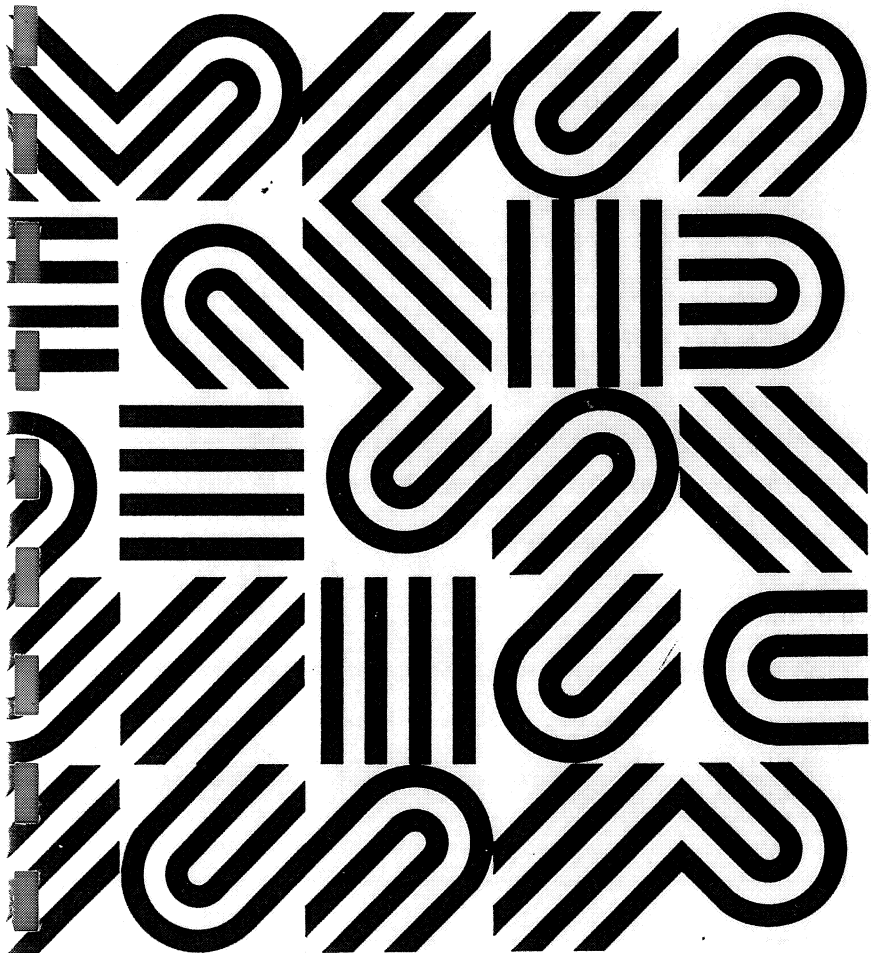


# ***Pentatonic Scales for Jazz Improvisation***

**THE RAMON RICKER  
JAZZ IMPROVISATION SERIES**

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## INTRODUCTION

The pentatonic scale has, of late, drawn considerable attention by jazz artists as a tool in their improvisation. Perhaps as a reaction to the melodic patterns of the Bop Era that were based primarily on chords with third intervals, many jazz artists, such as Freddie Hubbard, Chick Corea, and Joe Farrell, turned to pentatonic scales and patterns in fourths and fifths as a means of expressing their music. In the continuing evolution of music, it must be remembered that events that appear as a departure almost always have roots in the past. The use of pentatonics is no exception. Numerous tunes of the '40's and '50's used pentatonic scales as an integral part of their melodies (Symphony Sid, Moanin', Cousin Mary).

The purpose of this book is to acquaint the advanced high school or college improviser with the vast resource of melodic material available through the use of pentatonic scales. It is not intended to be used as a complete method of improvisation, but rather as a supplement to other, more comprehensive, books which deal with chord/scale relationships, substitute chords, melodic development, swing, etc. If pentatonics are used exclusively in improvisation the result can be a rather predictable, stereotyped sound. The author can not stress enough the continued study of chord/scale relationships and their application to jazz improvisation.

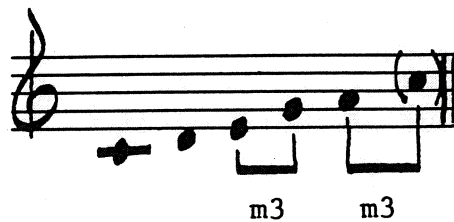
This method, if studied diligently, can provide the student with materials to build a harmonically "outside" improvisation while still retaining a logical basis. The use of these scales has proved particularly effective in turnarounds, and in modal or vamp playing. They also can be used with satisfying results in nearly every other circumstance in jazz. Because the scales often only hint at a basic sonority while outlining the upper extensions of a chord, a skating quality above the changes is achieved. This is discussed in detail in Chapter II.

## CHAPTER I

### CONSTRUCTION OF PENTATONIC SCALES

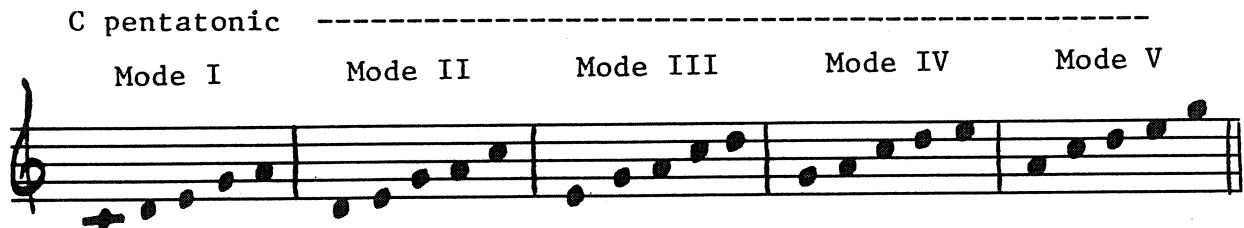
Pentatonic scales, as used in jazz, are five note scales made up of major seconds and minor thirds. Within a scale there are two minor thirds leaps in an octave, thus producing a gap. (Ex. 1) In addition there is no leading tone (seventh scale degree of a major scale) nor, for that matter, any half step within the scale. For these reasons, the scales act as chords, and are invertible.

Example 1



It can be seen that each pentatonic has five possible inversions, or what the author refers to as Modes. (Ex. 2)

Example 2



The above is not without historical precedent. The pentatonic scales were tabulated in a similar manner by Annie G. Gilchrist in "Note on the Modal System of Gaelic Tunes," *Journal of the Folk Song Society*, Dec. 1911, pp. 150-153. However, it must be noted that Ms. Gilchrist assigned Mode I to the author's Mode IV.

With five possible modes and twelve half steps in an octave there exist sixty different pentatonics. To have every pentatonic at full command the student should be able to play five different pentatonics from each note in the chromatic scale. A tall order for anyone!

Figure 1

Mode I Pentatonic Scales on Each Half Step\*

(1) C pentatonic      (2) D<sup>b</sup> pentatonic      (3) D pentatonic

(4) E<sup>b</sup> pentatonic      (5) E pentatonic      (6) F pentatonic

(7) F<sup>#</sup> pentatonic      (8) G pentatonic      (9) A<sup>b</sup> pentatonic

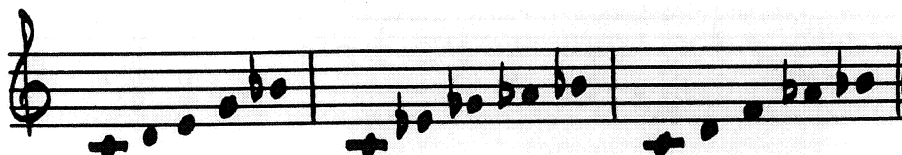
(10) A pentatonic      (11) B<sup>b</sup> pentatonic      (12) B pentatonic

Detailed description: The image displays 12 pentatonic scales in Mode I, arranged in four rows of three. Each scale is written on a single treble clef staff. The scales are: (1) C pentatonic (C, D, E, G, A), (2) D<sup>b</sup> pentatonic (D<sup>b</sup>, E<sup>b</sup>, F, G, A), (3) D pentatonic (D, E, F, G, A), (4) E<sup>b</sup> pentatonic (E<sup>b</sup>, F, G, A, B), (5) E pentatonic (E, F, G, A, B), (6) F pentatonic (F, G, A, C, D), (7) F<sup>#</sup> pentatonic (F<sup>#</sup>, G, A, B, C), (8) G pentatonic (G, A, B, D, E), (9) A<sup>b</sup> pentatonic (A<sup>b</sup>, B, C, D, E), (10) A pentatonic (A, B, C, D, E), (11) B<sup>b</sup> pentatonic (B<sup>b</sup>, C, D, E, F), and (12) B pentatonic (B, C, D, E, F).

\* Numbers have been assigned each scale for easier reference.

By using the definition found in the first paragraph of this chapter, the inquisitive student has probably already constructed three more pentatonics (Ex. 3). For our purpose in jazz improvisation, a further restriction to the pentatonic construction can be stated. There are no consecutive m3 leaps.

Example 3



Since there are five different pentatonic scales on each half step of the chromatic scale, some confusion may arise in identifying them. The author refers to a C pentatonic as C D E G A (1,2,3,5,6 of a C major scale). These notes when found in any other configuration are still referred to as C pentatonic. (Example: A C D E G is a C pentatonic, but, more specifically, mode V C pentatonic.) C Eb F Ab Bb is mode III Ab pentatonic. See page 47 for a listing of five different pentatonics on each half step.

$C \overset{T}{D} \overset{T}{E} \overset{3m}{G} \overset{3m}{Bb} \overset{T}{C}$   
 $C \overset{3m}{Eb} \overset{3m}{Gb} \overset{T}{Ab} \overset{T}{Bb} \overset{T}{C}$   
 $C \overset{T}{D} \overset{3m}{F} \overset{3m}{Ab} \overset{T}{Bb} \overset{T}{C}$   
 $C \overset{T}{D} \overset{3m}{F} \overset{3m}{G} \overset{T}{Bb} \overset{T}{C}$   
 $C \overset{3m}{Eb} \overset{T}{F} \overset{3m}{Ab} \overset{T}{Bb} \overset{T}{C}$   
 $C \overset{3m}{Eb} \overset{T}{F} \overset{T}{G} \overset{3m}{Bb} \overset{T}{C}$

$\binom{5}{2} = \frac{5!}{2!3!} = \frac{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{2 \cdot 1 \cdot 3 \cdot 2 \cdot 1} = \frac{5 \cdot 4}{2} = 10$

PENT. CON. 3m non successive:

$3m \overset{T}{D} \overset{3m}{E} \overset{T}{F} \overset{3m}{G} \overset{T}{Bb} \overset{T}{C}$   
 $(3m \overset{T}{D} \overset{T}{E} \overset{T}{F} \overset{3m}{G})$   
 $3m \overset{T}{D} \overset{T}{E} \overset{3m}{G} \overset{T}{Bb}$   
 $\overset{T}{D} \overset{3m}{E} \overset{3m}{G} \overset{T}{Bb} \overset{T}{C}$   
 $\overset{T}{D} \overset{3m}{E} \overset{T}{F} \overset{T}{G} \overset{3m}{Bb}$   
 $\overset{T}{D} \overset{T}{E} \overset{3m}{G} \overset{T}{Bb} \overset{3m}{C}$

PENT. MAGG.

