

The Art of Improvisation

Level 5: Advanced

... a visual and virtual approach to improvising jazz ...

Version 3.1

by Bob Taylor

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As an *Advanced Improviser*, your improvisation skills are strong enough that you can explore new areas of creativity in melody and rhythm. These areas enhance but don't replace your basic improvisation techniques. You'll see many ways to combine the techniques you've learned so far to produce interesting new melodies and ideas.

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It's just the beginning of what lies ahead ...

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5A: Playing Outside, Part 1

In this chapter you'll learn about:

- About Outside Playing
- Outside Notes and Keys
- Melodic Resolution and Outside Keys
- Using Whole-Tone Scales



Note: Special thanks to Rich Dixon, guitarist for BRIDJJ, for his contributions to Chapters 5a and 5b.

In simple terms, “inside” means playing notes that fit with the key, and “outside” means playing notes that don’t, such as non-harmonic tones. But this view is a limited one; there’s much more to know about playing outside.

About Outside Playing

Playing outside notes can add new dimensions to your solos. Artists such as Ornette Coleman, Allan Holdsworth and Dave Liebman have taken outside playing to great heights.

When you play outside, you create *groups* of outside notes. Playing a single outside note usually sounds more like a mistake (such as holding C# in C Major). Playing meaningful groups of outside notes highlights the difference between inside and outside.

When you play outside, consider these issues:

- 1) *How closely do the notes fit with the current key?* The more the notes diverge from the key, the more outside it is likely to sound.
- 2) *How closely do the notes relate to each other?* Augmented intervals and wide intervals with non-harmonic tones tend to sound more outside.
- 3) *How do the notes sound in context, compared to what’s before and after?* Polychords and rapidly changing keys sound more outside.

Myths & Facts About Outside Playing

There are plenty of misconceptions about outside playing. Here are some common myths and facts:

Myth #1: Outside notes are chosen at random.

Fact #1: There are definite approaches to playing outside you can learn and depend on.

Myth #2: Inside is inside, outside is outside, and the two are a long way apart.

Fact #2: There are degrees of inside and outside, and you can go back and forth smoothly between inside and outside.

Myth #3: You should only play outside on avant-garde tunes.

Fact #3: You can play at least a small amount of outside in many types of solos; it just depends on how well you play outside.

Myth #4: Playing outside is just a matter of choosing unusual pitches.

Fact #4: The other elements of improvisation, such as rhythm, development, and expression, are still important.

The “inside” key is the current key. The most inside notes are the ones that fit the key’s basic scale (such as the notes in the C Major scale). The most “outside” notes are ones that don’t relate to the current key, such as non-harmonic tones. But outside playing also uses other tones besides non-harmonic tones, in relative “degrees” of outside.

Degrees of Outside

To switch between inside and outside, you should know how outside any given note sounds, compared to the current key. The relative degrees of outside are:

- *Most outside:* Non-harmonic tones
- *Somewhat outside:* Active tones (2, 4, #4, 6, and 7). In major and dominant, the 4 and #4 are more outside; in minor, the #4 and 7 are more outside.
- *Least outside:* Chord tones (1, 3, 5)

A. Using Outside Keys

One way to play outside is to play in a different key from the current key (also known as *polytonal* playing). To do this, you can play the pentatonic scale in the new key. You need to know how outside (or inside) the new pentatonic notes are. You can assign *degrees of outside* to each note in the new pentatonic scale, as compared to the current key, to help you see the total outside effect of the new key.

For example, let’s superimpose F# Pentatonic over C Major. Four of the F# pentatonic notes are non-harmonic tones in C Major (G#, A#, C#, and D#), while F# is an active tone. If we score 3 for each non-harmonic tone (most outside), 2 for each active tone (F#), and 1 for each chord tone (none in this case), we get a total outside score of 14 (very outside) for F# Pentatonic over C Major. The outside score of C Pentatonic over C Major is only 7, so it’s very inside.

Against C Major, the other keys (pentatonic scales) are ranked below from most outside to most inside.

Outside of C Major	----- In-between -----										Inside C Major
F#	Db	B	Ab	E	Eb	A	Bb	D	F	G	C
14	14	13	12	11	10	10	9	9	8	8	7
#4	b2	7	b6	3	b3	6	b7	2	4	5	1

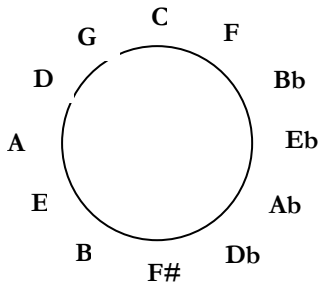
Example A – Ranging from outside to inside in C Major (sound example is in reverse order, C to F#)

So over a CMa7 chord, you can switch between other pentatonic scales to create outside or inside sounds. This is easier to do when the chord lasts longer. When you are familiar with the chart above, transpose it to the other major keys.

Outside Major Keys, Circle of 4ths

One way to visualize outside keys is to use a diagram of the circle of fourths. On the circle, the farther a key is from the current key (or on the opposite side of the circle), the more outside it sounds. The diagram for C Major is shown below. The most outside keys are at or near the bottom of each circle; the most inside keys are at or near the top of the circle.

Key of C Major – Inside



Outside

Example A1 - From C (inside) to F# (outside)

Now compare the outside keys in this diagram with the “Outside-Middle-Inside” chart above. The most outside keys in C Major are Db (up 1/2 step), B (down 1/2 step), and F# (up an augmented fourth). If you pick any other major key on the circle of fourths, the outside keys are still on the opposite side of the circle. You can rotate this circle and use any key as the home key.

Exercise A - Finding Outside Keys in Major

Basic ___/___/___ ()

**Basic:* For each major key around the circle of fourths, find the three most outside pentatonic scales.

***Medium:* Choose a major key progression from Practice Pages; play in those three keys on the progression.

B. Outside Keys in Minor

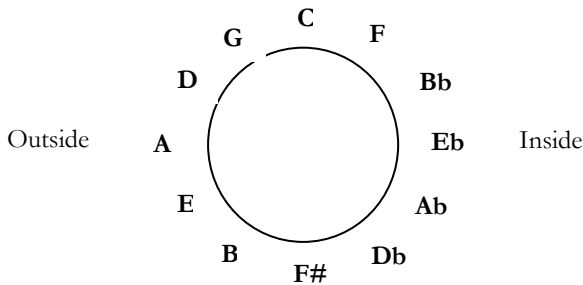
The table below shows the “outside scores” for major pentatonic scales played against C Minor.

Outside of C Minor					In-Between			Inside C Minor			
A	E	D	B	G	F#	C	Db	F	Ab	Bb	Eb
13	11	11	10	10	9	9	9	8	7	7	7
6	3	2	7	5	#4	1	b2	4	b6	b7	b3

Example B - Outside Keys in Minor (sound example is in reverse order, Eb to A)

When these scores are arranged around the circle of fourths, the outside chords for minor are on the *left* side of the circle, and inside chords are at the right.

Key of C Minor



Example B1 - From C (inside) to F# (outside)

You can rotate this circle so any key is the home key.

Exercise B - Finding Outside Keys in Minor

Basic ___/___/___ ()

**Basic:* For each minor key around the circle of 4ths, find the 3 most outside major pentatonic scales.

***Medium:* Choose a minor key progression from Practice Pages; play in those three keys on the progression.

Melodic Resolution and Outside Keys

C. Using Melodic Resolution

When you jump right into an outside key it can sound too abrupt. To go smoothly from outside to inside, you can use melodic resolution. Here are the steps:

- 1 Play in the home key (such as C Major).
- 2 Choose an outside key to go to (such as F# Major).
- 3 Use melodic resolution to move by a no-step, half-step, or whole-step to a connection note in the new key (see Chapter 3B: *Melodic Connections*).
- 4 Continue with other notes in the outside key.

Once you're in the outside key you can use the steps above to go to other outside keys, then return to the home key. The first example below switches from C Major to F# Major. The second example switches from C to F# to B.



Example C - From C (inside) to F# (outside)



Example C1 - From C (inside) to F# (outside) to B(outside)

Exercise C - Melodic Resolution and Outside

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* In a major key progression, play inside and resolve to an outside key.

