).

Minor Pentatonic: C E \flat F G B \flat C

A transposition of a major pentatonic - not to be confused with the following minor pentatonic.

Dorian Pentatonic: C D E \flat G A C

This is derived from the Dorian $\sharp 7$ (melodic minor) mode. Note that a tritone (E \flat and A) is still present - the deleted tritone is F and B. The E \flat and A are defining pitches of a Dorian modality, the A being the $\sharp 6$. This is often called the minor pentatonic - but for compositional purposes, we will refer to this one as the Dorian pentatonic, and the previous one as the minor pentatonic.

Blues Pentatonic: C E \flat F G \flat B \flat C

This pentatonic is derived from the E \flat melodic minor scale, the $\flat 5$ gives it a blues-like sound, it also has many pitches that belong to a C \flat (Locrian $\sharp 2$) chord, the 6th mode of E \flat melodic minor.

More common-practice pentatonics will be found in subsequent examples.

Having pitch materials with which to work, the next step is to organize them into a musical product.

MELODIC ORGANIZATION

Keep in mind that the main goal of pentatonic melodies is to maintain the purity and simplicity that is the endearing characteristic of folk music. The best way to meet that goal is to organize your melody based on particularly effective extant folk melodies.

This is one of the reasons behind the suggested assignment found in Chapter I on page 40. The most important means of organization is motivic and phrase *balance*.

Having completed a study of folk musical examples it will be found in most cases that the balancing of phrases and motifs is clear and symmetric. At the motivic level, of importance to us is the balancing of an opening *statement* with a complimentary *response*. We will refer to this as an S/R formula. Within and without this text, this melodic device will also be referred to as call and response and statement and answer. The important concept is that many of the more accessible folk melodies have the same or similar combinations of S/R relationships. One of the most used is: S/R/R - a statement, a response, and a repeat of the same response.

Phrase organization is the same but on a larger scale: longer in length by measures rather than by pitches. Most phrase organization follows a simple antecedent to consequence formula, which is a larger version of a statement and response. The point is to strive for clarity and accessibility to assure that the aesthetic goals of pentatonic melody creation are to be met.

Another point to consider is how the directional contour (shape) of motivic material affects the desired perception of simplicity. It is suggested that for either the statement or the answer portion of the motif, that the basic tritonic structure be clearly presented. In other words - do not change direction within a motivic shape until the trichord is defined.

There are a few melodies in which that is not the case - they are great melodies, but are less simple and folk-like. A short listing of tunes in which the tritonic is not clearly presented include: (1) "Ponte Areia," and (2) "Boogie Woogie Waltz." These compositions will be included in the analyses found later in the chapter.

Another means of phrase or motivic organization - although a bit esoteric - is to follow the spoken rhythms as suggested by the poetic metric forms: iambic, trochaic, anapestic and others.

And lastly, as presented in the chapter on melody writing, a balance in melodic rhythm is highly recommended - contrasting a slow statement with a fast answer, or the converse, a slow statement responded with a fast answer is musically effective.

The following examples will demonstrate the organization of two altered source scales with the well-used S1/R1/R1 format. In addition, maintaining a clear exposition of the tritonic and a balance of directional contour and melodic rhythm will be shown.

Example 3.6a: Altered No. 1, No. 93

F Melodic Minor

Bb7#11/C S Bb13sus G Phrygian^{#6} F-Δ R E Aeolian F-Δ R E Aeolian

Example 3.6b: Altered No. 2, No. 200

Bb Melodic Minor

Bb-Δ/F S Eb11 Db9sus A/B

C Phrygian^{#6} R Bb-9 Ab-9 G9sus R Ab13sus A/B

Additional examples of the use of the previously given techniques will be pointed out later when a number of pentatonic compositions will be analyzed.

FORM AND STYLE

The only defining factor that must be met with a pentatonic composition is that the melody be, and clearly show the attributes of a pentatonic source scale. Other than that, any harmonic, rhythmic and formal presentation is possible. Considering the precepts of *balance*, contrasts of harmonic, rhythmic and other musical elements are recommended.

There are pentatonic compositions that are based on only one source scale and one chord, to compositions that have two or more source scales with as few as two melody pitches per chord. In addition, the composition can be of any style category: ECM, hardbop, swing, Afro-Latin, rock/pop - you name it!

The following is a brief description of some of the groups:

Homogeneous: The entire composition is in one style - harmonic, rhythmic, or any of the descriptions of pop, hardbop and the others.

Mixed: The most interesting, one finds combinations of Latin sections and swing. Contrasting harmonizations, or any contrast one can imagine. Often, a general style goal will dictate the combination. As an example, many hardbop pentatonic tunes will start with an Afro-Latin style and contrast that with a swing, II-V type bridge.

HARMONIZATION AND HARMONIC RHYTHM

The harmonic accompaniment of a pentatonic melody can vary from a single chord for the entire pentatonic melody to as many chords that there would be if every two notes of melody were harmonized. In addition, there could be chords with non-diatonic root relationships and areas of tonal harmony. The goal of course is to balance the quality of the melody with contrasting harmonic materials.

With the harmonization process of pentatonic compositions, we need to differentiate the descriptions of melodic sources, harmonic rhythm and chord selection. The categories are: linear pentatonic and plateau pentatonic - these relate to source scale selection with linear modal, plateau modal and vertical modal referring to chord selection.

MELODIC DESCRIPTIONS

1. Linear pentatonic refers to there being one source scale for the entire section or the entire composition.
2. Plateau pentatonic refers to there being different source scales found in symmetric organization regarding measures - usually one scale per two or four measure division. In most cases, the change in key center rather than a change in source scale.

There is no description for melodic vertical pentatonic since changing the melodic source at too fast a pace would negate the premise and goals of the project.

CHORD SELECTION/HARMONIC RHYTHM

LINEAR MODAL

When there is one source scale for the entire composition or section, the key center of a selected chord could be either diatonic to the pentatonic parent source or non-diatonic, and due to their missing pitches, pentatonic scales can have more than one parent source. Using the ubiquitous and simple F minor pentatonic as an example, the following is a partial listing of parental source modes or chords.

Diatonic Roots

Start by selecting roots that have the same pitches as the source pentatonic. Comparing all pitches of the scale with each root pitch, the accumulated intervals define a set of color tones. Only the most definitive are listed.

The Pentatonic: F A \flat B \flat C E \flat F

Roots	Color Tones	Modes/Chords
F	$\flat 3$, 4, $\flat 7$	min11, Dorian, Aeolian, Phrygian
A \flat	6, 9, 3	$\Delta 6/9$, mix sus, $\Delta \#4$, $\Delta \#5$

Bb	5, b7, 2	Mixo sus, Dorian, Aeolian
C	4, b6, b7, b3	Aeolian, Phrygian
Eb	2, 4, 5, b6	Dorian, melodic minor, Mixo sus

SECOND LEVEL DIATONICS/NON-DIATONIC

There are a number of roots that although not diatonic to the source pentatonic, are diatonic by chord implication or by being a member of a set of modes that are transpositions of one of the diatonically related modes/chords.

As an example, if the root is Ab (see above), one of the modes is Ab Mixolydian, which is the fifth mode of Db Ionian – so, any of the modes (transpositions) of Db Ionian will be diatonically related to the source F minor pentatonic and be available to harmonize any of the five source pentatonic. Usable examples include: DbΔ6/9, GbΔ6/9, and Ab9sus4.

Selecting Other Non-Diatonic Roots

There are some other roots that have oblique ties to the source pentatonic. Again, look at the modes derived from an Eb root; one is melodic minor. Taking Eb melodic minor as a parent source, two modes/chords that work well are GbΔ#4 and D altered. Others include: GbΔ#5 and Bb Mixolydian b6.

Bear in mind that all of above is in reference to the simple F minor pentatonic, and one can see that the chord selection process can get quite comprehensive and complex.

As has been seen in previous chapters, the creation of a strong root melody helps to narrow down the selection process a bit. The common practice root/chord selection for F minor pentatonic would include: F-11, DbΔ6/9, EbΔ6/9 and Bb Mixo sus, with D altered and Ab Mixolydian sus having a secondary usage.

Example 3.7: F- Pentatonic with Selected Source Modes and Chords

F Minor Pentatonic

The example shows the F Minor Pentatonic scale on a single treble clef staff. Below it, seven chords are presented on a grand staff (treble and bass clefs). Each chord is accompanied by its name and the source mode it derives from.

$D\flat\Delta^9$	Dalt	$E\flat 9sus$	F-11	$G\flat\Delta^9$	$A\flat 9sus$	$B\flat-9$
Source: $D\flat$ Ionian	$E\flat$ Mel. Minor	$A\flat$ Ionian	$E\flat$ Ionian	$E\flat$ Ionian	$D\flat$ Ionian	$A\flat$ Ionian

To realize the musical value of this example, have someone sing or play the scale while you play the given chords – you may “hear” a tune in the works.

PLATEAU MODAL

In pentatonic compositions, this refers generally to a symmetric organization of the harmonic rhythm, or to there being either a new pentatonic source or a new tonal center for the originally selected pentatonic source, at symmetrically assigned measure intervals. Usually there is a change at a two, four or eight bar interval. Chord selection is by the same method as given above.

VERTICAL MODAL

This refers to the harmonization process in which there is a new chord for every two or three melody notes - depending on the tempo of the performance. Because there are fewer melody pitches to harmonize, there can be many chords that are non-diatonic to the source pentatonic. Because of the importance of the tritonic shape in pentatonic melodies, most chord changes take place at a three pitch grouping. And as long as the tritonic is present in the melody, two pitch chord changes are quite affective, and actually tend to create a clearer cadential quality. The harmonization process is the same as previously given, but with more importance assigned to the melodic quality of the root-melody. And because there are fewer pitches to find that are in common with the melodic fragment, there will be many more chord spellings that are accessible for selection.

To list all possible chords that will "work" for a three pitch fragment, it is suggested that you segment the pentatonic source into three-pitch structures. These are the structures that were introduced in Vol. 1 and were referred to as *upper structures* (see Vol. 1). Having the structures listed, comparing each with all roots of the chromatic scale will reveal all possible modes/chords available for selection. The process is the same for two-pitch melody fragments, with the resulting list being much larger, making the musical choices that much more difficult. To restate, the melodic quality of the root selections will focus the results.