$C \overset{3m}{Eb} \overset{T}{F} \overset{T}{G} \overset{3m}{Ab} \overset{T}{Bb} \overset{T}{C}$   
 $(C \overset{3m}{Eb} \overset{T}{F} \overset{T}{G} \overset{3m}{Ab})$   
 $C \overset{3m}{Eb} \overset{T}{F} \overset{T}{G} \overset{3m}{Bb} \overset{T}{C}$   
 $C \overset{T}{D} \overset{T}{F} \overset{T}{G} \overset{3m}{Bb} \overset{T}{C}$   
 $C \overset{T}{D} \overset{T}{F} \overset{T}{G} \overset{T}{A} \overset{3m}{C}$   
 $C \overset{T}{D} \overset{T}{E} \overset{T}{G} \overset{T}{A} \overset{3m}{C}$

$Ab$   
 $Eb$   
 $Bb$   
 $F$   
 $C$

## CHAPTER II

### APPLICATION OF PENTATONIC SCALES TO VARIOUS CHORD TYPES

In using pentatonic scales with conventional (tertian) chord symbols, certain combinations are obviously related (ex., C pentatonic against C 6/9 chord) while others are obviously more unrelated and "outside" (dissonant). A valuable extension of this principle is that there is a continuum of relationships from "inside" to "outside" which gives the player great control in choosing his degree of consonance or dissonance with the chord. This is related to the number of pentatonic scale tones included among the basic chord tones. Repeated experimentation has shown that this is not always the case and the final assignment of "inside" or "outside" has been done through listening tests. (Ex. 4)

Example 4

C<sup>7</sup>      a. (most inside)      b.      c. (most outside)

Root 9 3 5 13    #11 b6 b7 b9 #9    7 b9 #9 #11 b13  
 C                      Gb                      B

In the most inside scale (Ex. 4a) it can be easily seen that coming to rest on any of the notes will not clash with the C<sup>7</sup> harmony. In fact the 9th and 13th will sound better (more hip) as stopping points than the root, 3rd, or 5th.

In the most outside scale (Ex. 4c) two of its members (M7 and b13) will clash more than the other three. The b9, #9, and #11 are conventional upper extensions of the C<sup>7</sup> chord. The M7 and b13 will produce a more dissonant sound, but when they are played as passing tones and the remaining three notes are used as stopping points, the result is that the upper extensions of the chord are outlined. (Ex. 5)

Example 5

a. C<sup>7</sup> (most outside) resolves → FΔ<sup>7</sup> (most inside)  
Swing

Musical notation for Example 5a. The top staff is in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It features a melodic line with a triplet of eighth notes in the first measure and a half note in the second measure. The bottom staff is in bass clef with a 4/4 time signature, showing a harmonic progression from a C7 chord to an FΔ7 chord. Handwritten annotations include a 'B' above the first measure and an 'F' above the second measure.

b. Most outside pentatonic used in sequence

Musical notation for Example 5b. The top staff is in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It shows a pentatonic scale sequence starting on C, moving up to C#, and then down to F. Handwritten annotations include 'C<sup>7</sup>' and 'C' above the first measure, 'C#' above the second measure, and 'FΔ<sup>7</sup>' above the third measure. The bottom staff is in bass clef with a 4/4 time signature, showing a harmonic progression from a C7 chord to an FΔ7 chord.

c. Mode IV used in sequence over fast harmonic rhythm

Musical notation for Example 5c. The top staff is in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It features a melodic line with a pentatonic scale sequence. Handwritten annotations above the staff include 'C<sup>7</sup>' and 'C' above the first measure, 'A<sup>7</sup>' and 'D<sub>b</sub>' above the second measure, 'Dm<sup>7</sup>' and 'D' above the third measure, 'G<sup>7</sup>' and 'E<sub>b</sub>' above the fourth measure, and 'CΔ<sup>7</sup>' above the fifth measure. The bottom staff is in bass clef with a 4/4 time signature, showing a harmonic progression from a C7 chord to an FΔ7 chord.



It is the author's experience that because each pentatonic contains some chord tones (whether they be upper extensions or basic chord members), any pentatonic can be played over a given sonority provided the ear is the final judge and certain dissonances are used mainly as passing tones or resolved to consonances on held notes. *It should be stressed that the author is not advocating indiscriminate use of pentatonics in all styles of jazz.* What would be in the style in free or modal playing would be very much out of the style in Dixieland or Bop music. *The inside scales and their relationship to chord types must be mastered first in order for the more outside scales to be effective.*

It seemed logical that there should be a way of classifying these scales in a continuum from the most "inside" to the most "outside" when played over a given sonority. Each scale was analyzed with respect to how many basic chord tones were contained. In instances where several scales contained an equal number of chord tones, value judgments were made by the author as to which scale was more "inside" or outside." The scales were then placed in a continuum from "inside" to "outside."

## Dominant Seventh Chords C<sup>7</sup> (C E G B<sup>b</sup>)

Pentatonic scales are perhaps most useful when played over a dominant 7th sonority. A dominant 7th implies motion. It wants to resolve. In addition, any number of altered upper extensions can be applied to the basic dominant 7th sonority without destroying its tendency to resolve. When pentatonic scales are played above this sonority, upper extensions are emphasized. Thus, it is possible for the improviser to change the color of the basic dominant 7th sound by his choice of scale. For example, above a C<sup>7</sup> chord the improviser might play a scale built on the root. (Ex. 6a) This scale is compatible with a C<sup>7</sup>, C<sup>9</sup>, or C<sup>13</sup> chord, and those sonorities will be implied. If he chooses to play a scale built on the <sup>b</sup>3 (Ex. 6b), a C<sup>7#9</sup> chord will be implied. He may elect to "take it out" even further and play a scale built on the <sup>b</sup>5. This scale implies a C<sup>7#9</sup><sub>b9</sub>, C<sup>7+</sup> or C<sup>7#11</sup> chord. (Ex. 6c)


The above can be both a help and a hindrance to the performer. When comping behind soloists, most advanced keyboard players add upper extensions to their voicings. The upper extensions added by the keyboard player should have a great effect on the soloist's choice of scales. For this reason the soloist *must listen intently*, and, if it is necessary, ask the pianist what extensions he is using. This is not to say that the pianist should dictate the direction of the improvisation. Interaction between pianist and soloist is essential. As a group plays together they begin to know each other's style, and verbal communication concerning voicings is greatly reduced. For solos in a big band situation, the same problem exists. The soloist may see a C<sup>7</sup> chord, but the background at that moment may be C<sup>7#9</sup><sub>b9</sub>. He will sound correct playing a pentatonic built on the root, but he will sound *better* playing a pentatonic built on the <sup>b</sup>5.

In the scales of figure 1 (page 3), numbers 1, 4, and 11 contain three chord tones of a C<sup>7</sup> chord, numbers 6, 8, and 9 contain two chord tones, numbers 2, 3, 5, 7, and 10 contain one chord tone, and number 12 contains no chord tones.

When placed in a continuum from inside to outside the result is as follows:

inside-----outside  
 from fig. 1  
 scale no. 1---4---11---8---6---9---3---7---2---5---10---12

Therefore to apply pentatonic scales in a continuum from "inside" to "outside" to a dominant 7th sonority, build Mode I on the following scale degrees.

| Inside   | Scale Degree                    | Implied Harmony  |
|--|---------------------------------|--|
|  | C root                          | C <sup>7</sup> , C <sup>9</sup> , C <sup>13</sup>  |
|  | E <sup>b</sup> <sup>b</sup> 3rd | C <sup>7</sup> # <sup>9</sup>  |
|  | B <sup>b</sup> <sup>b</sup> 7th | C <sup>7</sup> sus   |
|  | F 4th                           | C <sup>7</sup> sus   |
|  | G <sup>b</sup> <sup>b</sup> 5th | C <sup>7</sup> # <sup>9</sup> <sub>b9</sub> , C <sup>7+</sup> , C <sup>7</sup> # <sup>11</sup> |
|  | A <sup>b</sup> <sup>b</sup> 6th | C <sup>7+</sup> # <sup>9</sup>   |
|  | D 2nd                           | C <sup>7</sup> # <sup>11</sup>   |
|  | G 5th                           | C <sup>7</sup> (add M7)  |
|  | B <sup>b</sup> <sup>b</sup> 2nd | C <sup>7b9</sup> <sub>#9</sub>   |
|  | F 3rd                           | C <sup>7b9</sup> # <sup>9</sup> <sub>#11#5</sub>   |
|  | A 6th                           | C <sup>7b9</sup> <sub>#11</sub>  |
|  | B 7th                           | C <sup>7b9</sup> # <sup>9</sup> <sub>#11#5</sub>   |
| Outside  |                                 |  |

Examples:

Most Inside Pentatonic for B<sup>b7</sup>



Most Outside for B<sup>b7</sup>



Most Inside Pentatonic for E<sup>7</sup>



Most Outside Pentatonic for E<sup>7</sup>

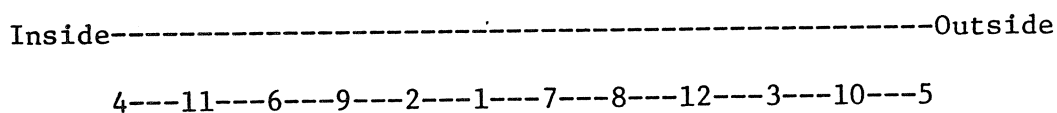


In the above continuum two alterations have been made. The scale built on the <sup>b</sup>5 has been elevated in position simply because it encompasses upper extensions that sound good when played over a dominant seventh. The scale built on the 5th, even though it was analyzed as having two chord tones, has been "demoted." The presence of a major 7th automatically makes it sound more "outside."