***Medium:* Same as Basic; return to the home key.

****Challenge:* Same as Medium; go to two different outside keys before returning.

D. Emphasizing Outside Notes

As an alternative to melodic resolution, you can simply emphasize outside notes without leading up to them. When you do this, keep these points in mind:

- Make sure the timing is good for the surprise notes.
- Play the notes securely, repeating them sometimes.
- Use interesting rhythms.

Below is an example of emphasized outside notes.

CMa7 * * * *



Example D1 - Emphasized outside notes in C Major

Exercise D - Emphasizing Outside Notes

Basic ___/___/___ () Medium ___/___/___ ()

**Basic*: Play a two-bar idea with 2 emphasized outside notes.

***Medium*: Play a long idea with 4 or more emphasized outside notes.

Using Whole-Tone Scales

In Chapter 3K: *Dominant Alterations* you used whole-tone scales over dominant chords. You can also use whole-tone scales to emphasize outside tones in major and minor keys. Against C Major, a C whole-tone scale has Ab and Bb as outside tones and F# as its most active tone. Against C Minor, a C whole-tone scale has E as an outside tone and F# and Ab as strong active tones.

E. Switching Whole-Tone Scales

Because the root whole-tone scale has only a few outside tones, you can switch back and forth between it and the whole-tone scale that's *up a half-step*. When you alternate these scales, you cover every chromatic pitch. This disguises your key, which sounds outside.

There are actually *only two different* flexible whole-tone scales: C and Db. The C, D, E, F#, Ab, and Bb whole-tone scales all have the same pitches as the C whole-tone; all the other whole-tone scales all have the same pitches as Db whole-tone.

When you switch between C and Db whole-tone scales, it's best to use half-step melodic resolution to change smoothly. Here's the switching process:

- 1 Play the first flexible whole-tone scale.
- 2 To make the switch, play a half-step interval. This note becomes part of the new whole-tone scale.
- 3 Play the new whole-tone scale, on the note.

The example below links two whole-tone scales by a half-step connection.

Db ===== C =====



Example E - Linking whole-tone scales

You can also *sequence* a whole-tone motif up a half-step:

C ===== Db =====



Example E1 - Sequenced whole-tone motif

Or, use a wider interval (4th, 5th, or major 6th) to switch whole-tone scales:



Example E2 - Switching whole-tone scales, up a fifth (transposed sequence)

Although the above examples switch scales quickly, you can also stay longer on any whole-tone scale before switching. But don't overdo the whole-tone sound, and use interesting rhythms to mix things up.

Exercise E - Using Whole-Tone Scales

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic*: Play a C whole-tone scale; switch to a Db whole-tone scale with a half-step link.

***Medium*: Same as Basic; switch between the two scales several times.

****Challenge*: Same as Medium; switch with half-steps and wider intervals.

Outside Playing on the BRIDJJ CD

Below are some locations on the BRIDJJ CD "Beat the Rats" where outside playing occurs. Some of these outside techniques are explained in the next chapter.

Timing Tune / Description

5:35-5:40 "I Think I'll Keep Her," flugelhorn solo; linked sequences using 4ths and half-steps.

5:48-5:49 "Three and Me," flugelhorn solo; G Major arpeggio against E Major.

6:01-6:08 "Three and Me," flugelhorn solo; melodic resolution to outside.

2:29-2:30 "Beat the Rats," guitar solo; outside arpeggios.

2:51-2:55 "Beat the Rats;" whole-tone over major.

2:59-3:01 "Beat the Rats;" polytone arpeggios (see Chapter 5B: *Playing Outside, Part 2*).

See Also Chapter 5H: *The Matrix* for more ideas on playing outside.

Chapter Review

- 1) Outside notes are ones that don't fit in the home key.
- 2) Non-harmonic tones are most outside; active tones are somewhat outside; chord tones are inside.
- 3) In major, the outside keys are across the circle of fourths from the current key; in minor, the outside keys are to the left on the circle of fourths.
- 4) You can use melodic resolution to switch from an inside key to an outside key.
- 5) You can switch between whole-tone scales to play outside (2 flexible scales linked by a half-step).

Expressions

*If a man write a better book, preach a better sermon, or make a better mouse-trap, than his neighbor, tho' he build his house in the woods, the world will make a beaten path to his door. *Ralph Waldo Emerson*

*It is hard for an empty sack to stand upright. *Ralph Waldo Emerson*

*Even if you are on the right track, you will get run over if you just stand there. *Arthur Godfrey*

*Every artist was first an amateur. *Ralph Waldo Emerson*

*No man is free who is not master of himself. *Epictetus*

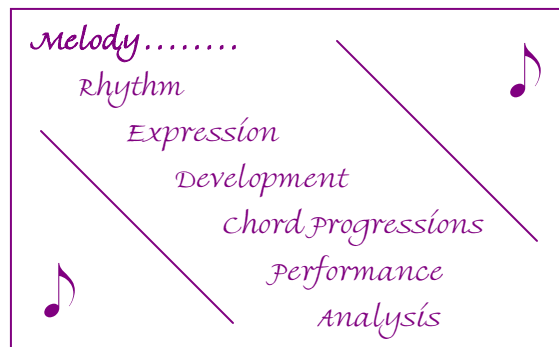
*Sometimes I've believed as many as six impossible things before breakfast. *Levis Carroll*

*The mind is a wonderful thing. It starts to work the minute you are born, and never stops until you get up to speak in public. *John Mason Brown*

5B: Playing Outside, Part 2

In this chapter you'll learn about:

- Intervals for Outside Playing
- Unusual Scales
- Polytone Arpeggios
- Sequencing and Developing Outside Ideas
- Scale Wandering



Playing outside is more than just superimposing one key over another. Outside playing also depends on unusual intervals, arpeggios, and scales, as well as sequencing and developing outside ideas. When you combine the techniques in chapters 5A and 5B, you'll have many effective tools for outside playing. See Also Chapter 5H: *The Matrix* for more ideas on playing outside.

Intervals for Outside Playing

Perfect 4ths, augmented 4ths, and augmented 2nds can be a springboard into outside playing. You can play and mix these intervals in many ways.

A. Using Consecutive Fourths



When you play consecutive 4ths, you travel quickly through the keys around the circle of 4ths. As you do this, you can use interesting rhythms and occasionally jump down a fifth (like going up a fourth and down an octave) so the range doesn't get too high.



Example A - Consecutive fourths with some downward fifths

You can *omit* a 4th interval by playing a whole-step down (like going up two 4ths and down an octave):

==== ==



Example A1 - Consecutive fourths, some downward whole-steps (and fifths)

When you play several consecutive fourths, you'll arrive at an outside key. You can choose to stay in that outside key instead of continuing on with fourths.

=====



Example A2 - Consecutive fourths going to outside key (Db against C Major)

b6-7 7-b6 7-b6 7-b6 #4 - b3

The musical notation shows a C major scale in treble clef with a common time signature. The notes are: C4, D4, E4, F4, G4, A4, B4, C5. The interval between A4 and B4 is an augmented second (A-Bb). This interval is repeated between B4 and C5 (B-Bb). The notes are beamed together in groups of four.

Example C2 - C Major scale with a held non-harmonic tone and repeated augmented second intervals

Exercise C - Using Augmented Seconds

Basic / / ()

**Basic:* Play a long line with all four augmented 2nds in the key of C.

***Medium:* Same as Basic, in 4 additional keys.

***Challenge:* Same as Basic, around the circle of 4ths.



D. Using Very Wide Intervals

For outside playing, very wide intervals are ones that are a major seventh or more. The second note of the interval should usually be an outside (non-harmonic) tone; the first note can be inside or outside. The interval skips can go up or down, and it's sometimes effective to hold the second note in the skip.

Here are some wide intervals to try, with example intervals in C Major. You can try the skips upwards or reverse them and skip down.

- 7th: major or minor (D-Db, Eb-Db, E-Eb, F#-F, A-Ab, Bb-Ab, B-Bb)
- 9th: natural, aug., or dim. (C-Db, Db-Eb, D-Eb, F#-Ab, G-Ab, G-Bb, Ab-Bb, A-Bb)
- 11th: nat, aug., dim. (Db-Gb, D-Ab, Eb-Ab, E-Ab, E-Bb, F-Bb, Ab-Db, A-Db, B-Db, A-Eb, Bb-Eb, B-Eb)

The example below has wide intervals and longer outside notes in C Major.