THE PENTATONIC STRUCTURES

Example 3.8: Chord Selection for Three-Pitch Fragments

The image shows musical notation for Example 3.8. At the top, the F Minor Pentatonic scale is written on a treble clef staff. The notes are F, Ab, Bb, C, Eb. Three-pitch segments are marked with letters a, b, c, d, e, and f. Segment 'a' is F-Ab-Bb, 'b' is Ab-Bb-C, 'c' is Bb-C-Eb, 'd' is C-Eb-F, and 'e' is Eb-F-Ab. Segment 'f' is marked as (b.o). Below this, two staves show chord voicings. The top staff is labeled 'sus2 voicings' and shows chords for segments a, c, and e. The bottom staff is labeled 'tritonic' and shows chords for segments b, f, and d.

For selected structures:

structure A			structure B		
root	color tones	mode/chord	root	color tones	mode/chord
F	b3, #4, b7	min11	F	1, b3, #4	min 11
E	#3, #4, #7	Lydian	E	b2, #3, #4	Altered
Eb	#4, 5, 1	sus4, no7	Eb	#2, #4, #5	add4
D	b5, b6, b2	Locrian	D	b3, #4, b6	Altered
D#b	#4, #6, #2	6/9	D#b	#3, #4, #6	Δ6
C	b6, b7, b3	Aeolian	C	#4, b6, b7	Aeolian
B	#6, #7, #3	Ionian	B	#4, #6, #7	Lydian
B#b	b7, 1, #4	Mixo sus4	B#b	#4, b7, 1	Mixo sus4
A	#7, b2, b5	Locrian #7	A	b6, #7, b2	Locrian #7
A#b	1, #2, #4	add 2	A#b	#6, 1, #2	6/9
G	b2, b3, b6	Phrygian	G	b7, b2, b3	Phrygian
G#b	#2, #3, #6	6/9	G#b	#7, #2, #3	Ionian

It is suggested that the reader continue the process for all found structures - it is a tedious activity but may be worth the effort to understand the harmonic foundation of the source scale and to have a listing of all "workable" chords. Consult the appendix for additional information and examples of scale to chord derivations.

Example 3.9: Selected Chords - Three-Pitch Structures

Example 3.9: Selected Chords - Three-Pitch Structures. The score shows a melody in the upper staff with two phrases, 'b.' and 'c.', and piano accompaniment in the lower staves. The chords for phrase 'b.' are F-11, Dalt, Bb13sus, and Galt. The chords for phrase 'c.' are F13sus, DbΔ9, C13sus, and GbΔ#4.

Example 3.10: Selected Chords - Two-Pitch Structures

Example 3.10: Selected Chords - Two-Pitch Structures. The score shows a melody in the upper staff and piano accompaniment in the lower staves. The chords for the first phrase are Ab13sus, F13sus, BΔ#4, A7#5, and Eb9sus. The chords for the second phrase are Dø#2, Galt, Ab9sus, Calt, Db11, and Eb13sus.

Occasionally, one may want to have a new chord for every different pitch of the melody - usually to increase tension just prior to a cadence - this chord selection process is most dependent on a strong root melody. Note the use of contrary motion and counterpoint to the melody in the following bass melodies.

Example 3.11: Selected Chords – Single Pitch

	1	2	3	4	5	6
	G-11	Dalt	D \flat Δ	C9sus	A7 \sharp 5	G/A \flat
a.						
	G/A \flat	Galt	G \flat Δ \sharp 4	F9sus	D7 \sharp 9	B \flat 13sus
b.						
	G-11	F9sus	E \flat 6 \supset	D9sus	D \flat Δ \sharp 4	G(2)
c.						

The following guide is meant to assist in organizing the harmonization procedure, also refer to the harmonization process introduced on page 44. There are additional examples of single pitch harmonization in the appendix.

HARMONIZATION PROCEDURE

1. Identify:
 - (a) The parent source modality and chords of the pentatonic melody.
 - (b) The implied and secondary diatonic chords and modes.
 - (c) The trichords, structures and “grips” found in the melody.
2. Select Harmonic Rhythm:
 - (a) Linear 1 – one diatonic mode or chord for entire melody.
 - (b) Linear 2 – many chords and roots are diatonic to the melody.
 - (c) Linear 3 – one non-diatonic mode/chord for the entire melody.
 - (d) Plateau – many chords per melody, organized into symmetric groups: usually 2, 4 or 8 bars each.
 - (e) vertical – fast, asymmetric, non-diatonic roots, from one melody pitch per chord, two melody pitches per chord, or one chord per trichord, use of repose and transition.
3. Create a Root/Bass Melody:
 - (a) Organize by melody-writing procedures given in chapter one.
 - (b) Try to use thirds intervals followed by fourths and fifths, then connect with chromatic filler pitches if needed.
 - (c) Plot cadential points, set directional contour.
4. Select the Chords:
 - (a) Select a “first chord” that sets the emotional goal of the composition.
 - (b) Select chords for the target cadential areas.
 - (c) Select the remaining chords to fulfill a modal contour.
5. Tweak:

Play through the project, noting any chord selection, bass melody or harmonic rhythm that offends your musical tastes, adjust and try again.

Note: There is a harmonization example found in the appendix, as well as in the following compositional analyses.

COMPOSITION EXAMPLES

The following examples represent a variety of styles that are available on recordings. Unfortunately, there are few recordings with examples that include compositions with an altered pentatonic source. In a way, this could be fortuitous as it presents a vacuum that could be filled by the forward-looking composer. The most representative recorded examples are from the Wayne Shorter CD *Etcetera* - the source scales on a number of the compositions are quite exotic - but not truly pentatonic.

The comments for the following will refer to the melodic source, motivic and phrase organization, and harmonization. Only salient and pertinent points will be made, allowing the interested reader to delve deeper if desired.

EXTANT MELODIES

Example 3.12a: "Oriental Folk Song" (Traditional, Reharmonized by Wayne Shorter)

source scale

Chords: EbΔ, D-11, Bb13, C7, Ab13, G-11, Ab13, G-11

COMMENTS

Melody

- Based on a Chinese folk melody, the source scale is a common-practice G minor pentatonic.
- Most significant is the S/R organization - S(s-r)/R/R, the often-found and accessible S/R formula.
- The motif is well balanced with the opening statement (s) in an upward direction, released by the reversal of direction with the response (r). The larger S/R is balanced by a contrast of fast melodic rhythm of the statement (S), and slow melodic rhythm of the two responses (R). Of importance is the clear outline of the tritonic (sus2) shapes found in ms. 1, 3, 5, and 7.

Harmony

- Without referring to a mode/chord listing, it is clear that most of the chords are diatonically related to the G minor source scale - or its transposition - a Bb major pentatonic.
- The harmonic rhythm is mostly symmetric, with a harmonization by two melody pitches, except where an increase of tension is desired for cadential definition.
- The Ab13 is a tritone substituted dominant chord to the G minor tonic, with the A7 being an upper neighbor dominant to the Ab chord.

Other points

- As always, Wayne chooses to reharmonize by section, adding a few new chords to the second part, thereby enlarging the form beyond a mere repetition.
- The orchestration of this and all tunes found on the recording is very artistic and thoughtful – make note of how the two horns relate regarding unison, interval and octave assignments.

Example 3.12b: “Yaqui Indian Folk Melody” (Traditional)

source scale

This beautiful melody is from an American Indian source: the Pascua Yaqui tribe of Arizona – descendants of the ancient Toltecs of Mexico. This melody is found as a main theme in the “India Symphony” by Carlos Chávez. The example is from the Keith Jarrett CD *Treasure Island*.

COMMENTS

Melody

- The source scale: major pentatonic with a passing add-pitch (d \sharp).
- The S/R is symmetrically organized.
- Clear trichord shapes are found in ms. 2 and 4.

Harmonization

- Simple diatonic harmony is most affectively used.

Other points

- The consequence phrase (ms. 5-8), shows a nice balance by an increase of melodic rhythm.

Example 3.12c: “Gula Gula” by Mari Boine Persen

source scale

Although not mentioned on the CD, this melody has a quality that suggests an Indian influence – possibly Sami in origin.

COMMENTS

Melody

Like “Caribbean Fire Dance” introduced in Chapter I, this is a primitive but peaceful melody based on a tritonic tessitura. There is a sus2 structure outlined in the response portion (ms. 7-10). And most importantly, there is use of the S/R/R formula.

Harmonization

The main theme is very simple in its harmonic material, merely a tonic open fifth interval which goes to a G# open fifth as indicated on the musical example. There is additional harmonization in later melodic statements – a synopsis is also provided on the example.

FOLK INFLUENCED COMPOSITIONS

Example 3.13a: “Badia” by Josef Zawinul

A

source scale

B

source scale

A section: A very simple statement and response – clear and folk-like.
B section: An exotic balance, almost like an Eastern-European melody.

Example 3.13b: "Palm X" by Ron Miller

source scale

- A simple minor pentatonic - the programmatic intention of the tune, if one has been there, is of the crazy experience of driving the palmetto expressway in Miami. Covertly Hispanic, hot and fervent, is the message!
- Of note is the recommended S/R/R organization, like example 3.12a.

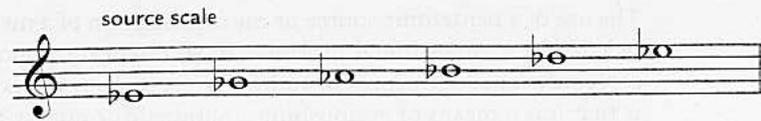
MISCELLANEOUS PENTATONIC COMPOSITIONS

Example 3.14a: "Ponte de Ariea" by Milton Nascimento

source scale

This beautiful melody is pentatonic, but because of its organization and shape, is not readily identifiable as such. Compare this melody to others of a Brazilian source. Are there similarities?

Example 3.14b: "Boogie Woogie Waltz" by Josef Zawinul



Intro



Main theme



Joe was with Miles at the time of this recording and Miles' influence shows: there is much use of space - a lot of transparency, but our interest is in the pentatonic quality.