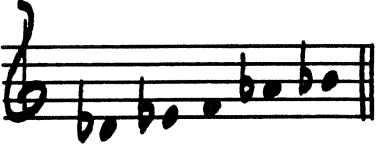

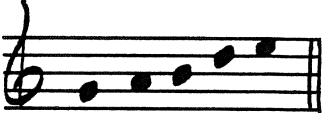

Minor Seventh Chords  $Cmi^7$  [C  $E^b$  G  $B^b$  (D F A)]

The minor seventh is probably the easiest sonority with which to use pentatonics. This chord sounds exceptionally normal and stable with the natural 9th and 11th. The 13th is an only slightly less "normal" extension. Hence the normal chord notes include 1, 3, 5, 7, 9, 11, (13). For this reason the 9th and 11th were included as basic chord tones in the following analyzation.

| No. of chord tones in a $Cmi^{11}$ | Scale number from figure 1 |
|------------------------------------|----------------------------|
| 5 chord tones                      | 4, 11                      |
| 4 chord tones                      | 6, 9                       |
| 3 chord tones                      | 1, 2                       |
| 2 chord tones                      | 7, 8                       |
| 1 chord tone                       | 3, 12                      |
| no chord tones                     | 5, 10                      |



Apply Mode I pentatonic scales to minor 7th sonorities from "inside" to "outside" on the following scale degrees.

| Inside   | Scale Degree                         | <i>Examples</i>  |
|--|--------------------------------------|--|
|  | $\flat$ 3rd                          | Most Inside Pentatonic for $B^{\flat}mi^7$   |
|  | $\flat$ 7th                          |    |
|  | 4th                                  |  |
|  | $\flat$ 6th                          |   |
|  | $\flat$ 2nd                          |  |
|  | $\flat$ 5th                          | Most Inside Pentatonic for $E mi^7$  |
|  | root                                 |  |
|  | 5th                                  |  |
|  | 7th                                  | Most Inside Pentatonic for $E mi^7$  |
|  | 2nd                                  |  |
| 6th  |                                      |  |
| 3rd  | Most Outside Pentatonic for $E mi^7$ |  |
| Outside  |                                      |  |

A quick glance at this continuum should tell the student that pentatonics on the flat side of the circle of 5ths will sound more "inside."

*Major Seventh Chords Cmaj<sup>7</sup>, CΔ<sup>7</sup> [C E G B (D F#)]*




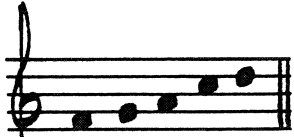
Major seventh chords are chords of rest. They do not want to resolve. The upper extensions normally associated with this chord type are the 9th, #11th, and the 13th. For this reason the 9th and #11th were included as basic chord tones in the following analyzation.

| No. of chord tones in a Cmaj <sup>9#11</sup> | Scale number from figure 1 |
|--|----------------------------|
| 4 chord tones                                | 3, 8, 1                    |
| 3 chord tones                                | 5, 6, 10, 11               |
| 2 chord tones                                | 4, 12                      |
| 1 chord tone                                 | 7, 9                       |
| no chord tones                               | 2                          |

Inside-----Outside

1---8---3---5---10---6---11---12---4---9---7---2

Apply Mode I pentatonic scales to Major 7th sonorities from "inside" to "outside" on the following scale degrees.

| Inside  | Scale Degree         |  |
|---------|----------------------|--|
|         | C root               | Most Inside Pentatonic for $B\Delta^7$   |
|         | G 5th                |    |
|         | D 2nd                |  |
|         | E 3rd                |  |
|         | A 6th                | Most Outside for $B\Delta^7$   |
|         | F 4th                |   |
|         | $B\flat$ $\flat$ 7th |  |
|         | B 7th                |  |
|         | $E\flat$ $\flat$ 3rd | Most Inside Pentatonic for $E\Delta^7$   |
|         | $A\flat$ $\flat$ 6th |  |
|         | $G\flat$ $\flat$ 5th |  |
|         | $D\flat$ $\flat$ 2nd | Most Outside Pentatonic for $E\Delta^7$  |
| ↓       |                      |  |
| Outside |                      |  |

As previously stated, any pentatonic can be used above a given sonority provided the ear is the final judge. Outside pentatonics are best reserved for use in sequences, turnarounds, and as a means to create tension in modal playing. In addition, they are inherently better over dominant 7th, major 7th, and minor 7th sonorities. The following is a list of pentatonics that sound particularly good over given sonorities. Some are more outside than others.

| Chord Type                  | Symbol   | Spelling  | Suggested Mode I pentatonics built on the following scale degrees |
|-----------------------------|--|---|---|
| Dominant 7th                | C <sup>7</sup>   | C E G B <sup>b</sup>                            | root, <sup>b</sup> 3, <sup>b</sup> 5, <sup>b</sup> 7              |
| Dominant 7th #9             | C <sup>7</sup> #9  | C E G B <sup>b</sup> D <sup>#</sup>             | <sup>b</sup> 3, <sup>b</sup> 5, <sup>b</sup> 6, <sup>b</sup> 2    |
| Dominant 7th <sup>b</sup> 9 | C <sup>7</sup> <sup>b</sup> 9                                  | C E G B <sup>b</sup> D <sup>b</sup>             | <sup>b</sup> 2, <sup>b</sup> 3, <sup>b</sup> 5                    |
| Dominant 9th #11            | C <sup>9</sup> #11   | C E G B <sup>b</sup> D F <sup>#</sup>           | root, 2, <sup>b</sup> 5   |
| Dom 7th Aug 5th             | C <sup>7</sup> +   | C E G <sup>#</sup> B <sup>b</sup>               | <sup>b</sup> 5, <sup>b</sup> 2, <sup>b</sup> 6                    |
| Dom 7th sus                 | C <sup>7</sup> sus   | C F G B <sup>b</sup>                            | <sup>b</sup> 7, 4, <sup>b</sup> 3                                 |
| Dominant 13th               | C <sup>13</sup>  | C E G B <sup>b</sup> D F <sup>#</sup> A         | root, <sup>b</sup> 5, 2   |
| Major 7th                   | Cmaj <sup>7</sup><br>CΔ <sup>7</sup>                           | C E G B   | root, 2, 5, 6   |
| Major 7th #11               | Cmaj <sup>7</sup> #11<br>CΔ <sup>7</sup> #11                   | C E G B D F <sup>#</sup>                        | 2, 5, 6, 7  |
| Minor 7th                   | Cmi <sup>7</sup>   | C E <sup>b</sup> G B <sup>b</sup>               | <sup>b</sup> 3, <sup>b</sup> 7, 4, <sup>b</sup> 6                 |
| Half dim. 7th               | C <sup>ø</sup> <sup>7</sup><br>Cmi <sup>7</sup> <sup>b</sup> 5 | C E <sup>b</sup> G <sup>b</sup> B <sup>b</sup>  | <sup>b</sup> 5, <sup>b</sup> 6                                    |
| Dim 7th                     | C <sup>o</sup> <sup>7</sup>                                    | C E <sup>b</sup> G <sup>b</sup> B <sup>bb</sup> | None suitable (see Chapter IV)                                    |



## CHAPTER III

### APPLICATION OF PENTATONIC SCALES TO CHORD PROGRESSIONS

#### *Modal or Static Harmony*

Currently in vogue are jazz compositions based solely, or in part, on one chord. These compositions have their roots in latin and rock music, and most frequently, though certainly not always, have a funk or soul character. Soloing on a tune with limited chord movement poses a specific problem—creating and maintaining interest. Let us say we have a latin/rock tune based on one chord, E minor. The solo sections are open, meaning each soloist can play as long as he likes. Even the novice improviser in this circumstance can handle the four notes in the chord (e g b d). If he has some chord/scale background he may even play the Dorian mode on E (e, f<sup>#</sup>, g, a, b, c<sup>#</sup>, d). The problem is what to do for the rest of the solo!

One solution is to use pentatonic scales that slip in and out of the harmony that the rhythm section is playing. As discussed in the previous chapter, the most inside pentatonic for a minor 7th chord is one built on the <sup>b</sup>3 scale degree. In E minor that scale would be the G pentatonic. Example 7 begins by using the G pentatonic (Mode II with g omitted). At point "a" the solo line uses Mode II of the A<sup>b</sup> pentatonic. The resolution takes place at point "b". The solo line momentarily leaves the key of E minor, but it gracefully returns, or resolves. In this example the most inside pentatonic is used at the outset. The listener's reaction is that "Everything is fine—I understand this." The most outside scale is then used (refer to inside/outside continuum for min. 7th chords, page 11). The listener's immediate reaction is, "What's going on? Is he playing wrong notes?" When the resolution occurs in the next measure, the listener says to himself, "Oh, now I see what he was doing." The soloist has created interest. (Ex. 7)

Example 7

Rock

Soloist

Bass

Emi<sup>7</sup>

a

b

Example 8 illustrates the same principle but at greater length. The example was taken from a unison saxophone line in *Tortilla Mama*, an original big band composition by the author. When it was written there was no conscious effort to use pentatonic scales. Though it is a written soli it is not unlike an improvised solo.

## Example 8

Latin Rock

♩ = 120

Example 8 is a musical score for a Latin Rock piece, featuring a unison saxophone line and bass accompaniment. The tempo is marked as ♩ = 120. The score is divided into four systems, each with a treble and bass staff.

The first system shows a G Pentatonic scale in the treble and an Em7 chord in the bass. The second system shows a G Pentatonic scale in the treble and a Gb, G, Ab, B sequence in the bass. The third system shows a G Pentatonic scale in the treble and a Bb Pentatonic scale in the bass, with annotations for Upper Neighbor, Lower Neighbor, and Escape Tone. The fourth system shows a C Pentatonic scale in the treble and a C, Ab, Gb sequence in the bass.

There are no concrete rules for using pentatonics in modal playing, just some basic concepts.

1. Don't use pentatonics exclusively. Mix them with other harmonic material.
2. Use pentatonics by planing as a means to create harmonic tension.
3. Start inside. Take it out. Bring it back smoothly and logically. Outside scales will sound wrong if not surrounded by inside scales.
4. Use pentatonics in sequences.
5. Experiment with pentatonics one half step above and below the basic tonality.

## Blues

Using pentatonics on tunes that have changes is no different than applying conventional scales or modes to changes. The performer simply must learn which pentatonics go best with various chord types. As a means of study the student should begin with a simple blues progression and write in the scales he wishes to play in each measure. Example 9 illustrates this procedure. In this example the more "inside" scale were chosen.