M7 M9 aug. 11 M7

The musical notation shows a sequence of notes in C major: C4, G4, Eb5, F#5, Ab5, Bb5, C6. The intervals between notes are: C-G (M7), G-Eb (M9), Eb-F# (aug), F#-Ab (11th), Ab-Bb (M7), Bb-C (M7).

Example D - Wide intervals

The next example mixes major sevenths, minor ninths, and octaves. This produces a nice “disorienting” effect, where it seems that the octave is being distorted.

The musical notation shows a sequence of notes in C major: C4, G#4, A4, Bb4, C5. The intervals between notes are: C-G# (M7), G#-A (m9), A-Bb (m9), Bb-C (M7).

Example D1 – Distorting the octave with major 7ths and minor 9ths

Exercise D - Using Very Wide Intervals

Basic / / () Medium / / ()

**Basic:* Play a long line with skips (major 7 or minor 7) to non-harmonic tones.

***Medium:* Same as Basic; use 11ths.

***Challenge:* Same as Basic; mix major sevenths, octaves, and minor ninths.

Unusual Scales

“Unusual” scales have odd intervals or different structures from normal scales. Unusual scales can add a fresh angle to outside playing.

Tips for Using Unusual Scales

As you play unusual scales, consider these approaches:

- *Extended range* - play 1 1/2 to two octaves or more.
- *Flexible scale approach* - don't always start on the root, and make the contours flexible (except for running an extended range scale). You may want to repeat augmented 2nd intervals for emphasis.

E. Scales with Augmented Seconds

Here are some scales with augmented second intervals:

- 1) C D_b E F G A_b B C
- 2) C D_b E F A_b B C
- 3) C D_b E F F# G# B C
- 4) C D_b E F# G# A C
- 5) C D_b E F# G# B_b B C
- 6) C D E_b F# G A_b B C
- 7) C D E_b F# G# A C

You can also go up one scale and down another, or superimpose them over any key as outside scales.

Exercise E - Playing Augmented Second Scales

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Play a flexible version of scale #1, then transpose it to the other 11 keys.

***Medium:* Same as Basic; use scales 2 and 3.

****Challenge:* Same as Basic; use any 3 scales (4 to 7).

F. Scales with Unusual Structures

Below are some scales with unusual structures. They usually have more or fewer notes than a normal scale.

- a) C D E_b F# G A_b A B C
- b) C D_b E F A_b B C
- c) C D_b E F F# G B_b B C

You can also go up one scale and down another, or superimpose them over any key as outside scales.

Exercise F - Playing Scales w/ Unusual Structures

Basic ___/___/___ () Medium ___/___/___ ()

**Basic:* Play a flexible version of scale #a, then transpose it to the other 11 keys.

***Medium:* Same as Basic; use scales #b and #c.

Polytone Arpeggios

G. Using Polytone Arpeggios

A *polytone arpeggio* outlines two chords in one arpeggio (four or five total notes). The polytonal sound is like double harmony. Here are versions in C:

4-notes, C Major:

- 1) C D# F# B (like C + B Major)
- 2) C E A C# (like C + A Major)
- 3) C F A C# (like C + F augmented)
- 4) C F# A# C# (like C + F# Major)

ver. 1 in C ver. 2, desc., in C

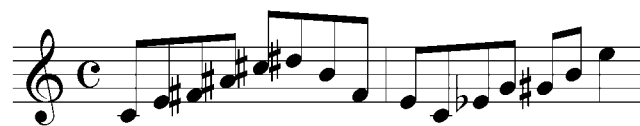


Example G - Polytone arpeggios, 4-note, against C7

5-notes, C Major (root plus 3rd plus new chord):

- | | |
|----------------------------------|------------------------------------|
| 1) C E F Ab Db (like CE + DbMa) | 6) C E F# B D# (like CE + BMa) |
| 2) C E F Ab B (like CE + F dim.) | 7) C E Gb Bb D (like CE + Gb dim.) |
| 3) C E F A C# (like CE + F aug.) | 8) C E Ab Cb Eb (like CE + Abm) |
| 4) C E F# A C# (like CE + F#m) | 9) C E Ab Db F (like CE + DbMa) |
| 5) C E F# A# C# (like CE + F#Ma) | |

ver. 5 in C ver. 6, desc. ver. 1 in Eb

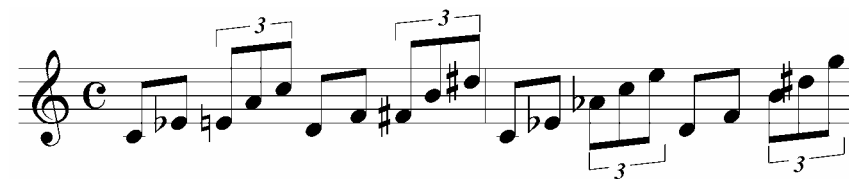


Example G - 5-note polytone arpeggios, major-key

5-note, C Minor/Major (root plus b3rd plus new major chord):

- | | |
|-----------------------------------|------------------------------------|
| 1) C Eb E G# B (like Cm + EMa) | 4) C Eb F# A# C# (like Cm + F#Ma) |
| 2) C Eb E A C# (like Cm + AMa) | 5) C Eb Ab C E (like Cm + Ab aug.) |
| 3) C Eb F A C# (like Cm + F aug.) | 6) C Eb G# B E (like Cm + EMa) |

ver. 2 in C ver. 2 in D ver. 5 in C ver. 5 in D



Example G - 5-note polytone arpeggios, minor-key

You can use polytone arpeggios consecutively, in any key, or in descending arpeggios or linked sequences. When you combine polytone arpeggios, try to move through new keys quickly so it sounds more outside. You can also sequence and develop polytone arpeggios; see the next section for ideas.

Exercise G - Using Polytone Arpeggios

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Play a 4-note polytone arpeggio in C; transpose it around the circle of 4ths.

***Medium:* Same as Basic; use a 5-note polytone arpeggio in major or minor.

****Challenge:* Combine several different kinds of polytone arpeggios into one long idea.

Sequencing and Developing Outside Ideas

Two ways to develop outside ideas are *sequences* and *rhythmic development*.

H. Sequencing Outside Ideas

The best sequences for outside playing are transposed or semi-sequences, not diatonic. For polytone arpeggios unusual scales, or other outside ideas, you can use:

- Half-step or whole-step sequences
- Major or minor third sequences
- Perfect or augmented fourth sequences
- Linked sequences (see Chapter 3E: *Melodic Patterns*)

Example H is outside semi-sequences; Example H1 is outside, linked sequences.

Example H - Outside sequences

Example H1 - Outside, linked sequences

Exercise H - Sequencing Outside Ideas

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Play an outside idea and sequence it by half-steps or whole-steps.

***Medium:* Same as Basic; use min. or major thirds.

****Challenge:* Same as Basic; use the circle of 4ths..

J. Developing Outside Ideas

Here are some suggestions for developing outside ideas:

- 1) Keep the basic idea outside; don't let your development pull it inside for any great length of time.
- 2) Augment compress, add/omit, fragment, or displace outside ideas (see Chapter 3H: *Rhythmic Development*).
- 3) In longer passages, use "scale wandering" and "middle keys" as explained later in this chapter.

Sometimes a single, interesting rhythm in an outside idea adds enough interest without the need to develop the idea.

Exercise J - Developing Outside Ideas

Basic ___/___/___ ()

**Basic:* Play an outside idea; then augment it, compress it, add or omit notes, fragment it, or displace it.

Scale Wandering

K. How to Use Scale Wandering

Another way to play outside is to move through keys quickly, regardless of the chord changes. This can be very effective for cadenzas, unaccompanied solos, and creating a sense of harmonic vagueness. To do this, you "wander" through keys while using flexible scales.

Here's how it works:

- 1 Play a few flexible-scale notes in the home key (use all or mostly 8th-notes).
- 2 Use melodic resolution to shift to a new key signature. You can connect to the root of the new key if you want. For example:

C Major - Ab Major



Example K - Scale wandering with melodic resolution (from G to Ab)

- 3 Mix the contours and keep shifting keys as you go. Try to visualize the new key a little ahead of time.
- 4 Don't always start at the root of the new key; the melodic resolution note can be part of *several* keys.
- 5 When you break or take a breath, resume in the current key.
- 6 When you switch keys, look for a more distant key instead of an adjacent key in the circle of 4ths.