The first material is of a simple diatonic source, in a clear exposition - the tritonic is evident, the direction is clear.

The main theme can almost be described as angular, but its rhythmic organization is almost hypnotic. The author includes this tune in his repertoire and can attest that one can play this theme over and over again without its losing its hypnotic effect - try it, you'll like it!

It should be pointed out, there are contrasting sections to balance the pentatonic melodies, but they are mostly in the form of harmonic, rhythmic and textural materials.

CONCLUSION OF CHAPTER III

The use of a pentatonic source or the organization of a melody based on a folk model is not new to the compositional process – most classical composers of note show the use of the aforementioned influences in addition to actually using extant material. An additional perk is that it is a means of establishing a nationalistic quality to composition.

To name a few examples:

Peter I. Tchaikovsky – the pentatonic theme in the 1st movement of the Symphony No. 6 (see p.33).

Example 3.15a: A Prominent Theme From “The Firebird” by Igor Stravinsky



Example 3.15b: The “Shaker Hymn” from “Appalachian Spring” by Aaron Copland



Example 3.15c: “Scherzo No. 1 in B Minor” by Frederic Copin



Use of an extant Polish Christmas carol in the second movement.

The use of folk elements is what makes Bartók sound Hungarian, Grieg sound Norwegian, Gershwin sound American, and Stravinsky sound Russian. The point is that the classical repertoire is a good source of study for the use of folk elements as well as the use of harmonic and melodic materials as suggested previously in Volume 1, and earlier chapters of this book.

RECORDINGS AND READINGS

Although there are not many jazz recordings with the kind of pentatonic compositions referred to in the text, there is an extensive number of both recordings and books that refer to the world's folk musics - only a few are listed - but it is easy to find more.

A. RECORDINGS

<i>Native Dancer</i>	Wayne Shorter	Columbia 46159
<i>I Took Up The Runes</i>	Jan Garbarek	ECM 21419
<i>Night Dreamer</i>	Wayne Shorter	BST 94173
<i>Etcetera</i>	Wayne Shorter	BST 214
<i>Juju</i>	Wayne Shorter	BST 37644
<i>Tokyo Blues</i>	Horace Silver	BNS 4134
<i>Blackjack</i>	Donald Byrd	BNS 84259
<i>Search For The New Land</i>	Lee Morgan	BST 84169
<i>Tail Spinnin'</i>	Weather Report	Col PC33417
<i>8:30</i>	Weather Report	Col PC36060
<i>A Love Supreme</i>	John Coltrane	Impulse 133
<i>Expansions</i>	McCoy Tyner	BST 84338
<i>Treasure Island</i>	Keith Jarrett	Impulse/MCA 39106
<i>Appalachian Spring</i>	Aaron Copland	misc. recordings available
<i>China in Song and Dance</i>	National Folk Ensemble	Bruno 50062
<i>Authentic Music of the American Indian</i>	various	Legacy 312
<i>Whooo Boy!</i>	Justin Wilson	SM-11815
<i>India Symphony</i>	Carlos Chavez	misc. recordings available

B. READINGS

<i>Brazilian Music Workshop</i>	Antonio Adolpho	Advance Music
<i>Pentatonics</i>	Jerry Bergonzi	Advance Music
<i>Folk Music of China</i>	Stephan Jones	Oxford University Press
<i>Konkama Lapp District</i>	Robert Pehrson	Norsk
<i>The African Roots of Jazz</i>	Kaufman & Guckin	Alfred Publishing
<i>Merengue</i>	Paul Austerlitz	Temple Press

CONCLUSION AND FINAL COMMENTS

Taken together, the materials presented in Volumes 1 and 2 should prove to be sufficient in establishing a serious regimen of study for the aspiring composer of any level of expertise. Once again, the importance of much listening, to all kinds of music, with deliberate attention, cannot be over stressed. In fact, if one's "ears" are good enough, and one has the time and desire, and pursues a stringent listening career, one really doesn't need these text books - but it would take years of very hard work to do it that way!

There may be much information in both volumes of the book - but there is more to cover yet. Further study would cover: more melody-writing procedures with the extension of pentatonic tunes to the study of blues tunes and avant-garde compositions; More in-depth study of tonal (II-V) harmony and form with the works of Horace Silver, Thelonious Monk, Charles Mingus and early Wayne Shorter. And more specifics regarding "movements" and style by looking at the compositions of "group" efforts like Weather Report, Return to Forever, Oregon and the ECM style, and other significant documented contributions - all possible subjects for a continuation of the book series to a Volume 3.

Ron Miller 1997

MOBILE DEVELOPMENT

The following is a list of mobile development tools and frameworks that are currently available. This list is not exhaustive and is intended to provide a general overview of the current landscape. For more information, please refer to the main text of the report.

APPENDICES

This section contains the appendices for the report, which provide additional information and data. The appendices are organized as follows:

Appendix A: List of mobile development tools and frameworks.

Appendix B: List of mobile development frameworks and libraries.

Appendix C: List of mobile development resources and documentation.

Appendix D: List of mobile development case studies and examples.

Appendix E: List of mobile development best practices and guidelines.

Appendix F: List of mobile development trends and forecasts.

APPENDIX I

MOTIFIC DEVELOPMENT

The following is included merely to provide an accessible source for review - it is assumed that the reader has been exposed to the techniques of motivic development in previous readings or training. Essentially, a change in the original motif can be described by a difference in intervallic direction (up or down), ratio (semi-tone formula), or melodic rhythm (note duration).

Examples:

- (a) Sequence - this seemingly simple device of repeating a motif starting from another pitch has proved effective for centuries. Usually, the interval structure of the sequenced motif is altered to fit scale and harmony.

Motif Sequence (tonal upward, key of Eb or Ab)

- (b) Inversion - the original semitone formula stays the same, but the directions are reversed: what went up now goes down, and what went down now goes up.

Original Inversion

Interval: m2 M2 P4 m2 M2 P4

Direction: ↑ ↑ ↓ ↓ ↓ ↑

- (c) Retrograde - both the direction and the intervallic formula are reversed.

Original Retrograde

Interval: m2 M2 P4 P4 M2 m2

Direction: ↑ ↑ ↓ ↑ ↓ ↓

- (d) Retrograde Inversion - this is like a palindrome, the change reflects a "mirror-image" of the original, not merely a change in direction.

Original Retrograde inversion

Interval: m2 M2 P4 P4 M2 m2

Direction: ↑ ↑ ↓ ↓ ↑ ↑

(e) **Isorhythm** - an important technique in jazz oriented melody writing, the developed motif shows a tie to the original by having the same note values (melodic rhythm), but with different pitches or direction.

Motif Same rhythm

(f) **Isoarticulation** - like the above, but the tie to the original in this case is by common articulations.

Phrase Same articulation

(g) **Truncation** - as the name implies, this shows a deletion of some of the pitches of the original motif, usually at the end of the motif, but not necessarily. Although other qualities of the original also can be changed, it is best to keep the original shape to clarify the musical development.

Example: "Ida Lupino" by Carla Bley

Motif Cut short, inverted
G C/G

(h) **Extension** - the opposite of above, the developed motif is lengthened by additional melodic material. As long as a clear tie to the original is evident, other development techniques can be used as well.

Example: "Lost Illusions" by Ron Miller

Motif Elongated & displaced

- (i) Displacement – this refers to a shifting of the melodic rhythm relative to the harmonic rhythm; a shift of where the new motif occurs in the measure compared to the original.

Example: “Men in White” by Ron Miller from the CD *Gliding*

Musical notation for "Men in White" by Ron Miller. The notation shows a melodic line in treble clef with a common time signature. The first measure contains a $Bb13sus$ chord and a motif. The second measure contains an $A13sus$ chord. The third measure contains a $C13sus$ chord and a motif that is displaced and sequenced from the first measure.

- (j) Mutation – this term is used to describe any anomalous change shown in the new motif which still can be identified as being relative to the original.

Musical notation illustrating mutation. The notation shows a melodic line in treble clef with a 3/4 time signature. The first measure contains an $F13sus$ chord and a motif. The second measure contains an $E9sus$ chord. The third measure contains a $G9sus$ chord and a motif that is a form of inversion of the first motif. The fourth measure contains an $F\#-11$ chord.

There are many more descriptions of techniques for developing an original motif, but in the interest of clarity and simplicity, the above is sufficient. Keep in mind that when analyzing melodies, our interest is in identifying what the composer did to develop the melody musically, not in getting overly scientific or pedantic.

EFFECTS

Effects are idiomatic expressive devices peculiar to individual instrumental groups. Many are general to all instruments and voices. Again, beyond the scope of this book, keep their use in mind when composing a melody. Consult an orchestration book for an in-depth review. Know how to include them in your scores; some you should use include:

trills	glissandos
tremolos	slurs
scoops	slaps
bends	falls

There are many more, the important point is to keep them in mind while writing out your melody. It is recommended that you consult fellow performers to demonstrate all the effects that are possible on his or her instrument or voice - it may give you ideas for your melody if not for a whole composition.

SOUND SUPPORT PHRASING

The last performance directive to cover is quite important, and one that is often overlooked - that of sound support phrasing - the direction as when to start and when to stop producing a sound irrelative to pitch change.

Whether the sound is produced by blowing, plucking, scrapping or hitting, there is a point when the performer needs to take a breath, raise the arm, or move the bow to a starting position; all affect the phrase quality of a melody. There are two considerations the composer must make: (1) how long the sound production can last depending on the tempo of the performance and the abilities of the performer, and (2) how will the pause to take a breath or raise a bow affect the phrasing of the melody. Careful preplanning is required to assure a successful interpretation of your melody.

There are two ways to direct the performer of your melody regarding sound production:

1. **Breath marks** – a simple single quote (') specifies that the player is to take a breath, or restart the sound production at that point. It has the effect of ending a phrase and should be considered for use as a phrasing directive.

Example: Breath Mark Phrasing



COMMENT:

The placement of the breath mark has the effect of a slight pause between the consecutive quarter notes, creating a second phrase.

2. **Sound support phrasing** – these are phrase markings that are in addition to melodic phrasings – they are meant to direct sound production, but because of the pause that occurs when the performer takes a breath or in any way restarts a sound, the effect is that of melodic phrasing and/or punctuation, and has a similar effect as breath marks.