Example 9

Example 9 is a blues progression in 4/4 time, consisting of three staves. The first staff is in treble clef and contains four measures of music. Above the first measure is a handwritten  $C7$  chord. The second staff is in bass clef and contains four measures of music. Above the first measure is a handwritten  $F7$  chord, and above the third measure is a handwritten  $C7$  chord. The third staff is in bass clef and contains four measures of music. Above the first measure is a handwritten  $Dm7$  chord, above the second measure is a handwritten  $G7$  chord, and above the third measure is a handwritten  $C7$  chord. The melody is written in a pentatonic style, using notes that fit the chords.

Once the scales have been selected the student should set the metronome at a comfortable tempo and begin improvising using those notes. Example 10 is a possible realization. Note that this example is entirely pentatonic. As stated elsewhere in this book, exclusive use of pentatonics for harmonic material is not recommended. However, in the initial practice sessions the student should limit himself to pentatonics. After they are under the fingers he can then begin to integrate them with other harmonic material.

Example 10  
Swing

Musical notation for Example 10, a 12-bar blues in C major with a swing feel. The notation is written on three staves. The first staff is in treble clef, the second in bass clef, and the third in bass clef. Chord changes are indicated above the notes: C7, F7, C7, Dmi7, G7, C7, Gmi7, and C7.

As soon as the student feels he has the basic blues under control, the next step should be experimentation with altered blues. There are many variations on the twelve-bar blues. All of these come under the general heading of altered blues. Example 11 is one set of altered blues changes. The scales selected for these changes are more "outside" than the ones of Example 10. That need not be the case. An "inside" set of scales could have been just as appropriate.

Example 11

Musical notation for Example 11, a 12-bar blues in C major with altered changes. The notation is written on three staves. The first staff is in treble clef, the second in bass clef, and the third in bass clef. Chord changes are indicated above the notes: C7, F7, C7, Gmi7, C7, F7, F7, C7, Dmi7, Emi7, A7, Dmi7, G7, C7, A7, Dmi7, and G7.

Example 12 illustrates one possible solo from the scales given in Example 11. Note the use of the  $b5$  pentatonic in measures 6, 11, and 12. Like Example 10, Example 12 is entirely pentatonic.

Example 12

Moderate Swing

Example 13 is a saxophone soli in *Skuffle*, an original big band composition by the author. Only the lead sax (soprano) is given. In this example pentatonics are mixed with other conventional scales and modes. The soli begins on the 4th bar of the blues, after a short lead-in by the band. Only pentatonics have been analyzed. Note the use of pentatonics in the turnaround in bars 11-12, and the half step planing in bars 9-10.

FAST Shuffle

Chord progression and melodic details for Example 13 Skuffle:

- System 1: Treble clef has a whole rest. Bass clef has a continuous eighth-note shuffle pattern. Chords: C7, F7, C7, C7, F13.
- System 2: Treble clef has a melody starting with quarter notes. Chords: F13, Eb13, C7, Dmi7, Emi7, A7#9.
- System 3: Treble clef has a melody with triplets. Chords: Dmi7, G7, Emi7, A7.
- System 4: Treble clef has a melody with accents. Chords: Dmi7, G7, C7, F7.
- System 5: Treble clef has a melody with accents. Chords: C7, Gmi7b5, C7b9, F7.
- System 6: Treble clef has a melody with accents. Chords: F7, E7, C7, F7, Bb7, A13.

Handwritten musical notation for the first system. The treble clef staff contains a melodic line with notes and rests. The bass clef staff contains chords: Dmi7, G7, Emi7, and A7.

Handwritten musical notation for the second system. The treble clef staff contains a melodic line with notes and rests. The bass clef staff contains chords: Dmi7, Db7, C7, and F7.

Handwritten musical notation for the third system. The treble clef staff contains a melodic line with notes and rests. The bass clef staff contains chords: C7, Gmi7, C7, and F7.

Handwritten musical notation for the fourth system. The treble clef staff contains a melodic line with notes and rests. The bass clef staff contains chords: G7, CΔ7, Bb7sus, Emi7, Eb7, and Ebmi7.

Handwritten musical notation for the fifth system. The treble clef staff contains a melodic line with notes and rests. The bass clef staff contains chords: Dmi7 and G7.

Handwritten musical notation for the sixth system. The treble clef staff contains a melodic line with notes and rests. The bass clef staff contains chords: C7, A7, Dmi7, G7, and C7.



### Assignments

1. Study the chart on page 14 .
2. Study Examples 9 and 11. Figure out how the scales were selected and where they fit in their respective inside/outside continuum.
3. Play the scales in Examples 9 and 11 on the piano while comping with the left hand.
4. Play all the examples on your instrument.
5. Use a metronome for a rhythm section.
6. Buy Jamie Aebersold's *A New Approach to Jazz Improvisation Vol I* and *Nothin' But Blues Vol. 2*. Apply your pentatonic knowledge to his records.
7. Try to slip in and out of the basic tonality while you are playing. Don't stay "outside" too long. In blues you can go quite far afield as long as you hit the basic guideposts (the I chord bar 1, the IV chord bar 5, the I chord bar 7, the V chord bar 9, the I chord bar 11).
8. Always continue to practice scales and modes. Know how to apply them to chords. See Jamie Aebersold's books if you don't know for sure.
9. *Remember you can't play hip "outside" if you can't play hip "inside."*

## CHAPTER IV

### ALTERED PENTATONICS

It is beyond the scope of this book to discuss in depth the use of altered pentatonic scales. However, some mention must be made of their application to jazz improvisation.

If an improviser plays a D pentatonic over a C<sup>7</sup> chord, only one note of that scale will clash--the B $\flat$ . If the intention is to play outside, the D pentatonic with no alterations is perfectly all right. However, if it is the improviser's purpose to keep all the notes in the scale compatible with chord tones, he must alter the B $\flat$  by lowering it one half step (Ex. 14).

Example 14

Example 14 shows two pentatonic scales over a C<sup>7</sup> chord. The first scale is the standard D pentatonic (D, E, F, G, A) with a B $\flat$  note. The second scale is the altered D pentatonic (D, E, F, G, A) with a B $\flat$  note lowered to B $\flat$ . The notes are labeled as 9, 3, #11, 13, M7 for the first scale and 9, 3, #11, 13,  $b_7$  for the second scale.

For dominant seventh chords, six altered pentatonics are particularly good. Build a pentatonic with a lowered fifth note on the 2 and  $b_6$  scale degree, or build a pentatonic with a lowered second note on the root,  $b_3$ ,  $b_5$  or 6. (Ex. 15)

Example 15

Example 15 shows two altered pentatonic scales over a C<sup>7</sup> chord. The first scale is the altered D pentatonic (D, E, F, G, A) with a B $\flat$  note. The second scale is the altered D pentatonic (D, E, F, G, A) with a B $\flat$  note lowered to B $\flat$ . The notes are labeled as 9, 3, #11, 13,  $b_7$  for the first scale and 9, 3, #11, 13,  $b_7$  for the second scale.

Altered pentatonics are perhaps most useful when played against diminished seventh chords, since every pentatonic scale in its unaltered form clashes in one way or another with that chord. By constructing an altered pentatonic one step above any diminished chord member and lowering the second note of the scale, four altered pentatonics result, which are compatible with the diminished seventh sonority. (Ex. 16)

Example 16

The musical notation for Example 16 consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The top staff is labeled 'C°7' and shows a diminished seventh chord (C, Bb, Ab, Gb) followed by a pentatonic scale starting on C. The bottom staff shows a pentatonic scale starting on Bb. Both staves have a double bar line at the end.

The altered pentatonic exercises that appear on page 77 of this book are meant as introductory exercises. The student interested in pursuing this subject should experiment by taking any pentatonic scale and lowering or raising any one of its chord members one half step. Those scales should then be applied to various chord types. With repeated experimentation the student should be able to apply altered pentatonics to a variety of chord types.

## CHAPTER V

### IMPROVISED SOLOS

(Transcribed by Bill Dobbins)

The excerpts of improvised solos that appear in this chapter were transcribed by Bill Dobbins and are used as study materials for the course *New Concepts in Jazz Theory* at the Eastman School of Music. Only pentatonic scales were analyzed by the author, and excerpts were chosen that contained several examples. It should therefore not be inferred that the represented artists always use pentatonic scales with the frequency shown in the examples.

In measure 16 of Joe Farrell's solo on *Moon Germs* note the use of a D<sup>b</sup> pentatonic over an Fmi chord. That outside sounding melodic line resolves in the following measure when the B<sup>b</sup>mi chord is sounded in the rhythm section. In measure 20 Joe plays a pentatonic one half step away from the chord that the rhythm section is playing. In the following measure he resolves the line to a D<sup>b</sup> altered pentatonic. Those two measures clearly demonstrate one method of effectively handling outside pentatonic scales. A favorite melodic device of Joe Farrell's is pentatonics in sequence. Measures 28-30 and 42-44 are examples. One way to change the color of an improvised line over relatively slow harmonic rhythm is to string pentatonic scales together. Measures 54 to the end demonstrate this.

There is no piano comping for Wayne Shorter's solo on *Ginger Bread Boy*. This allows for greater harmonic freedom by Shorter, and the dialogue between the saxophone and the bass becomes in effect two-part counterpoint. Without the chords being sounded beneath him, Shorter has the freedom to stretch the changes farther than normal by using pentatonics that are considerably outside of the basic harmony. Note the use of one pentatonic that is played over two changes (measures 18-19 and 22-25).

Joe Henderson's solo on *No Me Esqueca* clearly demonstrates in measure 16 the use of an altered pentatonic. In this solo most of the scales used are a P4 or P5 above the root of the chord (see measures 3, 9, 11, 13, and 14).

In *Matrix* Chick Corea frequently uses pentatonics in sequence. He uses altered pentatonics in measures 9-11, chromatically descending pentatonics in measures 19-20, and different modes of the same scale in measures 15-16 (quasi sequence).

Keith Jarrett in the excerpt of *Forest Flower* uses one scale (a B<sup>b</sup> pentatonic) over three changes (measures 3-5). Note the smooth resolution of the D<sup>b</sup> and G<sup>b</sup> pentatonic in measure 12 to the C pentatonic in measure 13. From the pentatonic or gapped texture that is present in the entire excerpt, Jarrett begins a more linear texture in measure 14. That texture is continued into the first few measures of the next chorus (not shown).

*Hand Jive* is an up tempo free piece. For that reason no changes have been given. In this solo Herbie Hancock combines the more jagged texture of P4's, P5's, and pentatonic scales with more linear melodies. In measures 28-37 he limits his solo to basically three pentatonic scales whose roots are within an interval of an M2.