Here is a longer example of scale wandering. It switches between outside keys, with each switch going to a distant key.

C Major -- Ab Major -- B Major -- Db Major



Example K1 - Scale wandering with melodic resolution

For added effect, combine scale-wandering with going between tempos (see *Off-Tempos* in Chapter 5D: *Rhythmic Freedom, Part 2*).

Exercise K - Scale Wandering

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic*: Choose two keys and wander through them, back and forth.

***Medium*: Same as Basic; use three or four keys.

****Challenge*: Same as Basic; use any key.

L. Using the "Middle" Keys

The "middle" keys are the ones that aren't really inside or outside, but in between. Typically, you don't use middle keys in outside playing because they aren't far enough outside. In Chapter 5A, this chart described the inside, middle, and outside keys for C Major (middle keys are based on the 3, b3, 6, and b7):

Outside	Middle						Inside				
F#	Db	B	Ab	E	Eb	A	Bb	D	F	G	C
14	14	13	12	11	10	10	9	9	8	8	7
#4	b2	7	b6	3	b3	6	b7	2	4	5	1

Example L – Middle keys

Scale wandering lets you take advantage of middle keys. When you use scale wandering, you basically disorient the listener as to what key you're in. That way you can wander through outside and middle keys, and the overall effect still sounds outside. You can even mix in some *inside* keys when the outside effect is established well enough. This approach provides you with a wide range of harmonies and keys to use.

This example of scale wandering uses outside and middle keys (Eb Major and E Major) against C Major:

C Major - Ab Major -- B Major ----- Eb Major



Example L1 - Scale wandering using “middle keys”

This example uses outside and middle keys (F# Major and E Major) against C Major:

C7 ----- F# Major -- E Major -----



Example L2 - Scale wandering using “middle keys”

Exercise L - Using “Middle” Keys

Basic ___/___/___ () Medium ___/___/___ ()

*Basic: Play a longer outside idea in any major key; travel through 2 middle keys.

**Medium: Same as Basic, in a minor key.

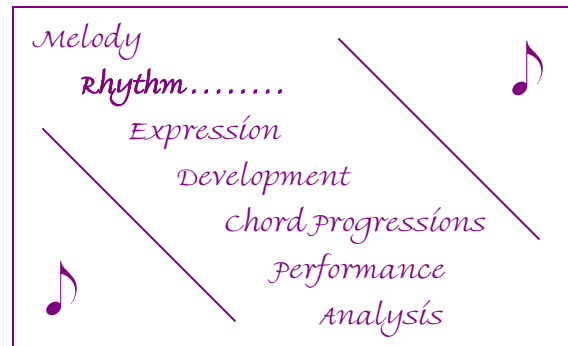
Chapter Review

- 1) Playing consecutive fourths creates an outside sound. The fourths can sometimes be replaced with downward fifths or half-steps, or aug. 4ths.
- 2) Augmented 2nds create an outside, exotic sound.
- 3) Very wide intervals for outside include major 7ths, minor 9ths, aug. 9ths and aug. 11ths.
- 4) An unusual scale has a different structure or unusual intervals (such as aug. 2nds).
- 5) A polytone arpeggio indicates the sound of two unrelated chords, in four or five notes.
- 6) You can sequence and develop outside ideas.
- 7) Scale wandering is the technique of changing keys quickly as you play longer phrases.
- 8) You can use the “middle keys” (those that are only a little outside) during scale wandering.

5C: Rhythmic Freedom, Part 1

In this chapter you'll learn about:

- Stepping Through Rhythms
- Shifted Triplets
- Unusual Triplet Groups



Like any individual freedom, rhythmic freedom is a responsibility you must use carefully. Your rhythmic freedom becomes most powerful *after* you master the guidelines of rhythm and development. When you're comfortable with basic rhythms, your audience will enjoy the rhythmic freedoms you take even more.

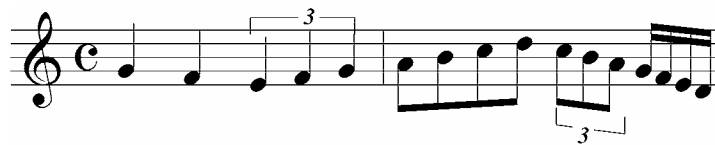
Note: If some of the rhythms in this chapter are difficult at first, work on them slowly or spend time perfecting the more basic rhythms.

Stepping Through Rhythms

An interesting technique that builds intensity is to make your rhythms *appear* gradually faster or slower *without* changing the tempo. For example, if you play a bar of quarter-note triplets followed by a bar of eighth-notes, the rhythm appears to speed up slightly between the first and second bars. The trick is to choose rhythms that are *gradually* faster or slower, so the transition is smooth.

A. Slower to Faster

The example below starts with quarter-notes and gradually shifts through faster rhythms until reaching sixteenth-notes (like double-time eighth-notes).



Example A - Melody with slower-to-faster rhythms

You can start at any point in the example above and go forward, choosing your own pitches and playing more notes on each rhythm type. Remember to keep the *tempo* absolutely steady as you change the rhythms.

Exercise A - Slower to Faster Rhythms

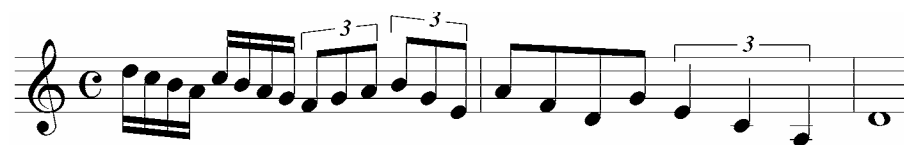
Basic ___/___/___ () Medium ___/___/___ ()

**Basic:* Write a 2-bar melody; start with quarter-note triplets and end with 16ths, slower-to-faster rhythms.

***Medium:* Write a 4-bar melody; start with half-notes and end with 16ths, slower-to-faster rhythms.

B. Faster to Slower

You can also make your rhythms gradually appear slower without changing the tempo. The example below is basically the reverse of the slower-to-faster example. You can start at any point in the example below and go forward, choosing your own pitches and playing more notes on each rhythm type.



Example B - Melody with faster-to-slower rhythms

Also, check out the introduction to “Precious Caboose” on the BRIDJJ CD; it uses a stepped rhythm pattern that starts with sixteenth-notes and ends up with dotted quarters.

Exercise B - Faster to Slower Rhythms

Basic / / () Medium / / ()

**Basic*: Write a 2-bar melody; start with 16th-notes, end with quarter-note triplets.

***Medium*: Write a 4-bar melody; start with sixteenth-notes, end with half-notes.

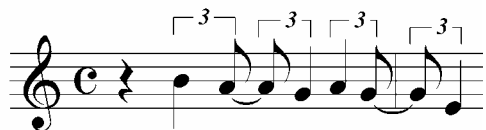
Shifted Triplets

C. Using Shifted Triplets

An interesting way to play triplets is to shift them slightly so they start a little later than usual. The effect can be quite surprising, but the notes need to be played securely. The basic types of shifted triplets are:

- Quarter-note triplets starting on beat 2 or 4
- Quarter-note triplets shifted by one or two eighth-note triplets
- Half-note triplets shifted by one or two quarter-note triplets (for faster tempos)
- A four-note bracket shifted in 3/4 time

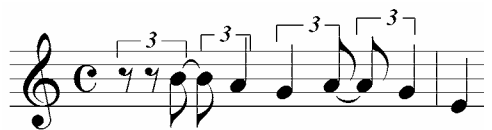
Each of these types is shown below. Notice that ties are used to write some of the shifted triplet values.