Example: Sound Support Phrasing



COMMENT:

The player, whether or not taking a breath, will restart the sound production, creating a new phrase.

Be aware of all the aforementioned directive and melody interpretive devices in your listening sessions and take note of those that are particularly musically effective.

APPENDIX II

TRITONE SUBSTITUTION AND ACOUSTICS

Tritone substitution is a phenomenon that is a result of tempered tuning. Although it works for non-fixed tuned instruments, it is probably due to performance adjustments from years of playing with fixed pitch instruments. Looking at the overtone series, one can see that enharmonically spelled intervals should resolve differently. But with tempered tuning, the different spellings nonetheless sound the same.

Example:

The musical notation consists of five measures, each with a treble and bass clef staff. Measure 1 shows the overtone series for C: C (1), C2 (2), G2 (3), C3 (4), E3 (5), F3 (6), G3 (7), A3 (8). Measure 2 shows the 7th partial (G) and 5th partial (C) forming a tritone interval. Measure 3 shows the overtone series for F#: F# (1), F#2 (2), C#3 (3), F#3 (4), A#3 (5), B3 (6), C#4 (7), D#4 (8). Measure 4 shows the 7th partial (C#) and 5th partial (F#) forming a tritone interval. Measure 5 shows the resolution of the tritone interval from measure 4 into a perfect fifth (C and F#).

1. The overtone series based on C with the partials numbered.
2. The 7th and 5th partials creating a tritone interval – subtracting the 5 from 7 gives the difference tone, the tonic of the tritone.
3. & 4. The same procedure for the series based on F#, a tritone from C.
5. The upper structure tritone intervals sound the same and as a sound, can resolve the in the same way – producing the effect that the roots are substitutable.

STARTING CHORDS – STANDARDS

Tunes that start on:

A. I Major or III Minor

Here's That Rainy Day
 The Girl From Impanema
 This Nearly Was Mine
 My Foolish Heart
 A Foggy Day
 You Stepped Out of a Dream

B. II Minor

What a Difference a Day Made
 Satin Doll
 Body and Soul
 Autumn in New York
 Its You or No One
 Prisoner of Love

C. VI Minor

My Funny Valentine
 All The Things You Are
 Alone Together
 If I Should Lose You
 Lover Man

D. IV Major or Dominant

After You've Gone
 Just Friends
 Love For Sale
 How Insensitive

E. Non-Diatonic or Miscellaneous

Night and Day
 Lover
 I Cover the Waterfront
 Prelude to a Kiss

bVI
 I dominant
 II dominant
 VI dominant

The reader is urged to fill the empty lines.

ADDITIONAL REHARMONIZATION – NEW MELODIES

Included for additional study or as a source of contemporary restyled standards to play over or to add to your repertoire.

A. A reharmonization of “I’m Getting Sentimental Over You” with a partial new melody, there is a return to the original melody at the second bar of the B section and the last three measures of the third ending – giving impetus to a partial new title.

Example: “Getting Semi-Mental” by Ron Miller

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B. Only slightly reharmonized version of “Sweet Georgia Brown,” but with a quirky and angular new melody. The tune is meant to be a “burner” – it fulfills its premise.

Example: "Sweet GB" by Ron Miller

new bop F7

Bb7

Eb7

Ab

drum solo

F- Gb13 F- Gb11 Gb13

swing 4

Ab13 G13 Gb13 F13 Bb7 Eb7 Ab13 Gb13

solos: "Sweet Georgia Brown"

C. Another reharmonization and new melody of "Night and Day" - this time by David Liebman. Compare it to versions found in Chapter II.

Example: "Day and Nite" by David Liebman

$B\Delta^{b5}$ $Bb7alt$ $Eb\Delta^{b5}$ $(C\#-7 \quad F\#7)$

$B\Delta^{b5}$ $Bb7alt$ $Eb\Delta^{b5}$

$A\emptyset$ (Ab/A) $Ab-7 \quad (G/Ab)$ $G-7 \quad (Gb/G)$ $F\#-7 \quad (F/F\#)$

$F-7$ $Eb\Delta^{b5}$ (D/Eb) $Eb\Delta$ $1. \quad (C\#-7 \quad F\#7)$

$2. \quad C\#-7/F\#$ $Bb-7/Eb$

$C\#-7/F\#$ $Bb-7/Eb$

$A\emptyset$ $Ab-7$ $G-7$ $F\#-7$

$F-7$ $E\Delta^{b5}$ (D/Eb) $Eb\Delta^{b5}$ $(C\#-7 \quad F\#7)$

© Copyright by Liebstone Music

D. A new-bop modal reharmonization of, and new melody for "What Is This Thing Called Love."

Example: "Love Thing" by Ron Miller

vamp

C Phrygian C Aeolian

A

C Phrygian C Aeolian F-11/C

f *sfz* *f*

F#sus G#sus Gsus E/G E/C A/B (head only)

fp *f* *fine*

B

F9sus

3

D/F7

fp

Esus Esus F#sus Absus Bbsus Dbsus Ebsus

go to A

The musical score is presented in two systems. The first system consists of a bass clef staff with a 'vamp' instruction and two modal labels: 'C Phrygian' and 'C Aeolian'. The second system consists of a treble clef staff with a section marker 'A' and three modal labels: 'C Phrygian', 'C Aeolian', and 'F-11/C'. It includes dynamics *f*, *sfz*, and *f*. The third system is a treble clef staff with six chord labels: 'F#sus', 'G#sus', 'Gsus', 'E/G', 'E/C', and 'A/B (head only)'. It includes dynamics *fp*, *f*, and *fine*. The fourth system is a treble clef staff with a section marker 'B' and one chord label 'F9sus'. It includes a triplet '3' and a chord label 'D/F7', with dynamics *fp*. The fifth system is a treble clef staff with seven chord labels: 'Esus', 'Esus', 'F#sus', 'Absus', 'Bbsus', 'Dbsus', and 'Ebsus'. It includes the instruction 'go to A'.

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APPENDIX III

The following materials are included for further study, reference, and clarification.

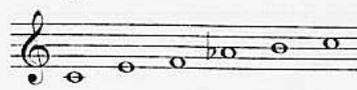
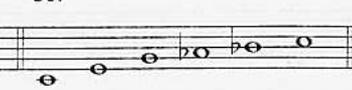
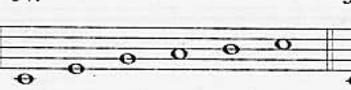
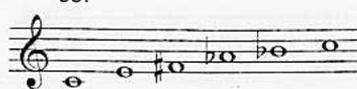
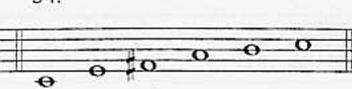
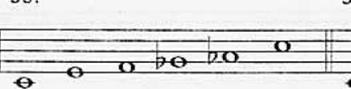
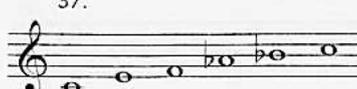
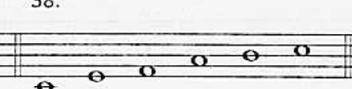
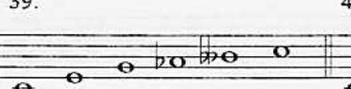
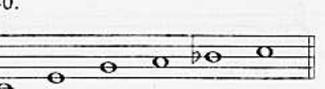
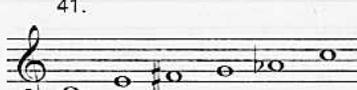
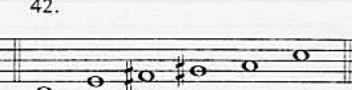
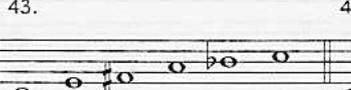
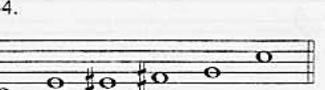
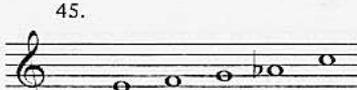
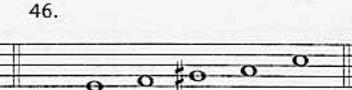
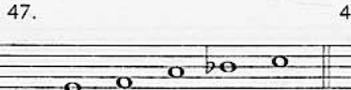
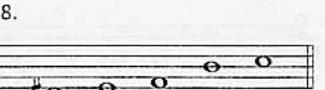
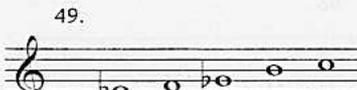
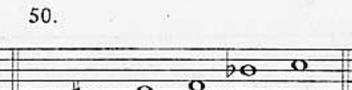
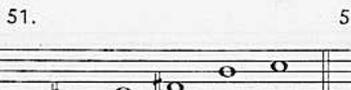
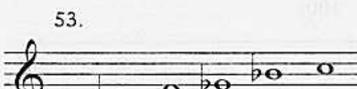
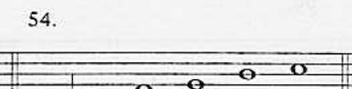
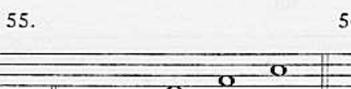
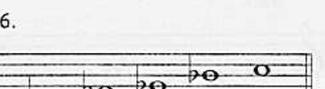
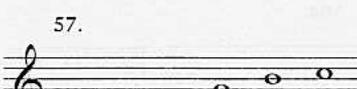
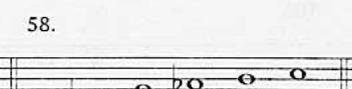
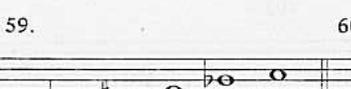
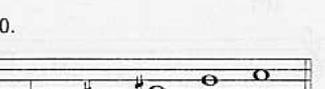
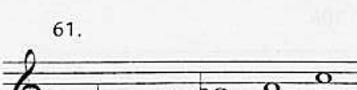
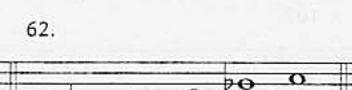
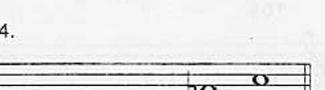
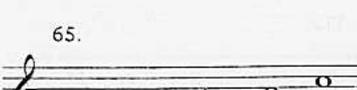
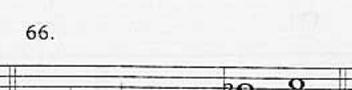
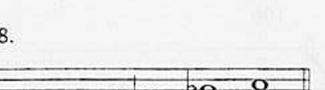
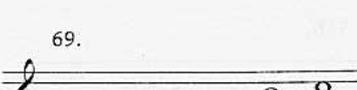
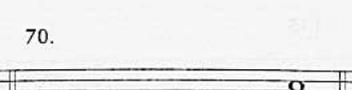
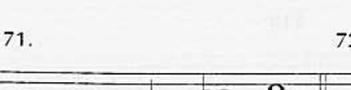
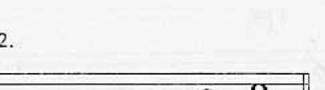
LIST OF ALL USABLE PENTATONIC SCALES

This listing was originally created by a computer program (included later) and spelled out in a more musical language here; the limits of the list are that there be no interval greater than a tritone. This is to attempt to limit the number of created scales that may have too many adjacent semitones - any modality within the scale would be too obscure, and the shape of the generated pentatonic would not be musical.