It must be remembered that each artist has developed his improvisational devices in his own personal way. There are many ways to approach a subject, and the author is not implying that the artists represented in this chapter think of pentatonic scales in the exact manner outlined in this book. What should be evident to the reader is that pentatonic scales and related fourth and fifth intervals are an integral part of many well known jazz musicians' harmonic vocabulary; and by studying this book and *practicing* the exercises the student can develop an improvisational technique that is in keeping with the way players are playing today.

JOE FARRELL'S  
Improvised solo on  
Moon Germs

Moon Germs  
CTI 6023

1st 5 Choruses

Musical notation for the first system, measures 1-5. The melody is in G major with a key signature of one sharp. The bass line consists of rhythmic patterns. Chords are Fmi (measures 1-2) and Bbmi (measures 4-5).

Musical notation for the second system, measures 6-9. The melody continues with various intervals. The bass line has rhythmic patterns. Chords are Fmi (measures 6-7), Db7 (measure 8), and C7 (measure 9).

Musical notation for the third system, measures 10-13. The melody features eighth notes and triplets. The bass line has rhythmic patterns. Chords are Fmi (measures 10-11) and Fmi (measures 12-13).

Musical notation for the fourth system, measures 14-17. The melody includes a triplet and an "ESCAPE TONE" circled in red. The bass line has rhythmic patterns. Chords are Bbmi (measures 14-17).

Musical notation for the fifth system, measures 18-21. The melody includes a triplet and an "Db ALTERED" circled in red. The bass line has rhythmic patterns. Chords are Fmi (measures 18-19) and Db7 (measures 20-21).

22  $D^b$

C7 Fmi

25  $A^b$   $G^b$  ALTERED7  $D^b$

Fmi

29  $D^b$  ALT. C  $B^b$  ALT.

Bbmi Fmi

33

Db7 C7 Fmi

37  $E^b$  Passing TONE

Fmi Bbmi

42

E E ALT. F B<sup>b</sup> A<sup>b</sup>

B<sup>b</sup>mi Fmi D<sup>b</sup>7

46

A<sup>b</sup> C<sup>7</sup> Fmi Fmi

51

B<sup>b</sup>mi DALT.

55

C D<sup>b</sup> C<sup>b</sup> B<sup>b</sup> Fmi D<sup>b</sup>7

58

A<sup>b</sup> C A Fmi C A



WAYNE SHORTER'S  
Improvised solo on  
Ginger Bread Boy\*

1st & 2nd Choruses

Miles Smiles  
Columbia CS-9401

UP TEMPO  $\text{♩} = c.120$

1  $E^b$  C ALT. G ALT.

C7 F7 C7

5 F Eb A E

F7 C7

9

C7 A7 D7 G7

13 F# E ALT. F

C7 Bb7 Ab7 G7 (Db7)

\* Composed by Jimmy Heath.

Musical notation system 1 (measures 17-19). Treble clef, 4/4 time. Chords: C7, F7, C7. A bracket labeled 'B' spans measures 18 and 19. Measure 19 contains a triplet of notes.

Musical notation system 2 (measures 20-22). Treble clef, 4/4 time. Chords: F7, Eb, Bb. A bracket labeled 'E' spans measures 20 and 21. A bracket labeled 'Eb' spans measures 21 and 22. A circled note in measure 22 is labeled 'Passing Tone'.

Musical notation system 3 (measures 23-25). Treble clef, 4/4 time. Chords: C7, A7. A bracket labeled 'A' spans measures 23 and 24. A bracket labeled 'E' spans measures 24 and 25. Measure 25 contains a triplet of notes.

Musical notation system 4 (measures 27-29). Treble clef, 4/4 time. Chords: D7, G7, C7. Measure 27 contains a triplet of notes.

Musical notation system 5 (measures 30-32). Treble clef, 4/4 time. Chords: Bb7, Ab7, G7(Db7). A bracket labeled 'Bb' spans measures 30 and 31. A bracket labeled 'Db' spans measures 31 and 32.

JOE HENDERSON'S  
Improvised solo on  
No Me Esqueca

In Pursuit of Blackness  
Milestone 9034

1st Chorus

MEDIUM FAST LATIN FEEL

1

A

$E^{13} (sus)$

5

D

G

$Dmi7(\#6)$

$G^{13}$

$C\Delta^7$

10

$E^b$

$D^b$

$Cmi^7$

$F^7$

$B^b\Delta^7$

$B^bmi^7$

$E^b7$

$A^b\Delta^7$

14

G

DALC.

3

A

$D^7$

Lower Neighbor

$G\Delta^7$

$C^7\#11$

$E^7$

CHICK COREA'S  
Improvised solo on  
Matrix

Now He Sings, Now He Sobs  
Solid State SS 18039

1st 4 Choruses

UP TEMPO  $\text{♩} = 144$

UP TEMPO  $\text{♩} = 144$

1  $F7sus$

5  $Eb7$   $Ami7$   $D7$

9  $G7(b9)$   $Gb7(b9)$   $F7(b9)$

13  $E7$

17  $Abmi7$

21  $Gmi7$   $C7(b9)$   $F7(sus)$

25

29

33

37

41

45

KEITH JARRETT'S  
Improvised solo on  
Forest Flower\*

Forest Flower  
Atlantic SD 1473

LATIN feel |

1  
Cm7 Fmi7 Eb7

3  
Eb7/4 Ab Fmi7 Eb7

ESCAPE TONE

appoggiatura

Db Gb

13  
C Cm7 Ebmi7 (Gb7) Ad7

\* Composed by Charles Lloyd.

HERBIE HANCOCK'S

Improvised solo on

Hand Jive\*

Excerpt starts on  
the 54th measure  
of the solo

Nefertiti  
Columbia CS-9594

$\text{♩} = 120$

*passing tone*

C E G Ab A Bb G

\* Composed by Tony Williams.

## EXERCISES

It is virtually impossible, and in reality unnecessary, for the student to memorize the complete inside/outside continuum for every chord type. But nevertheless, it should be the goal of every student studying this book to eventually be able to play five different pentatonic scales on each half step or sixty scales.

The Diatonic Exercises should be practiced first. After they are mastered the student should have little difficulty applying them to improvisation. The student is urged to study the chart on page 14. If he is familiar with three or four pentatonics that sound good and best convey the harmony of the chord, the more outside scales will take care of themselves. As he is practicing, the student should constantly remind himself how the exercise he is playing can be applied to chords. For example, if he is playing line 1 of number 1 in the Diatonic Exercises, he should be aware that that scale could be played with effectiveness over a C<sup>7</sup>, A<sup>7</sup>, F<sup>#7</sup>, B<sup>b</sup>sus, Gsus, Cmaj<sup>7</sup>, B<sup>b</sup>maj<sup>7#11</sup>, A<sup>m</sup>i<sup>7</sup>, and a B<sup>b</sup>mi<sup>7</sup>.

The student will find that the Diatonic Exercises lay well on most instruments. Since exercises 3-25 are given in the key of C, *they must be transposed to all keys.*

Most instrumentalists who are serious about music have, by the time they are seniors in high school or entering freshmen in college, a technique that enables them to play major and minor scales and scales in thirds with little difficulty. The etude books with which they are familiar endlessly drill on scales and chords. Every student knows that scales in thirds are relatively easy when compared to scales in fourths. The thirds are easier mainly because they have been practiced more. Many of the Chromatic Exercises in this book are based on fourths, since by skipping some notes in a pentatonic scale fourths result. It is therefore probable that some difficulty may be at first encountered in playing some of the exercises. The Chromatic Exercises are not meant as "hot licks." It is highly unlikely that anyone of these exercises would be played in its entirety during the improvised solo. However, if as many exercises as possible are committed to memory, the student will have a reserve source of material to draw on consciously or unconsciously during the course of an improvised solo.

Chord changes have been provided for the II-V-I, Turnaround, and Circle of Fifths exercises. Students unfamiliar with these elements in jazz should consult the David Baker books on these subjects.

All of the exercises should be practiced using different articulations and in a variety of tempi. The exercises are notated in a range most fitting the saxophone and other treble clef woodwinds. Other instrumentalists must make range adjustments. Some difficulty may at first be encountered in transposition, but experience has shown that the patterns will remain at the fingertips longer if they are worked out without reading them.



DIATONIC EXERCISES

1.

The image displays a page of musical notation for diatonic exercises, numbered 1. It contains 12 staves of music in 6/4 time, each with a unique key signature and melodic pattern. The exercises are arranged in a single column, with each staff starting with a treble clef and a 6/4 time signature. The first staff is marked with a '1.' at the beginning. The exercises involve various diatonic scales and chord progressions, with some staves featuring accidentals like sharps, flats, and naturals. The notation includes eighth and sixteenth notes, rests, and chord symbols.

2.

A handwritten musical score consisting of ten staves. The notation is in treble clef with a common time signature. The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. Chords are indicated by vertical lines with stems and flags, often with accidentals (sharps and flats) above or below them. The score is organized into measures by vertical bar lines. The handwriting is clear and legible.

MODE I

3.

MODE II

MODE III

MODE IV

MODE V

MODE I

4.

MODE II

MODE III

MODE IV

MODE V

TRANSPOSE EXERCISES 3-25 TO ALL KEYS.

5.

System 5 consists of four staves. The top staff is in treble clef with a 4/4 time signature, containing a melodic line of eighth notes. The second staff is in bass clef with a key signature of one sharp (F#), containing a bass line of eighth notes. The third staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes. The fourth staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes.

6.

System 6 consists of four staves. The top staff is in treble clef with a 3/4 time signature, featuring triplets of eighth notes. The second staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes. The third staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes. The fourth staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes.

7.

System 7 consists of four staves. The top staff is in treble clef with a 4/4 time signature, featuring quintuplets of eighth notes. The second staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes. The third staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes. The fourth staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes.

8.

System 8 consists of four staves. The top staff is in treble clef with a 4/4 time signature, featuring triplets of eighth notes. The second staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes. The third staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes. The fourth staff is in bass clef with a key signature of one sharp, containing a bass line of eighth notes.

9.

10.

11.

12.

Musical notation for exercise 12, measures 1-4. It consists of three staves. The first staff is in 4/4 time with a treble clef, showing a melodic line with eighth and sixteenth notes. The second staff is in the same time and clef, showing a complex accompaniment with many beamed notes. The third staff is in the same time and clef, showing a melodic line with eighth notes and a final half note.