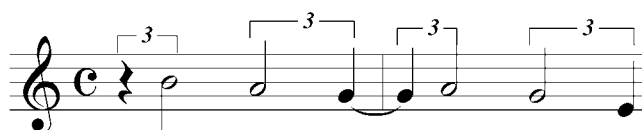
Example C - Quarter-note triplets, beats 2 and 4



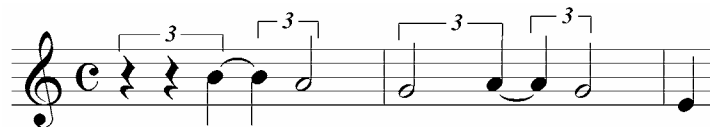
Example C1 - Shifted by 1 eighth-note triplet



Example C2 - Shifted by 2 eighth-note triplets



Example C3 - Half-note triplets shifted by 1 quarter-note triplet



Example C4 - Half-note triplets shifted by 2 quarter-note triplets



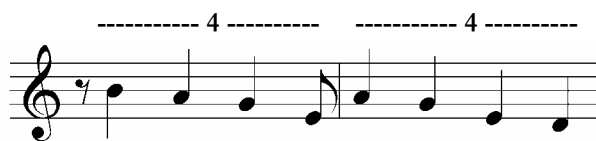
Example C5 – 3/4 time - Four-note bracket notes shifted by one eighth-note

You can also shift the bracketed group by 3 eighth-rests, instead of 1 8th-rest, as in the example below.



Example C6 – 3/4 time - Four-note bracket notes (3/4) shifted by 3 8th-notes

And you can alternate shifted brackets with regular 4-note brackets in 3/4:



Example C7 - Four-note bracket notes (3/4) shifted by one note

Practice these shifted triplets slowly at first. Then practice switching back and forth between regular triplets and shifted triplets.

Exercise C - Using Shifted Triplets

Basic / / () Medium / / () Challenge / / ()

*Basic: Play six regular quarter-note triplets, then six shifted ones.

**Medium: Same as Basic; use half-note triplets.

***Challenge: Same as Basic; use four-note bracket notes in 3/4.

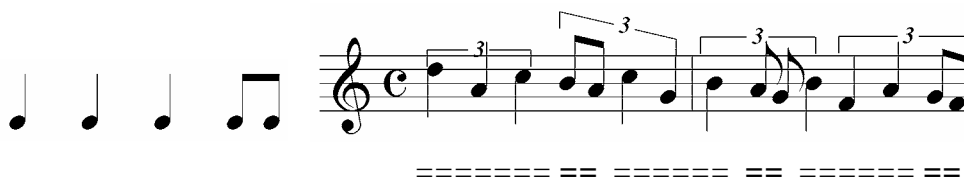
Unusual Triplet Groups

D. Creating Unusual Triplets

Mixing quarter-note triplets, half-note triplets, and 8th-note triplets makes some unusual triplet groups. There are some basic keys to creating unusual triplets:

- Create a triplet group that is *longer* or *shorter* than the typical group (3 or 6), such as 4 quarters, 4 half-notes, 2 half-notes, etc.
- Mix in some *shorter* rhythmic values, such as 8th-note triplets inside a quarter-note triplet group, or quarter or 8th-note triplets inside a half-note triplet group. These shorter values act as rhythmic “markers” to separate the repetitions of the group.
- Use sequences, expanding intervals, or other development techniques to strengthen the repetition of the groups.

Below are rhythms for some sample “unusual” triplet groups, followed by music examples. Note the markers in each case.



Example D - 3 quarter-note triplets, 2 8th-note triplets (total of 8 8th-note triplets)







Example D1 - Similar to Example D, with rests included






Example D2 - 2 half-note triplets, 2 8th-note triplets (total of 10 8th-note triplets)


You can get a lot of interesting results by taking a stream of 4 or 8 quarter-note triplets and inserting rests in different spots. The Wynton Marsalis quartet did this very well on their Standard Time, Volume 1 CD. For example:

a)  (or shift the rest) b)  (or shift the notes)

c)  (or shift the note) d)  (Marsalis CD, "The Song is You" 1:43-1:54)

e)  f)  g) 

Here are a few additional rhythms, based on 5, that you can repeat to create unusual triplet groups:

There are many other combinations of triplets and rests; experiment with them and find ones that interest you. In Chapter 5D: *Rhythmic Freedom, Part 2* you'll work with groups of 5 and 7 triplets.

Exercise D - Playing Unusual Triplet Groups

Basic / / () Medium / / () Challenge / / ()

**Basic:* Play a passage that uses one of the unusual triplet groups described above.

***Medium:* Same as Basic; use two different triplet groups.

***Challenge:* Create a new unusual triplet group, not listed above, and play it in a passage.

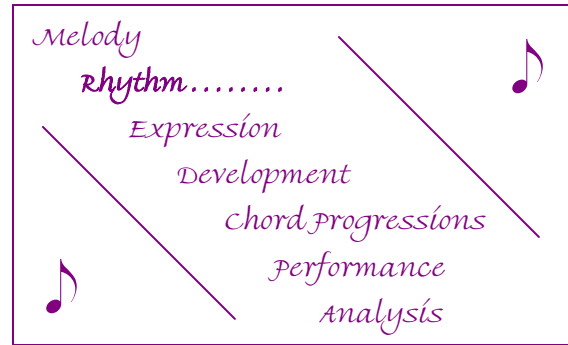
Chapter Review

- 1) You can step through rhythm values to make the rhythmic feel appear to speed up or to slow down.
- 2) The basic types of shifted triplets are:
 - A) Quarter-note triplets on beat 2 or beat 4.
 - B) Quarter-note triplets shifted by one or two eighth-note triplets
 - C) Half-note triplets shifted by one or two quarter-note triplets (for faster tempos)
 - D) A four-note bracket shifted in 3/4 time
- 3) Unusual triplet groups mix half-note triplets, quarter-note triplets, and 8th-note triplets, with the following objectives:
 - A) The group is shorter or longer than normal.
 - B) The quicker rhythmic values in the group act as a "marker" to define where the group repeats.
 - C) You can use development tools to make the groups stand out and be recognized more easily.

5D: Rhythmic Freedom, Part 2

In this chapter you'll learn about:

- Using Rubato
- 5-Against-4
- 7-Against-4



Rubato, 5-against-4, and 7-against 4 give you powerful tools of rhythmic freedom.

Using Rubato

A. Ideas for Rubato



Rubato means slowing down or speeding up somewhat in your musical idea. This is done frequently in ballads and slower-tempo tunes. Rubato lets you explore many subtle dimensions in rhythm. As you use it, keep it as an occasional contrast to strict rhythms so the listener hears an enjoyable variety.

Here are some ideas for using rubato in your solos:

1. Slow down slightly towards the end of a phrase, keeping the pitch selection strong. Or, hold a non-harmonic tone or alteration and resolve it a bit late at the end of a solo.
2. Slow down in the middle of a phrase, then speed up to the original tempo. This is like musically stretching a rubber band.
3. Speed up considerably (not just a little) towards the end of a phrase. This is like using an off-tempo (see *Off-Tempos* below).
4. Play randomly placed staccato notes, to erase the tempo of your melody.

For other ways to use rubato, see *Introductions and Cadenzas*, *Off-Tempos*, *Burning*, and *Wiggling*.

Exercise A - Using Rubato

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic*: Choose a familiar melody and use the first part of idea #1 above.

***Medium*: Same as Basic; use idea #2.

****Challenge*: Same as Basic; use ideas #3 and #4.

B. Introductions and Cadenzas

An *introduction* is an unaccompanied solo you play before the main tune begins. The purpose is to set up the tune, so as you play an introduction keep these points in mind:

- Remember the tune melody and its mood.
- Play secure rhythms and pitches as you play alone.
- Use expression well (dynamics, accents, and effects).

A *cadenza* is an unaccompanied (or sparsely accompanied) solo. It can be an effective way to open or close a tune. The cadenza puts a lot of responsibility on the soloist to effectively set the stage for the tune or finish it strongly. For effective cadenzas:

- 1) See your melodic shapes in advance; use relaxed concentration.
- 2) Use good development techniques to keep your ideas strong.
- 3) Don't overplay or underplay it, or develop ideas too fast.
- 4) You can use *riffing* to build intensity (see *Riffing* in Chapter 4D: *More Development*).
- 5) Don't ramble on (better to play a short, effective cadenza than a tiresome one).
- 6) When you're finished, give a clear signal to the group so they can join you.

Exercise B - Playing Introductions and Cadenzas

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Play a brief introduction before you launch one of the MIDI files from 300 Standards.