This listing is to be referred to as a source of altered pentatonics and to cross-check any pentatonics created by the combined method.

ALL PENTATONIC SCALES WITH NO INTERVAL LARGER THAN A TRITONE

1.	2.	3.	4.
6 1 1 3 1	6 1 1 2 2	6 1 2 2 1	6 1 1 1 3
5.	6.	7.	8.
6 1 2 1 2	5 1 1 4 1	5 2 1 3 1	5 1 1 3 2
9.	10.	11.	12.
5 1 2 3 1	5 2 1 2 2	5 2 2 2 1	5 1 1 2 3
13.	14.	15.	16.
5 1 2 2 2	5 1 3 2 1	5 2 1 1 3	5 2 2 1 2
17.	18.	19.	20.
5 1 1 1 4	5 1 2 1 3	5 1 3 1 2	4 1 1 5 1
21.	22.	23.	24.
4 2 1 4 1	4 1 1 4 2	4 1 2 4 1	4 3 1 3 1
25.	26.	27.	28.
4 2 1 3 2	4 2 2 3 1	4 1 1 3 3	4 1 2 3 2

<p>29.</p>  <p>4 1 3 3 1</p>	<p>30.</p>  <p>4 3 1 2 2</p>	<p>31.</p>  <p>4 3 2 2 1</p>	<p>32.</p>  <p>4 2 1 2 3</p>
<p>33.</p>  <p>4 2 2 2 2</p>	<p>34.</p>  <p>4 2 3 2 1</p>	<p>35.</p>  <p>4 1 1 2 4</p>	<p>36.</p>  <p>4 1 2 2 3</p>
<p>37.</p>  <p>4 1 3 2 2</p>	<p>38.</p>  <p>4 1 4 2 1</p>	<p>39.</p>  <p>4 3 1 1 3</p>	<p>40.</p>  <p>4 3 2 1 2</p>
<p>41.</p>  <p>4 2 1 1 4</p>	<p>42.</p>  <p>4 2 2 1 3</p>	<p>43.</p>  <p>4 2 3 1 2</p>	<p>44.</p>  <p>4 1 1 1 5</p>
<p>45.</p>  <p>4 1 2 1 4</p>	<p>46.</p>  <p>4 1 3 1 3</p>	<p>47.</p>  <p>4 1 4 1 2</p>	<p>48.</p>  <p>3 1 1 6 1</p>
<p>49.</p>  <p>3 2 1 5 1</p>	<p>50.</p>  <p>3 1 1 5 2</p>	<p>51.</p>  <p>3 1 2 5 1</p>	<p>52.</p>  <p>3 3 1 4 1</p>
<p>53.</p>  <p>3 2 1 4 2</p>	<p>54.</p>  <p>3 2 2 4 1</p>	<p>55.</p>  <p>3 1 1 4 3</p>	<p>56.</p>  <p>3 1 2 4 2</p>
<p>57.</p>  <p>3 1 3 4 1</p>	<p>58.</p>  <p>3 4 1 3 1</p>	<p>59.</p>  <p>3 3 1 3 2</p>	<p>60.</p>  <p>3 3 2 3 1</p>
<p>61.</p>  <p>3 2 1 3 3</p>	<p>62.</p>  <p>3 2 2 3 2</p>	<p>63.</p>  <p>3 2 3 3 1</p>	<p>64.</p>  <p>3 1 1 3 4</p>
<p>65.</p>  <p>3 1 2 3 3</p>	<p>66.</p>  <p>3 1 3 3 2</p>	<p>67.</p>  <p>3 1 4 3 1</p>	<p>68.</p>  <p>3 4 1 2 2</p>
<p>69.</p>  <p>3 4 2 2 1</p>	<p>70.</p>  <p>3 3 1 2 3</p>	<p>71.</p>  <p>3 3 2 2 2</p>	<p>72.</p>  <p>3 3 3 2 1</p>

73. 74. 75. 76.

3 2 1 2 4 3 2 2 2 3 3 2 3 2 2 3 2 4 2 1

77. 78. 79. 80.

3 1 1 2 5 3 1 2 2 4 3 1 3 2 3 3 1 4 2 2

81. 82. 83. 84.

3 1 5 2 1 3 4 1 1 3 3 4 2 1 2 3 3 1 1 4

85. 86. 87. 88.

3 3 2 1 3 3 3 3 1 2 3 2 1 1 5 3 2 2 1 4

89. 90. 91. 92.

3 2 3 1 3 3 2 4 1 2 3 1 1 1 6 3 1 2 1 5

93. 94. 95. 96.

3 1 3 1 4 3 1 4 1 3 3 1 5 1 2 2 2 1 6 1

97. 98. 99. 100.

2 1 2 6 1 2 3 1 5 1 2 2 1 5 2 2 2 2 5 1

101. 102. 103. 104.

2 1 2 5 2 2 1 3 5 1 2 4 1 4 1 2 3 1 4 2

105. 106. 107. 108.

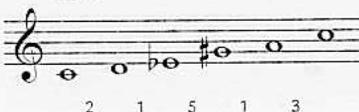
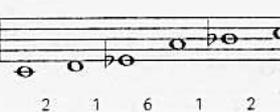
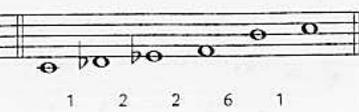
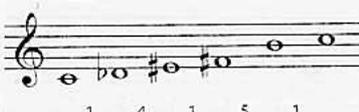
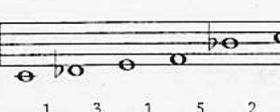
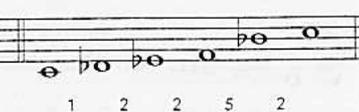
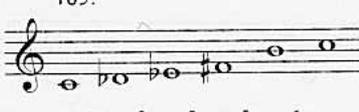
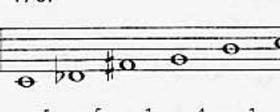
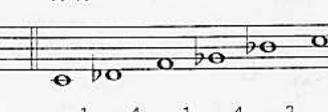
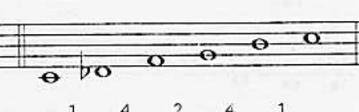
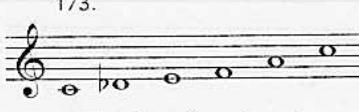
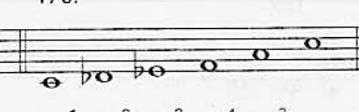
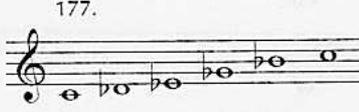
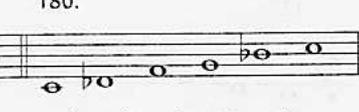
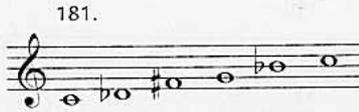
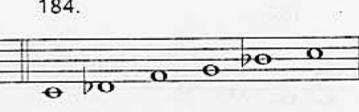
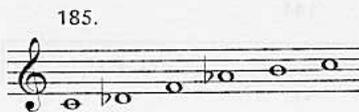
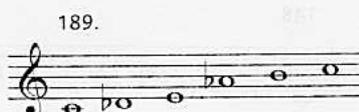
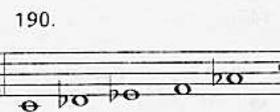
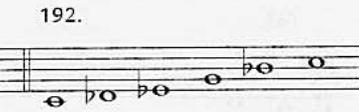
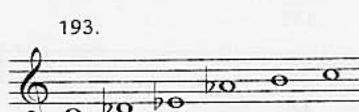
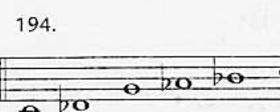
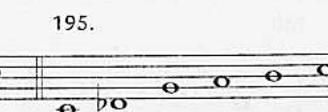
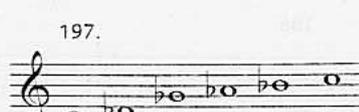
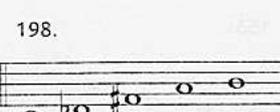
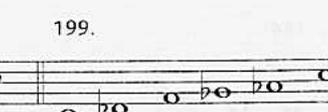
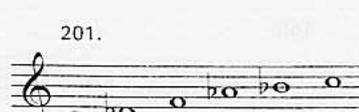
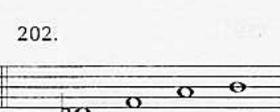
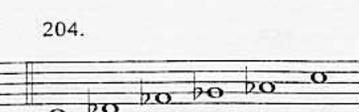
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109. 110. 111. 112.

2 1 2 4 3 2 1 3 4 2 2 1 4 4 1 2 5 1 3 1

113. 114. 115. 116.