13.

Musical notation for exercise 13, measures 1-4. It consists of two staves. The first staff is in 4/4 time with a treble clef, showing a melodic line with eighth and sixteenth notes. The second staff is in the same time and clef, showing a complex accompaniment with many beamed notes.

14.

Musical notation for exercise 14, measures 1-4. It consists of two staves. The first staff is in 4/4 time with a treble clef, showing a melodic line with eighth and sixteenth notes. The second staff is in the same time and clef, showing a complex accompaniment with many beamed notes.

15.

Musical notation for exercise 15, measures 1-4. It consists of three staves. The first staff is in 3/4 time with a treble clef, showing a melodic line with eighth and sixteenth notes. The second staff is in the same time and clef, showing a complex accompaniment with many beamed notes. The third staff is in the same time and clef, showing a melodic line with eighth notes and a final half note.

16.  Musical notation for system 16, measures 1-2. The first staff begins with a treble clef and a 3/4 time signature. It contains two measures of music, each starting with a triplet of eighth notes. The second measure continues with eighth notes and includes a sharp sign (#) above the staff. The second staff continues the melody with eighth notes and includes a sharp sign (#) above the staff.

17.  Musical notation for system 17, measures 1-2. The first staff begins with a treble clef and a 3/4 time signature. It contains two measures of music, each starting with a triplet of eighth notes. The second measure continues with eighth notes and includes a sharp sign (#) above the staff. The second staff continues the melody with eighth notes and includes a sharp sign (#) above the staff.

18.  Musical notation for system 18, measures 1-2. The first staff begins with a treble clef and a 3/4 time signature. It contains two measures of music, each starting with a triplet of eighth notes. The second measure continues with eighth notes and includes a sharp sign (#) above the staff. The second staff continues the melody with eighth notes and includes a sharp sign (#) above the staff.

19.  Musical notation for system 19, measures 1-2. The first staff begins with a treble clef and a 3/4 time signature. It contains two measures of music, each starting with a triplet of eighth notes. The second measure continues with eighth notes and includes a sharp sign (#) above the staff. The second staff continues the melody with eighth notes and includes a sharp sign (#) above the staff.

20.  Musical notation for system 20, measures 1-2. The first staff begins with a treble clef and a 3/4 time signature. It contains two measures of music, each starting with a triplet of eighth notes. The second measure continues with eighth notes and includes a sharp sign (#) above the staff. The second staff continues the melody with eighth notes and includes a sharp sign (#) above the staff.





MODE  
I

MODE  
II

MODE  
III

MODE  
IV

MODE  
V

| Staff | Mode I         | Mode II        | Mode III       | Mode IV        | Mode V         |
|-------|----------------|----------------|----------------|----------------|----------------|
| 1     | C              | B <sup>b</sup> | A <sup>b</sup> | F              | E <sup>b</sup> |
| 2     | D <sup>b</sup> | C <sup>b</sup> | A              | G <sup>b</sup> | E              |
| 3     | D              | C              | B <sup>b</sup> | G              | F              |
| 4     | E <sup>b</sup> | D <sup>b</sup> | B              | A <sup>b</sup> | C <sup>b</sup> |
| 5     | E              | D              | C              | A              | G              |
| 6     | F              | E <sup>b</sup> | D <sup>b</sup> | B <sup>b</sup> | A <sup>b</sup> |
| 7     | F <sup>#</sup> | E              | D              | B              | A              |
| 8     | G              | F              | E <sup>b</sup> | C              | B <sup>b</sup> |

| MODE I | MODE II | MODE III | MODE IV | MODE V |
|--------|---------|----------|---------|--------|
|        |         |          |         |        |
| A      | G       | F        | D       | C      |
| Bb     | Ab      | Gb       | Eb      | Db     |
| B      | A       | G        | E       | D      |

THE ABOVE IS A TABLE OF THE SIXTY DIFFERENT PENTATONIC SCALES. AS PREVIOUSLY STATED, IT SHOULD BE THE SERIOUS STUDENT'S GOAL TO BE ABLE TO PLAY FIVE DIFFERENT PENTATONIC SCALES ON EACH CHROMATIC SCALE DEGREE. TO ACHIEVE THIS GOAL ALL OF THE SCALES CONTAINED IN THIS TABLE SHOULD BE APPLIED TO EXERCISES 1-25.

CHROMATIC EXERCISES

1.

Exercise 1 consists of eight measures of music. The first measure is in 6/4 time and features a melodic line with eighth notes and a bass line with chords. The subsequent measures continue with chromatic patterns in both the melody and the bass line, involving various intervals and accidentals.

2.

Exercise 2 consists of four measures of music. It follows a similar structure to exercise 1, with a melodic line and a bass line of chords. The chromatic patterns are more complex, involving trills and rapid chromatic runs.

3.

4.

This page contains two musical exercises. Exercise 3 is a 3-measure piece in 3/4 time, spanning 10 staves. It begins with a treble clef, a key signature of one flat (B-flat), and a 3/4 time signature. The notation includes eighth and sixteenth notes, rests, and various accidentals (sharps, flats, naturals). Exercise 4 is a 4-measure piece in 2/4 time, spanning 4 staves. It begins with a treble clef, a key signature of one flat (B-flat), and a 2/4 time signature. The notation includes eighth and sixteenth notes, rests, and various accidentals. Both exercises are written in a clear, handwritten style.

5.

Exercise 5 consists of four staves of music. The first staff begins with a treble clef, a 2/4 time signature, and a key signature of one sharp (F#). The melody is composed of eighth and sixteenth notes. The second staff continues the melody with similar rhythmic patterns. The third staff features a more complex rhythmic structure with many beamed sixteenth notes. The fourth staff concludes the exercise with a final note and a double bar line.

6.

Exercise 6 consists of four staves of music. The first staff begins with a treble clef, a 3/4 time signature, and a key signature of one sharp (F#). The melody is composed of eighth and sixteenth notes. The second staff continues the melody with similar rhythmic patterns. The third staff features a more complex rhythmic structure with many beamed sixteenth notes. The fourth staff concludes the exercise with a final note and a double bar line.

7.

Exercise 7 consists of two staves of music. The first staff begins with a treble clef, a 2/4 time signature, and a key signature of one flat (Bb). The melody is composed of eighth and sixteenth notes. The second staff continues the melody with similar rhythmic patterns and concludes with a final note and a double bar line.



13.

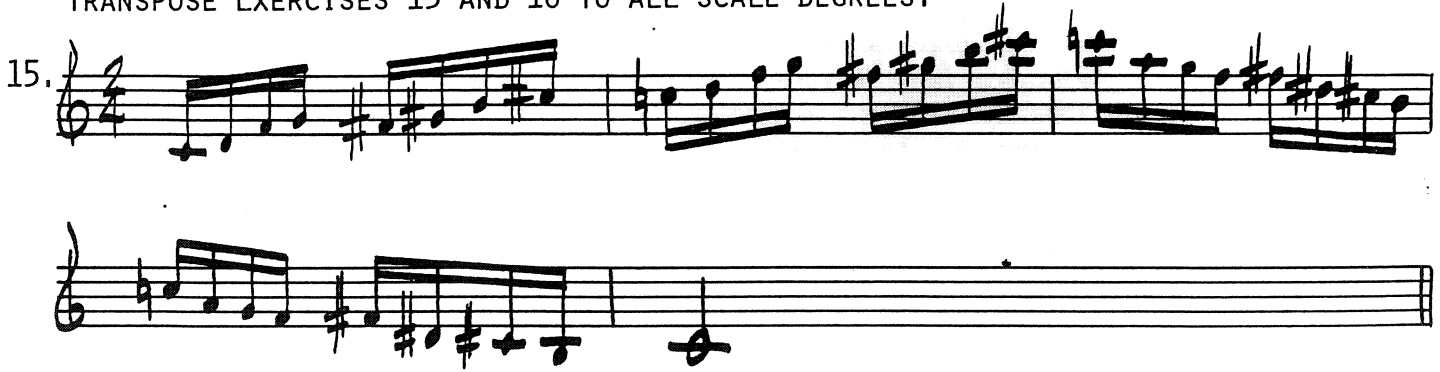


14.



TRANSPOSE EXERCISES 15 AND 16 TO ALL SCALE DEGREES.

15.



16.



17. 

18. 

19. 

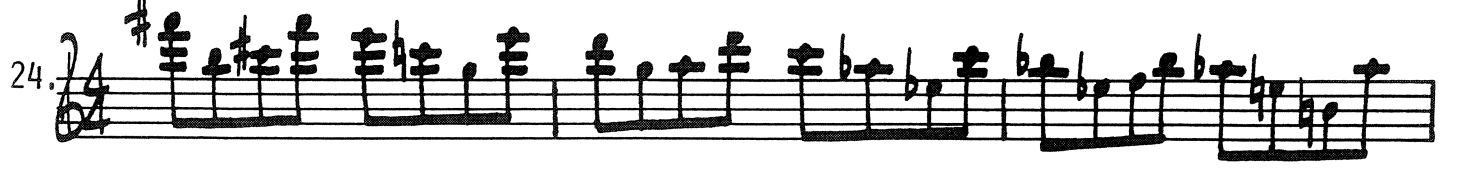
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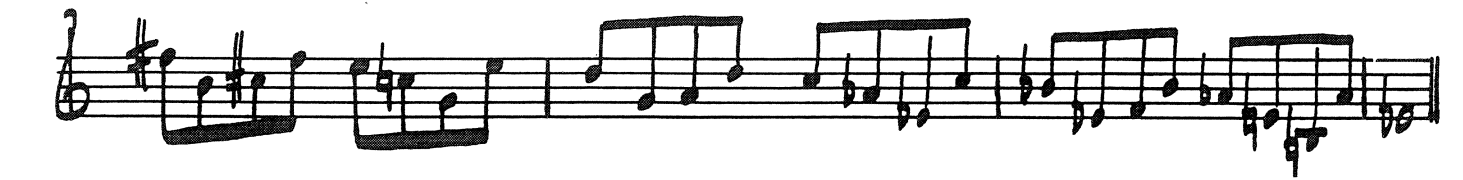
21. 

22. 

23. 



24. 





25.

Handwritten musical notation for exercise 25, consisting of ten staves of music in 4/4 time. The notation includes various rhythmic patterns, accidentals (sharps, flats, naturals), and rests. The first staff begins with a treble clef and a 4/4 time signature. The music features a mix of eighth and sixteenth notes, often beamed together, and includes several accidentals throughout the piece.