***Medium:* Play a brief cadenza just before the end of one of the 300 Standards (pause the MIDI file).

****Challenge:* Same as Basic or Medium; play longer a introduction or cadenza with good development.

C. Off-Tempos

You can rush or drag rhythms so they are in between their current value and the next “stepped” value (see *Stepping through Rhythms* earlier in this chapter.) The effect is hazy, but it's quite effective with strong melodic ideas. For example, you can drag quarter-note triplets slightly, or push eighth-notes slightly off-tempo. Be sure to play and maintain the off-tempo while the rhythm section remains steady in the original tempo.

Here are some guidelines for going off-tempo:

- 1) Keep the dragging/rushing ideas simple and strong so they are easily distinguished.
- 2) After the off-tempo, re-enter the old tempo *securely*.
- 3) It's usually best if the other players don't try to change tempos with you. The original tempo provides a good contrast against your rubato.
- 4) Use distinct melodic patterns. Developing with sequences or semi-sequences in off-tempo creates an interesting tension against the melody.

Exercise C - Using Off-Tempos

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Using a metronome, speed up quarter-note triplets in a flexible scale; slightly then slow them back to normal, or slow them slightly, then speed them back to normal. Then try them with the Practice Page.

***Medium:* Same as Basic; use eighth-notes.

****Challenge:* Same as Basic; use eighth-note triplets.

D. “Burning”

Burning is where you play a very fast passage that's at or near the limit of your speed technique, *regardless* of what the current tempo is. Burning is like a faster version of double-time feel. As long as the passage is clean, in tune, and interesting, the “burn” passage doesn't really need to relate to the original tempo. But don't overuse this technique, as it can eventually weaken the rhythmic strength of your solo.

To exit “burning mode,” end the passage *securely*. You can also slow down or play longer rhythmic values until you lock into double-time, eighth-note triplets, or regular eighth-notes. A clean transition makes that approach *very* effective.

Exercise D - Burning

Basic ___/___/___ () Medium ___/___/___ ()

**Basic:* Play a line of eighth-notes and add a short “burning” passage to it.

***Medium:* Move back and forth between 8th-notes and burning. Use smooth transitions back to 8th-notes.

E. "Wiggling"

Once in a while you can turn burning into "wiggling" (your fingers), where you play random notes as fast as you can. Keep this brief and well-timed so it doesn't lose its surprise.

Here are some wiggling tips:

- Wiggle briefly in any register.
- Wiggle into the high register and back down.
- Wiggle after "burning."

For an example of wiggling, listen to timings 2:18-2:19 of the trumpet solo in Precious Caboose (Chapter 2L: *Analyzing Written Solos*).

Exercise E - Wiggling

Basic ___/___/___ () Medium ___/___/___ ()

*Basic: Play a line of eighth-notes and add a short "wiggling" passage to it.

**Medium: Move back and forth between eighth-notes and wiggling.

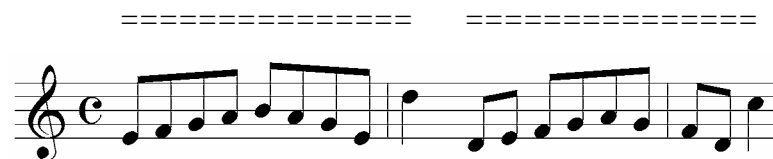
5-Against-4

You can use 5 against 4 for strong rhythmic variety. Here are some basic 5-against-4 ideas:

- Use 5/4 rhythms in a 4/4 tune
- Play contour groups of 5
- Use brackets of 5

F. Using 5/4 or 5/8 Rhythms in a 4/4 Tune

You can play 5/4 rhythms against 4/4 time. This takes practice, but the effort's worth it. To use 5/4 rhythms in a 4/4 tune, focus on making your rhythm last *one beat longer* than a bar:



Example F - 5/4 rhythm in a 4/4 meter

It's easier to count odd meters if you break them up into groups of two and threes. For 5/4, this would be a group of two quarter-notes and a group of three quarter-notes, such as 2+3 or 3+2. Or, think of 4 8th-notes plus 6 8th-notes, or 6 8th-notes plus 4 8th-notes.

You can repeat unusual 5/8 or 5/4 rhythms that sound quite striking against 4/4, such as:

- Half-note and 8th-note, or reverse
- Quarter-note and dotted quarter, or reverse
- Whole-note and quarter-note, or reverse

Notice that each new group starts on the beat, then off.



Example F1 - 5/8 rhythm, alternating half-note and 8th-note



Example F2 - 5/8 rhythm, alternating quarter-note and dotted quarter



Example F3 - 5/4 rhythm, alternating quarter-note and whole-note

Exercise F - Playing 5/4 Rhythms in a 4/4 Tune

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Repeat a simple motif of mixed quarter-notes and eighth-notes as a 5/4 rhythm in a 4/4 tune.

***Medium:* Same as Basic; use some offbeats and rests.

***Challenge:* Same as Basic; use some triplet values.

G. Contour Groups of 5

You can create a 5-note group within a contour. This technique can create a lot of interest in your solo, but it requires concentration and practice so it will sound accurate and smooth.

The examples below show 5-note groups in different contours with various rhythms.



Example G - 5-note ascending groups, offbeat quarters

Example G1 - 5-note ascending groups, quarter-note triplets



Example G2 - 5-note descending groups, eighth-notes

Example G3 - 5-note descending groups, 8th-note triplets

To use a mixed-contour group of 5, divide the groups into patterns of 2 and 3, then alternate the ascending and descending contours. Or, repeat the same contour, dividing the groups into 2's and 3's.

----3 --|-- 2-- |--3 ---- | --2-- | --3---- |--2-- --2 -|--3--- |--2--|---- 3----|--2- |--3----



Example G4 - 5-note mixed contours, 8th-notes, 3's & 2's

Example G5 - 5-note groups, 8th-notes, 2's and 3's

To make contour groups stand out more, separate each with a wider interval.

Exercise G - Using 5-Note Groups

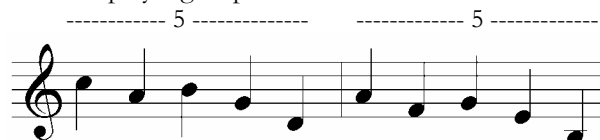
Basic ___/___/___ () Medium ___/___/___ ()

**Basic:* Write and play your own 5-note groups.

***Medium:* Write and play a longer melody with 5-note groups.

H. Brackets of 5

You can play a group of 5 *bracketed* notes in a bar:



Example H - Brackets of 5 quarter-notes



Example H1- Brackets of 5 eighth-notes

The goal is to fit the bracketed notes into the measure as accurately as possible. Of course, you can simply squeeze 5 notes into the space of four, but that's hard to do while keeping the rhythms even. To play the 5 notes more exactly in time, follow these steps:

- 1 Subdivide the 5-note group into 2+3 or 3+2.



Example H2 - 3 quarter-note triplets, 2 quarter-notes



Example H3 - 3 8th-note triplets, 2 8th-notes

- 2 Play the triplets *slightly slower* and other notes *slightly faster* until they're all even.

Exercise H - Using 5-Note Brackets

Basic / / () Medium / / ()

**Basic:* On a flexible scale, alternate playing 4 quarters in one bar and a bracket of 5 quarters in the next bar.

***Medium:* Same as Basic; use brackets of 5 8th-notes.

7-Against-4

Playing 7-against-4 is similar to playing 5-against-4, using these techniques:

- 7/4 rhythms in a 4/4 tune
- Contour groups of 7 or brackets of 7

J. Using 7/4 or 7/8 Rhythms in a 4/4 Tune

You can play 7/4 rhythms against 4/4 time. Using these longer rhythms takes more practice, but the effort is well worth it. For 7/4 rhythms, make the rhythm *one beat less than two bars*, as in the example below.



Example J - 7/4 rhythm against 4/4

You can also count odd meters by breaking them up into groups of two and three. For 7/4, the groupings would be 2+2+3, or 2+3+2, or 3+2+2. And you can use 7/8 rhythms against 4/4; see *5 Against 4* for ideas.