2 4 1 3 2 2 4 2 3 1 2 3 1 3 3 2 3 2 3 2

161.  2 1 5 1 3	162.  2 1 6 1 2	163.  1 3 1 6 1	164.  1 2 2 6 1
165.  1 4 1 5 1	166.  1 3 1 5 2	167.  1 3 2 5 1	168.  1 2 2 5 2
169.  1 2 3 5 1	170.  1 5 1 4 1	171.  1 4 1 4 2	172.  1 4 2 4 1
173.  1 3 1 4 3	174.  1 3 2 4 2	175.  1 3 3 4 1	176.  1 2 2 4 3
177.  1 2 3 4 2	178.  1 2 4 4 1	179.  1 6 1 3 1	180.  1 5 1 3 2
181.  1 5 1 3 2	182.  1 5 2 3 1	183.  1 4 1 3 3	184.  1 4 2 3 2
185.  1 4 3 3 1	186.  1 3 1 3 4	187.  1 3 2 3 3	188.  1 3 3 3 2
189.  1 3 4 3 1	190.  1 2 2 3 4	191.  1 2 3 3 3	192.  1 2 4 3 2
193.  1 2 5 3 1	194.  1 6 1 2 2	195.  1 6 2 2 1	196.  1 5 1 2 3
197.  1 5 2 2 2	198.  1 5 3 2 1	199.  1 4 1 2 4	200.  1 4 2 2 3
201.  1 4 3 2 2	202.  1 4 4 2 1	203.  1 3 1 2 5	204.  1 3 2 2 4

117. 2 3 3 3 1

118. 2 2 1 3 4

119. 2 2 2 3 3

120. 2 2 3 3 2

121. 2 1 2 3 4

122. 2 1 3 3 3

123. 2 1 4 3 2

124. 2 1 5 3 1

125. 2 5 1 2 2

126. 2 5 2 2 1

127. 2 4 1 2 3

128. 2 4 2 2 2

129. 2 4 3 2 1

130. 2 3 1 2 4

131. 2 3 2 2 3

132. 2 3 3 2 2

133. 2 3 4 2 1

134. 2 2 1 2 5

135. 2 2 2 2 4

136. 2 2 3 2 3

137. 2 2 4 2 2

138. 2 2 5 2 1

139. 2 1 2 2 5

140. 2 1 3 2 4

141. 2 1 4 2 3

142. 2 1 5 2 2

143. 2 1 6 2 1

144. 2 5 1 1 3

145. 2 5 2 1 2

146. 2 4 1 1 4

147. 2 4 2 1 3

148. 2 4 3 1 2

149. 2 3 1 1 5

150. 2 3 2 1 4

151. 2 3 3 1 3

152. 2 3 4 1 2

153. 2 2 1 1 6

154. 2 2 2 1 5

155. 2 2 3 1 4

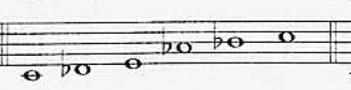
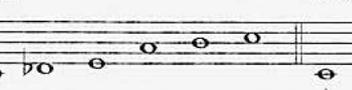
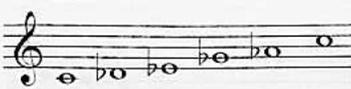
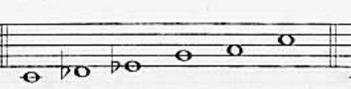
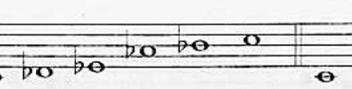
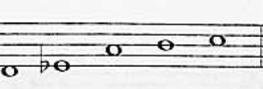
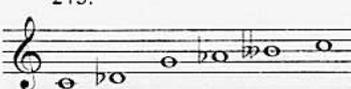
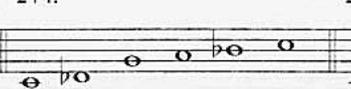
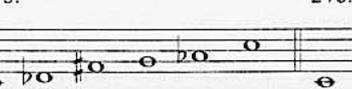
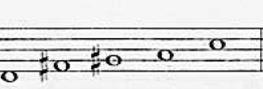
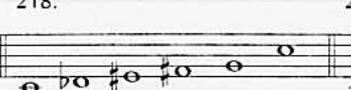
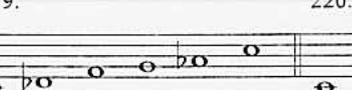
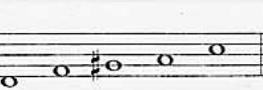
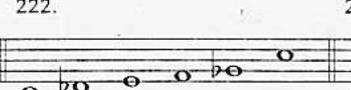
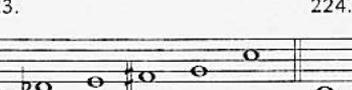
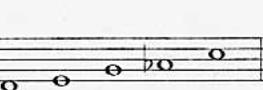
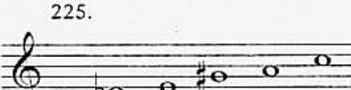
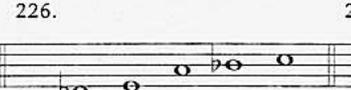
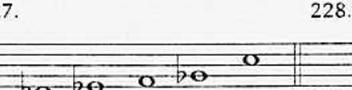
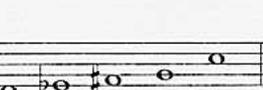
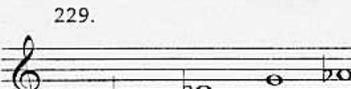
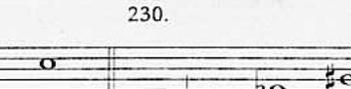
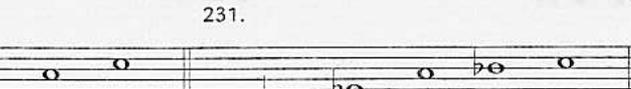
156. 2 2 4 1 3

157. 2 2 5 1 2

158. 2 1 2 1 6

159. 2 1 3 1 5

160. 2 1 4 1 4

<p>205.</p>  <p>1 3 3 2 3</p>	<p>206.</p>  <p>1 3 4 2 2</p>	<p>207.</p>  <p>1 3 5 2 1</p>	<p>208.</p>  <p>1 2 2 2 5</p>
<p>209.</p>  <p>1 2 3 2 4</p>	<p>210.</p>  <p>1 2 4 2 3</p>	<p>211.</p>  <p>1 2 5 2 2</p>	<p>212.</p>  <p>1 2 6 2 1</p>
<p>213.</p>  <p>1 6 1 1 3</p>	<p>214.</p>  <p>1 6 2 1 2</p>	<p>215.</p>  <p>1 5 1 1 4</p>	<p>216.</p>  <p>1 5 2 1 3</p>
<p>217.</p>  <p>1 5 3 1 2</p>	<p>218.</p>  <p>1 4 1 1 5</p>	<p>219.</p>  <p>1 4 2 1 4</p>	<p>220.</p>  <p>1 4 3 1 3</p>
<p>221.</p>  <p>1 4 4 1 2</p>	<p>222.</p>  <p>1 3 1 1 6</p>	<p>223.</p>  <p>1 3 2 1 5</p>	<p>224.</p>  <p>1 3 3 1 4</p>
<p>225.</p>  <p>1 3 4 1 3</p>	<p>226.</p>  <p>1 3 5 1 2</p>	<p>227.</p>  <p>1 2 2 1 6</p>	<p>228.</p>  <p>1 2 3 1 5</p>
<p>229.</p>  <p>1 2 4 1 4</p>	<p>230.</p>  <p>1 2 5 1 3</p>	<p>231.</p>  <p>1 2 6 1 2</p>	

LIST OF ALL USABLE MODES

Included as a point of comparison for the pentatonic scales and as a source for creating pentatonics by the delete method, and as a general source of study for concepts of modality.

1. 2. 3. 4.

5. 6. 7. 8.

9. 10. 11. 12.

13. 14. 15. 16.

17. 18. 19. 20.

21. 22. 23. 24.

25. 26. 27. 28.

29. 30. 31. 32.

33. 34. 35. 36.

37. 38. 39. 40.

Four measures of music on a single staff. Measure 37: C4, D4, E4, F4, G4, A4, B4, C5. Measure 38: C4, D4, E4, F4, G4, A4, B4, C5. Measure 39: C4, D4, E4, F4, G4, A4, B4, C5. Measure 40: C4, D4, E4, F4, G4, A4, B4, C5.

41. 42. 43. 44.

Four measures of music on a single staff. Measure 41: C4, D4, E4, F4, G4, A4, B4, C5. Measure 42: C4, D4, E4, F4, G4, A4, B4, C5. Measure 43: C4, D4, E4, F4, G4, A4, B4, C5. Measure 44: C4, D4, E4, F4, G4, A4, B4, C5.

45. 46. 47. 48.

Four measures of music on a single staff. Measure 45: C4, D4, E4, F4, G4, A4, B4, C5. Measure 46: C4, D4, E4, F4, G4, A4, B4, C5. Measure 47: C4, D4, E4, F4, G4, A4, B4, C5. Measure 48: C4, D4, E4, F4, G4, A4, B4, C5.

49. 50. 51. 52.

Four measures of music on a single staff. Measure 49: C4, D4, E4, F4, G4, A4, B4, C5. Measure 50: C4, D4, E4, F4, G4, A4, B4, C5. Measure 51: C4, D4, E4, F4, G4, A4, B4, C5. Measure 52: C4, D4, E4, F4, G4, A4, B4, C5.

53. 54. 55. 56.

Four measures of music on a single staff. Measure 53: C4, D4, E4, F4, G4, A4, B4, C5. Measure 54: C4, D4, E4, F4, G4, A4, B4, C5. Measure 55: C4, D4, E4, F4, G4, A4, B4, C5. Measure 56: C4, D4, E4, F4, G4, A4, B4, C5.

57. 58. 59. 60.

Four measures of music on a single staff. Measure 57: C4, D4, E4, F4, G4, A4, B4, C5. Measure 58: C4, D4, E4, F4, G4, A4, B4, C5. Measure 59: C4, D4, E4, F4, G4, A4, B4, C5. Measure 60: C4, D4, E4, F4, G4, A4, B4, C5.

61. 62. 63. 64.