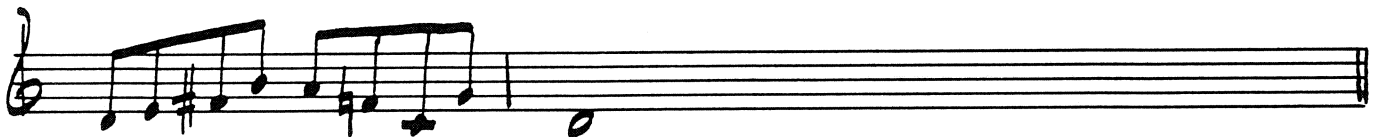
26.

Handwritten musical notation for exercise 26, consisting of two staves of music in 4/4 time. The notation includes various rhythmic patterns, accidentals (sharps, flats, naturals), and rests. The first staff begins with a treble clef and a 4/4 time signature. The music features a mix of eighth and sixteenth notes, often beamed together, and includes several accidentals throughout the piece.

27.  Musical staff 1 of system 27, featuring a treble clef, a key signature of one flat (B-flat), and a 4/4 time signature. The staff contains a sequence of notes and rests, including a measure with a circled '4'.

 Musical staff 2 of system 27, continuing the melodic line from the first staff.

28.  Musical staff 1 of system 28, featuring a treble clef, a key signature of one flat (B-flat), and a 4/4 time signature. The staff contains a sequence of notes and rests.

 Musical staff 2 of system 28, continuing the melodic line from the first staff. Musical staff 3 of system 28, continuing the melodic line from the first staff. Musical staff 4 of system 28, continuing the melodic line from the first staff.

29.  Musical staff 1 of system 29, featuring a treble clef, a key signature of one flat (B-flat), and a 4/4 time signature. The staff contains a sequence of notes and rests.

 Musical staff 2 of system 29, continuing the melodic line from the first staff. Musical staff 3 of system 29, continuing the melodic line from the first staff. Musical staff 4 of system 29, continuing the melodic line from the first staff.

30. Musical staff 30, first line. Treble clef, 4/4 time signature. The staff contains a series of chords and notes, starting with a complex chord structure and moving towards a more melodic line.

Musical staff 30, second line. Treble clef, 4/4 time signature. Continuation of the musical notation from the first line, featuring a mix of chords and moving lines.

Musical staff 30, third line. Treble clef, 4/4 time signature. Continuation of the musical notation, ending with a double bar line.

31. Musical staff 31, first line. Treble clef, 4/4 time signature. The staff contains a series of chords and notes, starting with a complex chord structure and moving towards a more melodic line.

Musical staff 31, second line. Treble clef, 4/4 time signature. Continuation of the musical notation from the first line, featuring a mix of chords and moving lines.

Musical staff 31, third line. Treble clef, 4/4 time signature. Continuation of the musical notation, ending with a double bar line.

32. Musical staff 32, first line. Treble clef, 4/4 time signature. The staff contains a series of chords and notes, starting with a complex chord structure and moving towards a more melodic line.

33. Musical staff 33, first line. Treble clef, 4/4 time signature. The staff contains a series of chords and notes, starting with a complex chord structure and moving towards a more melodic line.

34. Musical staff 34, first line. Treble clef, 4/4 time signature. The staff contains a series of chords and notes, starting with a complex chord structure and moving towards a more melodic line.

35. Musical staff 35, first line. Treble clef, 4/4 time signature. The staff contains a series of chords and notes, starting with a complex chord structure and moving towards a more melodic line.

36.

37.

38.

39.

40.

41.

42.

TRANSPOSE EXERCISE 43 TO ALL SCALE DEGREES.

43.



48. Musical staff 48, first line. Treble clef, 4/4 time signature. The staff contains a sequence of notes and rests, including a complex chord structure at the beginning with a double sharp and a double flat.

Musical staff 48, second line. Treble clef, 4/4 time signature. Continuation of the musical notation from the first line.

49. Musical staff 49, first line. Treble clef, 4/4 time signature. Continuation of the musical notation.

Musical staff 49, second line. Treble clef, 4/4 time signature. Continuation of the musical notation.

50. Musical staff 50, first line. Treble clef, 4/4 time signature. Continuation of the musical notation.

Musical staff 50, second line. Treble clef, 4/4 time signature. Continuation of the musical notation.

51. Musical staff 51, first line. Treble clef, 4/4 time signature. Continuation of the musical notation.

Musical staff 51, second line. Treble clef, 4/4 time signature. Continuation of the musical notation.

Musical staff 51, third line. Treble clef, 4/4 time signature. Continuation of the musical notation.

52. Musical staff 52, first line. Treble clef, 4/4 time signature. Continuation of the musical notation.

53.

54.

55.





62.

Musical exercise 62 is written in 6/4 time. It consists of four staves. The first staff is the treble clef, the second is the alto clef, the third is the bass clef, and the fourth is a grand staff (treble and bass clefs). The music features a complex melodic line with many accidentals (sharps, flats, naturals) and rests, typical of a chromatic scale exercise.

63.

Musical exercise 63 is written in 6/4 time. It consists of five staves. The first staff is the treble clef, the second is the alto clef, the third is the bass clef, the fourth is a grand staff (treble and bass clefs), and the fifth is a grand staff (treble and bass clefs). The music features a complex melodic line with many accidentals and rests, typical of a chromatic scale exercise.

TRANSPOSE EXERCISE 64 TO ALL SCALE DEGREES.

64.

Musical exercise 64 is written in 6/4 time on a single grand staff (treble and bass clefs). It features a complex melodic line with many accidentals and rests, typical of a chromatic scale exercise.

65.

Musical score for exercise 65, consisting of four staves. The first staff is in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. The second staff is in bass clef with a key signature of one sharp (F#). The third and fourth staves are in bass clef with a key signature of one flat (Bb). The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests.

66.

Musical score for exercise 66, consisting of four staves. The first staff is in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. The second staff is in bass clef with a key signature of one sharp (F#). The third and fourth staves are in bass clef with a key signature of one flat (Bb). The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests.

67.

Musical score for exercise 67, consisting of one staff in treble clef with a key signature of one flat (Bb) and a 4/4 time signature. The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests.

68.

Musical score for exercise 68, consisting of one staff in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests.

69.

Musical score for exercise 69, consisting of five staves of music in 7/4 time. The notation includes various accidentals and a '6' marking below the first two staves.

70.

Musical score for exercise 70, consisting of five staves of music in 4/4 time. The notation includes various accidentals.

71.

72.

73.

74.

75.

76.

77.

78.

## EXERCISES ON II - V - I\*

1.  $Dm^7$   $G^7$   $C\Delta^7$

2.  $Dm^7$   $G^7$   $C\Delta^7$

3.  $Dm^7$   $G^7$   $C\Delta^7$

4.  $Dm^7$   $G^7$   $C\Delta^7$

5.  $Dm^7$   $G^7$   $C\Delta^7$

6.  $Dm^7$   $G^7$   $C\Delta^7$

7.  $Dm^7$   $G^7$   $C\Delta^7$

8.  $Dm^7$   $G^7$   $C\Delta^7$

\* TRANPOSE THESE EXERCISES TO ALL KEYS.

9.  $Dm^7$   $G^7$   $C\Delta^7$

10.  $Dm^7$   $G^7$   $C\Delta^7$

11.  $Dm^7$   $G^7$   $C\Delta^7$

12.  $Dm^7$   $G^7$   $C\Delta^7$

13.  $Dm^7$   $D\flat^7$   $C\Delta^7$

14.  $Dm^7$   $D\flat^7$   $C\Delta^7$

15.  $Dm^7$   $D\flat^7$   $C\Delta^7$

16.  $Dm^7$   $D\flat^7$   $C\Delta^7$

17.  $Dm^7$   $D\flat^7$   $C\Delta^7$

18.  $A\flat^7$   $D\flat^7$   $C\Delta^7$

19.  $A\flat 7$   $D\flat 7$   $C\Delta 7$

20.  $A\flat 7$   $D\flat 7$   $C\Delta 7$

21.  $A\flat 7$   $D\flat 7$   $C\Delta 7$

22.  $A\flat 7$   $D\flat 7$   $C\Delta 7$

23.  $A\flat 7$   $G 7$   $C\Delta 7$

24.  $A\flat 7$   $G 7$   $C\Delta 7$

25.  $A\flat 7$   $G 7$   $C\Delta 7$

26.  $A\flat 7$   $G 7$   $C\Delta 7$

27.  $A\flat 7$   $G 7$   $C\Delta 7$

28.  $A\flat 7$   $G 7$   $C\Delta 7$



## EXERCISES ON TURNAROUNDS\*

1.  $C^7$   $A_m^7$   $D_m^7$   $G^7$   $C\Delta^7$

2.  $C^7$   $A_m^7$   $D_m^7$   $G^7$   $C\Delta^7$

3.  $C\Delta^7$   $A\Delta^7$   $D\Delta^7$   $G\Delta^7$   $C\Delta^7$

4.  $C^7$   $E_b^7$   $A_b^7$   $D_b^7$   $C\Delta^7$

5.  $C^7$   $E_b^7$   $A_b^7$   $D_b^7$   $C\Delta^7$

6.  $C^7$   $E_b^7$   $A_b^7$   $D_b^7$   $C\Delta^7$

7.  $C^7$   $E_b^7$   $A_b^7$   $D_b^7$   $C\Delta^7$

8.  $C^7$   $E_b^7$   $A_b^7$   $C\sharp^7$   $C\Delta^7$

\* TRANSPOSE THESE EXERCISES TO ALL KEYS.