Exercise J - Playing 7/4 Rhythms in a 4/4 Tune

Basic / / () Medium / / ()

**Basic:* Repeat a simple motif of mixed quarter-notes and eighth-notes as a 5/4 rhythm in a 4/4 tune.

***Medium:* Same as Basic; use some offbeats and rests.

***Challenge:* Same as Basic; use some triplet values.

K. Contour Groups of Seven

You can play seven-note groups in different contours, using 8th-notes and 8th-note triplets. (Fast rhythms work better with 7-note groups, so the group doesn't take too.) Divide the 7 notes into one of these groups: 3+2+2, or 2+3+2, or 2+2+3. The basic ideas from *Contour Groups of Five* also apply here, with ascending, descending, or mixed contour groups of 7.

===== ===== ==etc.



Example K - Contour groups of 7

You can also use mixed contours with groups of 7, similar to mixed contours of 5. To make the contour groups stand out more, separate each one with a slightly wider interval.

Exercise K - Using Contour Groups of 7

Basic ___/___/___ () Medium ___/___/___ ()

**Basic:* Write your own 7-note groups.

***Medium:* Write a longer melody with 7-note groups.

L. Brackets of 7

Try a group of 7 *bracketed* notes (7 8th-notes in a bar). Be sure to fit the bracketed notes into the measure as accurately as possible. To do this, play the seven eighth-notes *slightly* slower than normal eighth-notes. You can even out the timing of bracket notes by alternating quarter-note triplets and eighths in a bar, slightly rushing the triplets, and slightly dragging the 8ths, until all the notes are even:



Example L - Bracket of 7 eighth-notes



Example L1 - Alternating quarter-note triplets and 8ths, smoothing to 7

Exercise L - Using 7-Note Brackets

Basic ___/___/___ ()

**Basic:* Improvise on a flexible scale. Play eight 8th-notes in bar 1, a bracket of seven 8th-notes in the bar 2, etc., alternating between 8 and 7 every other bar.

Chapter Review

1) Effective ways to use rubato include:

- A) A solo introduction that sets up the tune, or cadenza (solo at start or end of a tune).
- B) Going off-tempo (rushing or dragging, keeping the off-speed tempo).
- C) “Burning” (playing controlled notes as fast as you can, regardless of the tempo).
- D) “Wiggling” (playing random notes so fast that they are “out of control”).

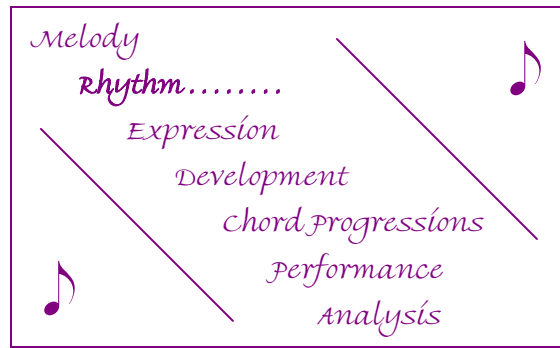
2) You can play 5/4 or 7/4 rhythms against 4/4 time.

3) You can use 5- and 7-note groups in contour groups or in brackets.

5E: Rhythmic Pulses

In this chapter you'll learn about:

- Creating New Pulses
- Using Triplet Pulses
- Using Non-Triplet Pulses
- Practice Method
- Additional Shifts
- Group Shifts



A rhythmic *pulse* is the basic, underlying beat in the tune, usually the quarter-note. So far, you've used double-time, half-time, and triple-time to change the rhythmic pulse of the tune. You can also create other new pulses that increase by other amounts instead of by doubling or halving. These unusual pulses can create some very interesting rhythmic shifts in a tune.

Creating New Pulses

Establishing the New Pulse

To establish a new pulse,

- 1 Repeat the *rhythm* of the new pulse enough until it feels like a new quarter-note pulse. For example, suppose you keep repeating dotted quarter-notes in 4/4 time. Now there are two pulses: the original quarter-note pulse the band is playing and your new, slightly slower pulse made of dotted quarters. *This new pulse can then be imagined as your new quarter-note pulse.*

(See Example A for an illustration of how this works.)

- 2 Subdivide the new pulse into eighth-notes (swing or straight) and play other rhythms based on the new pulse. This causes a strikingly different metric feel.

Sample Pulses

Here are some ways to create new quarter-note pulses, along with descriptions of whether the new pulse feels faster or slower than the original quarter-note pulse:

New Quarter-note Pulse	Faster/Slower
Quarter-note triplets (2/3)	Faster (3/2)
8th-note triplets (1/3)	Much faster (3)
Dotted quarter-notes (3/2)	Slower (2/3)
Alternate quarters, 8ths (3/2)	Slower (2/3)
4-note bracket, 3/4 time (3/4)	Faster (4/3)

Return Pulses

To return from a new pulse back to the old pulse, you need to use a rhythm that's the *inverse fraction* of the new pulse. For example, suppose you switch to a new pulse of quarter-note triplets. They are 2/3 the value of the original quarter-notes. So, your return pulse should be 3/2 of a quarter-note (the inverse fraction), or a dotted quarter-note. It may sound a bit complicated, but it's fairly easy to memorize inverse rhythms for the most common pulses.

Using Triplet Pulses

You can use quarter-note triplets or eighth-note triplets as the source for your new pulse.

A. New Pulse: Quarter-note Triplets

The example below converts consecutive quarter-note triplets into a new quarter-note pulse. The new feel is $3/2$ as fast (quarter-note goes from 120 - 180).

Quarter = 120; Old quarter triplet = new quarter (180)



Example A - Quarter-note triplets into new quarter-note pulse

To return to the original tempo, play a return pulse of *dotted quarter-notes*. After you feel several of these go by, switch back to the old (slower) tempo.

Exercise A - Using a Quarter-Note Triplet Pulse

Basic / / () Medium / / ()

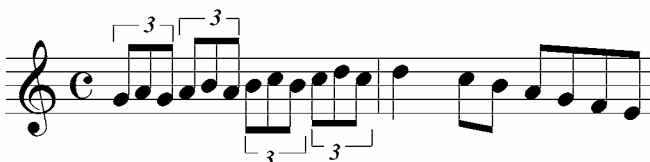
**Basic:* Play original quarter-notes at a comfortable speed. Repeat quarter-note triplets to set up the new pulse. Once you feel the new pulse, subdivide it into swing rhythms, then return to the original quarter-note pulse.

***Medium:* Same as Basic; return to the original quarter-note pulse

B. New Pulse: Eighth-note Triplets

The example below converts consecutive 8th-note triplets into a new quarter-note pulse. This usually works best with a slow original tempo, because the new feel is 3 times as fast (quarter-note from 60 to 180).

Quarter = 60; Old 8th triplet = new quarter (180);



Example B - Eighth-note triplets into new quarter-note pulse

To return to the original tempo, play a return pulse of *dotted half-notes*. After you feel several of these go by, switch back to the old (slower) tempo.

Exercise B - Using an Eighth-Note Triplet Pulse

Basic / / ()

**Basic:* Same as Basic for Exercise A; use 8th-note triplets then return to the original pulse.

Using Non-Triplet Pulses

You can also use dotted quarter-notes, alternating 8ths and quarters, or bracket notes (4 over 3 or 5 over 4) as the new pulse.

C. New Pulse: Dotted Quarter-notes

The example below converts consecutive dotted quarter-notes into a new quarter-note pulse. The new feel is slower ($2/3$ of the original).

Quarter = 180; dotted-quarter = new quarter (120)



Example C - Dotted quarter-notes into new quarter-note pulse

To return to the original tempo, play a pulse of *quarter-note triplets*. After you feel several of these go by, switch back to the old (faster) tempo.

Exercise C - Using a Dotted Quarter-Note Pulse

Basic $\frac{3}{4}$ / $\frac{3}{4}$ / $\frac{3}{4}$ ()

*Basic: Same as Basic for Exercise A; use dotted quarter-notes then return to the original pulse.

D. New Pulse: Dotted Half-notes

The example below converts consecutive dotted half-notes into a new quarter-note pulse. The new feel is 3 times as slow (like the opposite of triple-time), so it works best with a fast original tempo).

Quarter = 180; dotted-half = new quarter (60)



Example D - Dotted half-notes into new quarter-note pulse

To return to the original tempo, play consecutive *eighth-note triplets*. After you feel several groups of these go by, switch back to the old (faster) tempo.

Exercise D - Using a Dotted Half-Note Pulse

Basic $\frac{3}{4}$ / $\frac{3}{4}$ / $\frac{3}{4}$ ()

*Basic: Same as Basic for Exercise A; use dotted half-notes then return to the original pulse.