Four measures of music on a single staff. Measure 61: C4, D4, E4, F4, G4, A4, B4, C5. Measure 62: C4, D4, E4, F4, G4, A4, B4, C5. Measure 63: C4, D4, E4, F4, G4, A4, B4, C5. Measure 64: C4, D4, E4, F4, G4, A4, B4, C5.

65. 66. 67. 68.

Four measures of music on a single staff. Measure 65: C4, D4, E4, F4, G4, A4, B4, C5. Measure 66: C4, D4, E4, F4, G4, A4, B4, C5. Measure 67: C4, D4, E4, F4, G4, A4, B4, C5. Measure 68: C4, D4, E4, F4, G4, A4, B4, C5.

69. 70. 71. 72.

Four measures of music on a single staff. Measure 69: C4, D4, E4, F4, G4, A4, B4, C5. Measure 70: C4, D4, E4, F4, G4, A4, B4, C5. Measure 71: C4, D4, E4, F4, G4, A4, B4, C5. Measure 72: C4, D4, E4, F4, G4, A4, B4, C5.

73. 74. 75. 76.

Four measures of music on a single staff. Measure 73: C4, D4, E4, F4, G4, A4, B4, C5. Measure 74: C4, D4, E4, F4, G4, A4, B4, C5. Measure 75: C4, D4, E4, F4, G4, A4, B4, C5. Measure 76: C4, D4, E4, F4, G4, A4, B4, C5.

77. 78. 79. 80.

81. 82. 83. 84.

85. 86. 87. 88.

89. 90. 91. 92.

93. 94. 95. 96.

97. 98. 99. 100.

101. 102. 103. 104.

105. 106. 107. 108.

109. 110. 111. 112.

113. 114. 115. 116.

The image displays a series of musical exercises numbered 77 through 116, arranged in ten rows of four exercises each. Each exercise is written on a single staff with a treble clef. The exercises consist of a sequence of notes, primarily eighth and sixteenth notes, with various accidentals (sharps, flats, and naturals) and rests. The exercises are presented as continuous lines of music, with some containing double bar lines to indicate phrasing or measure boundaries. The overall style is that of a technical or sight-reading exercise book.

117. 118. 119. 120.

Four musical exercises on a single staff. Exercise 117: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 118: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 119: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 120: C4, D4, E4, F4, G4, A4, B4, C5.

121. 122. 123. 124.

Four musical exercises on a single staff. Exercise 121: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 122: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 123: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 124: C4, D4, E4, F4, G4, A4, B4, C5.

125. 126. 127. 128.

Four musical exercises on a single staff. Exercise 125: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 126: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 127: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 128: C4, D4, E4, F4, G4, A4, B4, C5.

129. 130. 131. 132.

Four musical exercises on a single staff. Exercise 129: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 130: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 131: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 132: C4, D4, E4, F4, G4, A4, B4, C5.

133. 134. 135. 136.

Four musical exercises on a single staff. Exercise 133: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 134: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 135: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 136: C4, D4, E4, F4, G4, A4, B4, C5.

137. 138. 139. 140.

Four musical exercises on a single staff. Exercise 137: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 138: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 139: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 140: C4, D4, E4, F4, G4, A4, B4, C5.

141. 142. 143. 144.

Four musical exercises on a single staff. Exercise 141: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 142: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 143: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 144: C4, D4, E4, F4, G4, A4, B4, C5.

145. 146. 147. 148.

Four musical exercises on a single staff. Exercise 145: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 146: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 147: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 148: C4, D4, E4, F4, G4, A4, B4, C5.

149. 150. 151. 152.

Four musical exercises on a single staff. Exercise 149: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 150: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 151: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 152: C4, D4, E4, F4, G4, A4, B4, C5.

153. 154. 155. 156.

Four musical exercises on a single staff. Exercise 153: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 154: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 155: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 156: C4, D4, E4, F4, G4, A4, B4, C5.

157. 158. 159. 160.

161. 162. 163. 164.

165. 166. 167. 168.

169. 170. 171. 172.

173. 174. 175. 176.

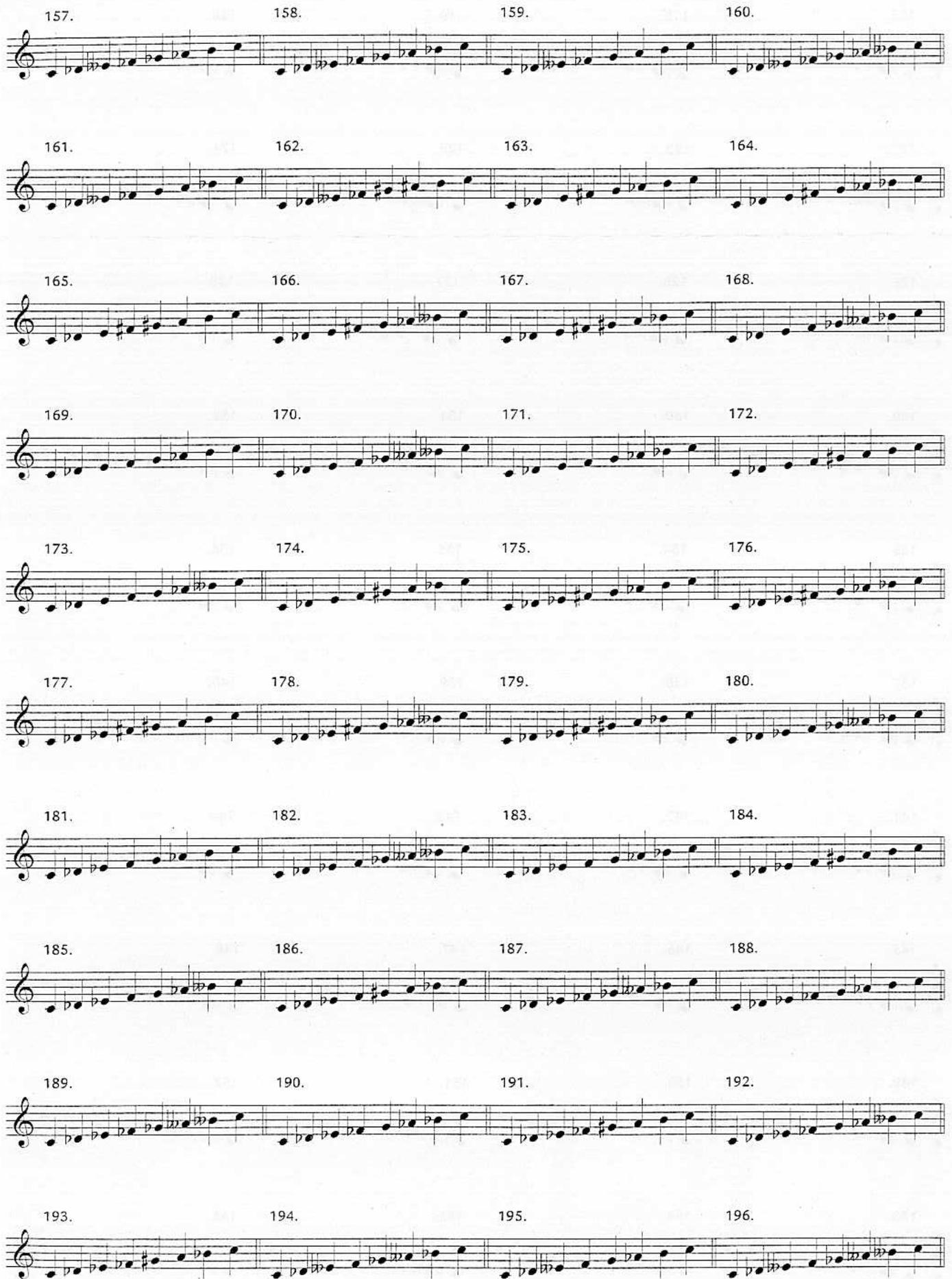
177. 178. 179. 180.

181. 182. 183. 184.

185. 186. 187. 188.

189. 190. 191. 192.

193. 194. 195. 196.

The image displays a series of musical exercises numbered 157 to 196, arranged in ten rows of four exercises each. Each exercise is written on a single staff with a treble clef. The exercises consist of a sequence of eighth and sixteenth notes, often with rests, and are separated by double bar lines. The notation includes various accidentals such as flats, sharps, and naturals. The exercises are presented in a clean, black-and-white format on a white background.

197. 198. 199. 200.

Four musical exercises on a single staff. Exercise 197: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 198: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 199: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 200: C4, D4, E4, F4, G4, A4, B4, C5.

201. 202. 203. 204.

Four musical exercises on a single staff. Exercise 201: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 202: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 203: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 204: C4, D4, E4, F4, G4, A4, B4, C5.

205. 206. 207.

Three musical exercises on a single staff. Exercise 205: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 206: C4, D4, E4, F4, G4, A4, B4, C5. Exercise 207: C4, D4, E4, F4, G4, A4, B4, C5.