9.  $C^7$   $E^b7$   $A^b7$   $D^b7$   $C\Delta^7$

10.  $C^7$   $B^b7$   $E^b7$   $D^b7$   $C\Delta^7$

11.  $C^7$   $B^b7$   $E^b7$   $D^b7$   $C\Delta^7$

12.  $C^7$   $B^b7$   $E^b7$   $D^b7$   $C\Delta^7$

13.  $C^7$   $B^b7$   $E^b7$   $D^b7$   $C\Delta^7$

14.  $C^7$   $B^b7$   $E^b7$   $D^b7$   $C\Delta^7$

15.  $C^7$   $B^b7$   $E^b7$   $D^b7$   $C\Delta^7$

16.  $C^7$   $E^b7$   $B^b7$   $D^b7$   $C\Delta^7$

17.  $C^7$   $E^b7$   $B^b7$   $C^\#7$   $C\Delta^7$

18.  $C^7$   $E^b7$   $B^b7$   $D^b7$   $C\Delta^7$

19. *C7(#9) E♭7(#9) B♭7(#9) D♭7(#9) C7(#9)*

20. *C7 E♭7 B♭7 D♭7 C♯*

21. *C7 E♭7 B♭7 D♭7 CΔ7*

22. *C7 B♭7 A♭7 D♭7 CΔ7*

23. *C7 B♭7 A♭7 D♭7 CΔ7*

24. *C7 B♭7 A♭7 D♭7 CΔ7*

25. *C7 B♭7 A♭7 D♭7 CΔ7*

26. *C7 B♭7 A♭7 D♭7 CΔ7*

27. *C7 B♭7 A♭7 D♭7 CΔ7*

EXERCISES ON THE CIRCLE OF FIFTHS

1. Exercise 1 consists of two staves. The treble staff contains a sequence of notes: C4, E4, G4, Bb4, C5, Eb5, Ab5, Bb5. The bass staff contains notes: Gb3, Bb3, Eb3, G3, Bb3, Eb3, Ab3, Bb3. Chords are indicated above the treble staff: C7, F7, Bb7, Eb7, Ab7, Db7. Chords are indicated below the bass staff: Gb7, B7, E7, A7, D7, G7, C.

2. Exercise 2 consists of two staves. The treble staff contains notes: C4, E4, G4, Bb4, C5, Eb5, Ab5, Bb5. The bass staff contains notes: Gb3, Bb3, Eb3, G3, Bb3, Eb3, Ab3, Bb3. Chords are indicated above the treble staff: C7, F7, Bb7, Eb7, Ab7, Db7. Chords are indicated below the bass staff: Gb7, B7, E7, A7, D7, G7, C.

3. Exercise 3 consists of two staves. The treble staff contains notes: C4, E4, G4, Bb4, C5, Eb5, Ab5, Bb5. The bass staff contains notes: Gb3, Bb3, Eb3, G3, Bb3, Eb3, Ab3, Bb3. Chords are indicated above the treble staff: C7, F7, Bb7, Eb7, Ab7, Db7. Chords are indicated below the bass staff: Gb7, B7, E7, A7, D7, G7, C.

4. Exercise 4 consists of two staves. The treble staff contains notes: C4, E4, G4, Bb4, C5, Eb5, Ab5, Bb5. The bass staff contains notes: Gb3, Bb3, Eb3, G3, Bb3, Eb3, Ab3, Bb3. Chords are indicated above the treble staff: C7, F7, Bb7, Db7. Chords are indicated below the bass staff: Eb7, Ab7, Db7, Gb7, B7, E7, A7, D7, G7, C.

5. *C7 F7 Bb7 Eb7 Ab7 Db7*

*Gb7 B7 E7 A7 D7 G7 C*

6. *C7 F7 Bb7 Eb7 Ab7 Db7*

*F#7 B7 E7 A7 D7 G7 C*

7. *C7 F7 Bb7 Eb7 Ab7 C#7*

*F#7 B7 E7 A7 D7 G7 C*

8. *C7 F7 Bb7 Eb7 Ab7 Db7*

*Gb7 Cb7 E7 A7 D7 G7 C*

9. *C7 F7 Bb7 Eb7 Ab7 Db7*

*F#7 B7 E7 A7 D7 G7 C*

10. *C7 F7 Bb7 Eb7 Ab7 Db7*

Musical staff 10, top line, treble clef, 4/4 time signature. Chords: C7, F7, Bb7, Eb7, Ab7, Db7.

*F#7 B7 E7 A7 D7 G7 C*

Musical staff 10, bottom line, bass clef. Chords: F#7, B7, E7, A7, D7, G7, C.

11. *C7 F7 Bb7 Eb7 Ab7 Db7*

Musical staff 11, top line, treble clef, 4/4 time signature. Chords: C7, F7, Bb7, Eb7, Ab7, Db7.

*F#7 B7 E7 A7 D7 G7 C*

Musical staff 11, bottom line, bass clef. Chords: F#7, B7, E7, A7, D7, G7, C.

12. *C7 F7 Bb7 Eb7 Ab7 Db7*

Musical staff 12, top line, treble clef, 4/4 time signature. Chords: C7, F7, Bb7, Eb7, Ab7, Db7.

*F#7 B7 E7 A7 D7 G7 C*

Musical staff 12, bottom line, bass clef. Chords: F#7, B7, E7, A7, D7, G7, C.

13. *C7 F7 Bb7*

Musical staff 13, top line, treble clef, 4/4 time signature. Chords: C7, F7, Bb7.

*Eb7 Ab7 Db7*

Musical staff 13, bottom line, bass clef. Chords: Eb7, Ab7, Db7.

*Cb7 B7 E7*

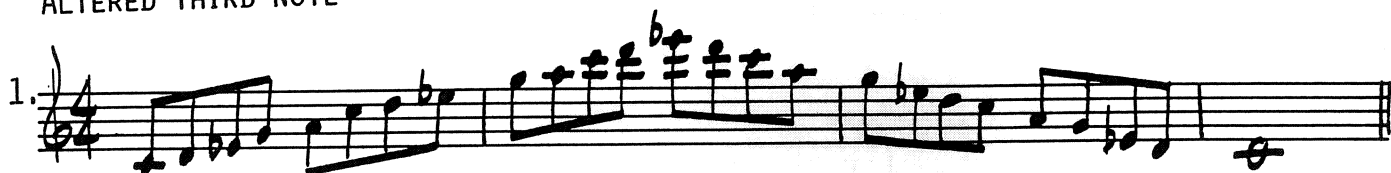
Musical staff 13, bottom line (continued), bass clef. Chords: Cb7, B7, E7.

*A7 D7 G7 C*

Musical staff 13, bottom line (continued), bass clef. Chords: A7, D7, G7, C.

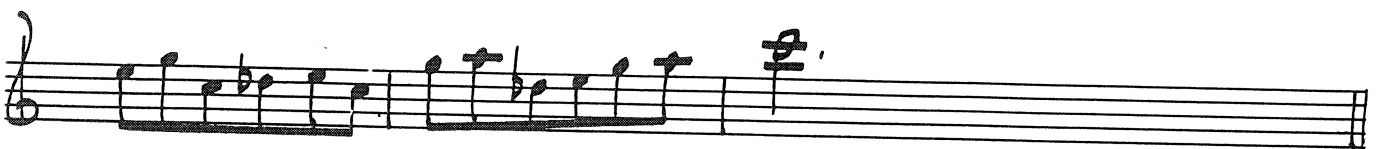
## EXERCISES ON ALTERED PENTATONICS\*

## ALTERED THIRD NOTE



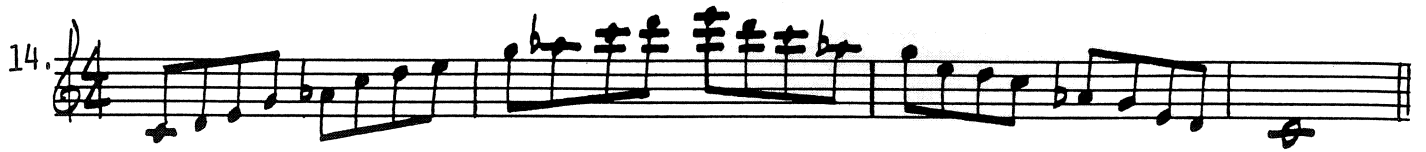
\* TRANSPOSE THESE EXERCISES TO ALL KEYS.

## ALTERED SECOND NOTE



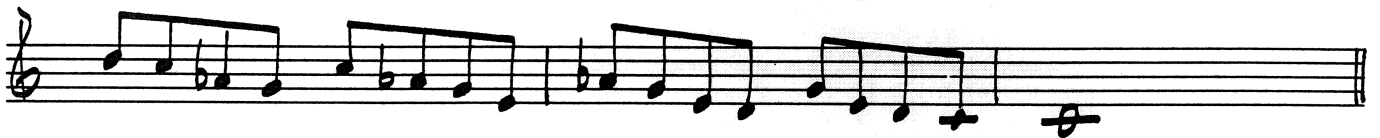


ALTERED FIFTH NOTE

14. 

15. 





16. 

17. 

18. 

19. 

20. 



#### ABOUT THE AUTHOR

Mr. Ricker is currently an Assistant Professor of Clarinet at the Eastman School of Music, where in addition to teaching clarinet and saxophone, he teaches jazz improvisation and is coordinator of the Woodwind Doublers Institute.

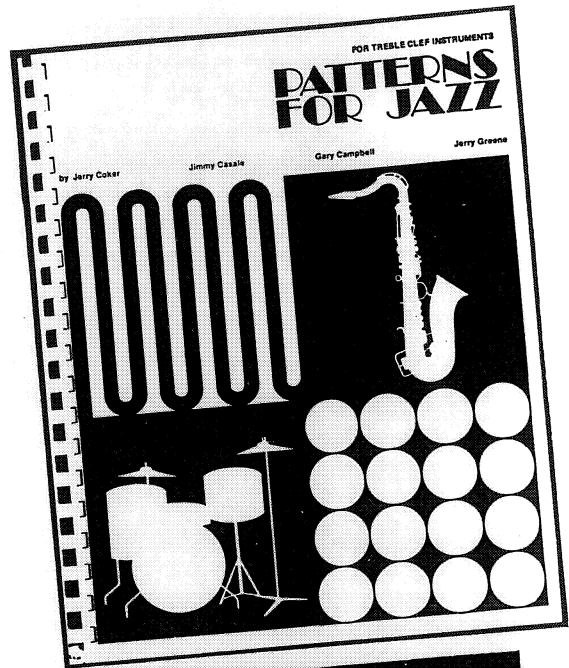
His many articles on jazz and studio teaching have appeared in *Woodwind World*, *The Instrumentalist*, *Music Journal*, and *The International Musician*. He is active as a composer/performer in both the classical and the jazz fields. His published works include compositions for jazz ensemble, studio orchestra, wind ensemble, and clarinet duets. Mr. Ricker has appeared as soloist on several occasions with the Rochester Philharmonic Orchestra. He currently plays third clarinet, bass clarinet, and saxophone with that organization. In the field of jazz he has recorded and performed with Chuck Mangione, and performed with Buddy Rich on the NET special "Rich at the Top." In 1975 he was a recipient of a National Endowment for the Arts Jazz/Folk/Ethnic Travel-Study Fellowship Grant to study saxophone and improvisation with Joe Farrell. Mr. Ricker holds a Bachelor of Music Education Degree from the University of Denver, a Master of Music in Woodwinds from Michigan State University, and a Doctor of Musical Arts Degree in Music Education from the Eastman School.

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