LANGUAGE LISTING

The actual C language listing of the program that created the list of usable modes. This is included for any programmers that may want to modify it to create other scale listings. The program is purposely inelegant to provide more portability to other platforms - this was originally written for the Atari 1040 ST (Motorola 68K) and compiled with the Laser C development package - the version presented here is fully ANSI compliant and should compile on just about any system. A more developed program would include graphic representation of the scale data by notes on a staff, saving the scales data or MIDI data to disc, being able to demonstrate any selected scales either by MIDI output or by monitor speaker, being able to print the graphic notes/staff screen and allowing user input of data to create all possible scales with no particular limitations - all with mouse, windows and menu interface of course. This does exist - contact the author for more information.

```

/*****
*** AN ALGORITHM TO CREATE ALL MODES WITH NO INTERVAL GREATER THAN
***
*** AN AUGMENTED SECOND BY THE TETRACHORD METHOD - R. Miller 1995***
*****/

#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define SIZE 600
#define L 3
#define W 21

int total;

/* tetrachord data */
int array[L][W]=
{
    { 3,2,1, 3,1,2, 3,1,1, 0,0,0, 0,0,0, 0,0,0, 0,0,0 },
    { 2,3,1, 2,2,2, 2,2,1, 2,1,3, 2,1,2, 2,1,1, 0,0,0 },
    { 1,3,2, 1,3,1, 1,2,3, 1,2,2, 1,2,1, 1,1,3, 1,1,2 }
};

int mode[SIZE][10];

char *notes[8] = {"C","D","E","F","G","A","B","C"};
int value[8] = { 0, 2, 4, 5, 7, 9, 11, 12 };

void write_to_disk(void);

void main(void)
{
    int x, y, z, w, p, q, done, a, A,B,C,D,E,F,G,H, T=L*W;
    char key;

    top: a=total=done=key=0;

    printf("\nselect screen info:\n hit 'd' to show data - \
        hit 'space' to compute only\n\n\n");
    while(!(key = getchar()));
    if(key == 0x20)
        printf("\n\n ~ computing data ~\n\n");
    while(!done){
        for(y=0; y<L; y++){
            for(z=0; z<L; z++){
                for(x=0; x<W; x+=3){
                    for(w=0; w<W; w+=3){
                        /* getting the sum of tetrachords */
                        if(array[z][w]){
                            p=array[y][x] + array[y][x+1] + array[y][x+2];

```

```

        q=array[z][w] + array[z][w+1] + array[z][w+2];
    }
    else
        p=q=0;

    /* if sum of tetrachords<12 */
    if((p) && (q) && ((p+q)<12)){
        A=mode[total][0]=0;
        B=mode[total][1]=array[y][x];
        C=mode[total][2]=array[y][x+1];
        D=mode[total][3]=array[y][x+2];
        F=mode[total][5]=array[z][w];
        G=mode[total][6]=array[z][w+1];
        H=mode[total][7]=array[z][w+2];
        E=mode[total][4]=12-(A+B+C+D+F+G+H);

        /* screen display */
        if(key == 'd'){
            printf(" [%3d] ",total+1);
            printf("%2d ",B);
            printf("%2d ",C);
            printf("%2d ",D);
            printf("[%2d ] ",H);
            printf("%2d ",E);
            printf("%2d ",F);
            printf("%2d \n",G);
        } /* key == 13 */

        ++total;

        if(a>T && (B==3 && C==2 && D==1))
            done = true; /* test for 1st tetrachord */

    } /* end p+q<12.. */

    ++a; /* increment main counter */

    if(key == 0x20 && a % 120 == 0)
        printf("\ncycles completed: %3d",a);
    if(a > SIZE)
        done = 1;

    } /* end for(w.*/
    } /* end for(x.*/
    } /* end for(z.*/
} /* end for y.*/

} /* end while=====*/

printf("\n\n\n All Done ! ~ Total Scales Created: %3d\n\n",total);
printf("\n- hit 's' to save output to disk and quit, 'd' to do again, \
'q' to quit -\n");

while(!(key = getchar()));

switch(key){
    case 's':
        printf("\n\n ~ saving data as 'scales.txt' in the default directory\n\
existing files will be overwritten!\n\n");
        write_to_disk();
        exit(1);
        break;
    case 'd':
        goto top;
        break;
    case 'q':

```

```

        exit(1);
        break;
    default:
        break;
    }
} /* end of main */

void write_to_disk(void)
{
    int x,y,z, A,B=0,C,D,E;
    char prbuf[34];
    FILE *thefile;

    thefile = fopen("scales.txt", "w");
    if(thefile != NULL){
        for(y=0;y<total;y++){
            if(y > total)
                break; /* if cycle over or abort desired */
            D=0;
            if(mode[y][2] && y < SIZE){
                fprintf(thefile," %3d : C ",(y+1));
                for(x=1; x<8; x++){ /* convert numeric data to alpha */
                    E=value[x];
                    C=mode[y][x];
                    D += C;
                    if(D > 12) D=12;
                    fprintf(thefile,"%s",notes[x]);
                    if(E<D){ /* check for enharmonics */
                        if((D-E)==2) fprintf(thefile,"%s","## ");
                        else          fprintf(thefile,"%s","# ");
                    }
                    if(E>D){
                        if((E-D)==2) fprintf(thefile,"%s","bb ");
                        else          fprintf(thefile,"%s","b ");
                    }
                    if(E==D)
                        fprintf(thefile,"%s"," ");
                } /* end of for(x....) */
            } /* end of if(mode... */

            fprintf(thefile,"\n"); /* new line */

        } /* end of for(y<total ... */
        fclose(thefile);
        puts("file successfully written\n");
    } /* end of if(fopen...) */

    else{
        printf("\ncould not open file - press key...");
        getchar();
    }

} /* end of write_to_disk */

/* ===== END OF LISTING ===== */

```

MISCELLANEOUS MATERIALS

1. Computer generated harmonizations of altered pentatonic scales, one chord per each scale pitch.

Ex. 1

Ex. 2

Ex. 3

Ex. 4

Ex. 5

Ex. 6

Ex. 7

Ex. 8

Ex. 9

Ex. 10

Ex. 11

Ex. 12

2. Another example of harmonizing a pentatonic melody.

Diagram illustrating the first system of harmonization for a pentatonic melody. The melody is shown in treble clef, 2/4 time, with notes: C4, E4, G4, Bb4, C5. The system is divided into four measures by brackets labeled S and S1, with sub-brackets labeled R.

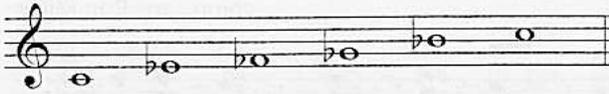
	S		S ₁	
	C-11	Bb-11	Ab13sus	Gb Lydian
#1	C Phrygian	Bb Phrygian	Galt	Gbsus
#2	F Phrygian	Eb-11	Dalt	Dbsus
#3	DbΔ ⁹	C-11	B7 ^{#5}	Bb9sus

Diagram illustrating the second system of harmonization for a pentatonic melody. The melody is shown in treble clef, 2/4 time, with notes: F4, Ab4, Bb4, C5, Ab5. The system is divided into four measures by brackets labeled R1.

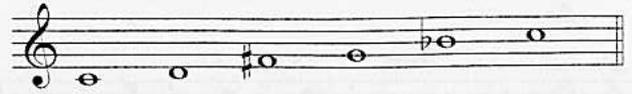
	R ₁		R ₁	
	F Phrygian	Eb Dorian	Absus	Dsus Dbsus
#1	F Phrygian	C/Eb Cb/Eb	D Aeol/Alt	C/Db Cb/Db
#2	C _o ^{b2}	Ab11	F Phry b6	G-9 Absus
#3	Ab9sus	C9sus	F [#] /A7	Ab13 C9sus

3. Examples of pentatonics created by the alteration method.

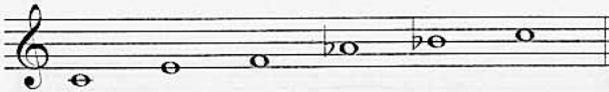
a) #56: b4, b5 - Altered (Modes of: D \flat Mel Minor)



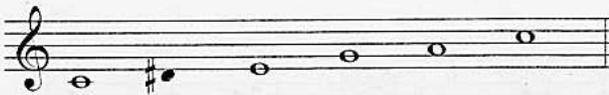
b) #113: #4, b7 - Mixo#4, Dorian#4
(Modes of: G Mel Minor, G Harm Minor)



c) #37: b6, b7 - Mixo \flat 6 Phrygian#3
(Modes of: F Mel Minor/Harm Minor)



d) #79: Major Blues



e) #141: Dorian



f) #155: Ionian b6



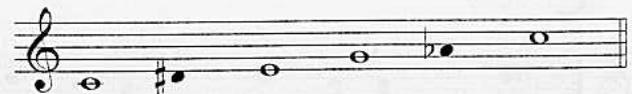
g) #224: Phrygian #3



h) Ionian #5



i) Ionian #2, b6



j) Aeolian



k) Altered



PALM X

comp./arr. Ron Miller

A F11

mf

5

fp

B F#-11

p.

f

A-9

p

f

13

C C-9

p

f

17

Eb-11

p

f

21

ABOUT THE AUTHOR

Ron Miller, Professor (Studio Music and Jazz), received a B.F.A. degree from Florida Atlantic University and a M.M. degree from the University of Miami. His compositions have been performed worldwide, including the Jamey Aebersold Camps, and have been recorded and/or performed by notables the likes of Red Rodney, Hal Galper, Joe Lovano, Billy Hart, Kenny Werner, Ira Sullivan, Stan Getz, Mark Egan and Danny Gottlieb of Elements.

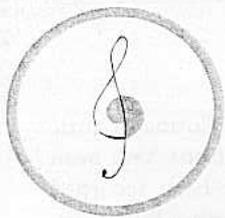
Ron's composition students have included, among others, Pat Metheny, Bobby Watson, "T" Lavitz, Bruce Hornsby, Mark Egan, Jon Secada and Gil Goldstein. He has given jazz piano performances with Ira Sullivan, Allen Eager, Rick Margitza, Mark Egan, and Pat Metheny, and has backed up many show business personalities as well.

Many of his students, under his direction, have been granted the prestigious Down Beat award either as individuals or in a group effort. The Best Small Ensemble award went to the Fusion Ensemble in 1979, Priority in 1988, and the Monk/Mingus Ensemble in 1997. Individual awards of Best Soloist went to Reed Arvin in 1979, and Rick Margitza in 1984. Of the Down Beat Outstanding Performance awards, the Avant-Garde ensemble won in 1980, 1981 and 1982, the Fusion Ensemble won in 1981 and 1982, and the Monk/Mingus Ensemble received the award in 1984.

Ron's compositions can be found on the following recordings: *Brooklyn Blues*, Danny Gottlieb; *Freedom Tower*, Mike Orta; *Dialogs*, Hal Galper; *Seventh Sign*, the UM Concert Jazz Band; *Liberal Arts*, Elements; *Blues for the Old New Age*, Gary Keller; *Lonely in a Crowd*, Barry Ries; and *Gliding*, Stan Samole with Elements.

In addition to teaching jazz composition, advanced improvisation, and jazz piano, Miller directs the Monk/Mingus ensemble, the Avant-Garde ensemble, and the Horace Silver ensemble.

Ron can be reached at rmiller0@bellsouth.net.



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