E. New Pulse: Alternating Values

You can create an interesting pulse by playing a pair of alternating rhythms, where the first value is twice as long as the second. This imitates the feel of uneven swing eighth-notes, where the downbeat eighth is twice as long as the offbeat. The best alternating rhythms to use are quarter vs. eighth, or half vs. quarter.

The example below converts alternating quarter-notes and eighth-notes into new swing eighth-notes. The new feel is slower ($\frac{2}{3}$ of the original tempo), and you go directly to 8th-notes in the new pulse, not to quarters. Note that there is a slight elongation going into the third bar, to set up the proper swing feel.

Quarter = 180; quarter + 8th = new quarter (120)



Example E - Alternating quarters and 8ths into new quarter-note pulse

To return to the original tempo, play a pulse of *quarter-note triplets*. After you feel several of these go by, switch back to the old (faster) tempo.

The next example converts alternating half-notes and quarter-notes into new swing eighth-notes. To return, play a pulse of half-note triplets.

Quarter = 180; =

new quarter (60)



Example E1 - 4-note group in 3/4, becoming new quarter-notes w/ 3/4 groups

Exercise E - Using Alternating Pulses

Basic / / () Medium / / ()

**Basic*: Same as Basic for Exercise A; use alternating quarter-notes and eighth-notes then return to the original pulse.

**Medium*: Same as Basic; use alternating half-notes and quarter-notes then return to the original pulse.

F. New Pulse: Dotted Quarters in 3/4

The example below converts consecutive dotted quarter-notes in 3/4 time into a new quarter-note pulse. The new feel is slower (2/3 the original tempo). This switch is fairly easy to do because each dotted quarter-note is half a bar in 3/4 time.

Quarter = 180; dotted-quarter =

new quarter (120)



Example F - Dotted quarter-notes (3/4) into new quarter-note pulse

To return to the original tempo, play a pulse of *quarter-note triplets*. After you feel several of these go by, switch back to the old (faster) tempo.

Exercise F - Using Dotted-Quarter Pulses in 3/4

Basic / / ()

**Basic*: Same as Basic for Exercise A; use alternating quarter-notes and eighth-notes then return to the original pulse.

G. New Pulse: Each Note in a 4-Note Bracket, in 3/4

The 3/4 example below converts a 4-note group into a new quarter-note pulse. The new feel is faster (4/3 the original tempo).

Quarter = 120; bracket quarter =

new quarter (160)



Example G - 4-note group in 3/4, becoming new swing quarter-notes

To return to the original tempo, play a pulse of *dotted quarter-notes*. After you feel several of these go by, switch back to the old (faster) tempo.

Exercise G - Using a 4-Note Bracket Pulse in 3/4

Basic / / ()

**Basic*: Same as Basic for Exercise A; use 4-note brackets in 3/4 then return to the original pulse.

Practicing Rhythmic Pulse Shifts

H. Practice Method

Shifting a rhythmic pulse can be tricky. Here's a practice method you can use to strengthen your rhythmic pulse skills: The idea is to sing a simple melody, switch to a new rhythm pulse, and switch back to the old rhythm pulse. Here are the steps:

- 1 Choose a simple tune with mostly quarter-notes, such as "Yankee Doodle," "Twinkle, Twinkle, Little Star," or "Ode to Joy."
- 2 Choose a new rhythm pulse to use for the tune.
- 3 Sing the first few bars of the tune in a *somewhat slow* tempo.
- 4 At a selected spot, start imagining each note as the new rhythm pulse.
- 5 Convert the new rhythm pulses into quarter-notes.
- 6 Continue singing the new quarter-notes for a while.
- 7 At a selected spot, imagine the inverse fraction as a rhythm pulse for returning to the old tempo.
- 8 Convert the return rhythm pulse into the old quarter-note pulse.
- 9 Continue singing the old quarter-note pulses.

As an example, here's how to convert "Yankee Doodle" to dotted quarter-note pulses and back. Notice the repeated notes on the triplet pulses; that variation helps you visualize the triplet groups.

C C D E | C E D G |

Hum quarter-notes

C C D E | C - B G |

Hum dotted quarters (same as slower quarter-notes)

C C D E | F E D C |

Keep humming the new slower quarter-notes

(6/4) B B G A A B | C - C - |

Hum quarter-note triplets (same as the old faster quarter-notes)

As you think dotted quarters, subdivide them into 8th-notes (1-2-3, 1-2-3). Then subdivide the new quarter-notes as 1-2, 1-2. In the 6/4 bar, three quarter-note triplets are equal to a half-note (two quarter-notes) in the old pulse.

Exercise H - Practicing Shifts with Familiar Songs

Basic ___/___/___ () Medium ___/___/___ ()

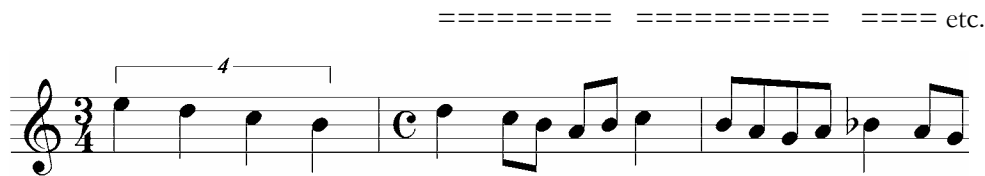
**Basic:* Select a song with a simple melody. Follow the steps above to convert the song into dotted-quarter pulses and back.

***Medium:* Using the same or a different song, follow the steps above and convert the song into another type of pulse, such as quarter-note triplets, eighth-note triplets, or dotted half-notes.

Additional Shifts

J. New Rhythms in the New Pulse

After you shift to a new pulse, you can play 3/4 rhythms instead of 4/4 rhythms, creating a 3-against-4 feeling in the new pulse. For example:



Example J - 4-note group in 3/4, becoming new quarter-notes w/ 3/4 groups

You can also play other rhythms in the new pulse to make the feeling more convincing. Just remember (and memorize) what the return pulse is so you can safely navigate back to the original pulse.

Group Shifts

You can shift into the new pulse by yourself, or all or part of your group can shift with you. Group shifts are easiest if the tune is modal (few or no chord changes) or a blues.

With more involved chord progressions, it's best if at least one player stays in the old tempo, for reference. Consider these approaches to shifting pulses:

- Only the soloist switches; the rest of the group follows the regular tempo and chords.
- Two people switch: soloist plus chords, soloist plus drums, or soloist plus bass. The other players keep a steady rhythm in the old pulse.
- Three people switch. Usually the bass will stay on the old pulse as a reference.
- Everyone changes. In this case, play the chords to fit the new pulse, then everyone returns at the end of a chorus. If the whole group does the shift, be sure everyone knows how to get back to the original meter.

Shifting smoothly to and from rhythmic feels requires concentration and practice but is definitely worth it.

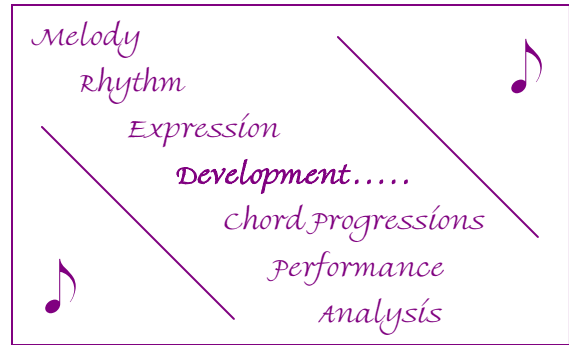
Chapter Review

- 1) To establish a new pulse, repeat the new rhythm pulse enough times until it feels like a new quarter-note pulse. Then subdivide the new pulse into eighth-notes and play off those rhythms.
- 2) Common examples of new pulses are:
 - A) Quarter-note triplets in 4/4 (faster)
 - B) Eighth-note triplets in 4/4 (much faster)
 - C) Dotted quarter-notes in 4/4 (slower)
 - D) Dotted half-notes (slower)
 - E) 4-note brackets in 3/4 (faster)
- 3) To return to the original pulse, use a return rhythm that's the inverse fraction of the new pulse.
- 4) After shifting the pulse you can play rhythms in 3/4, 5/4, or 7/4.
- 5) You can convert alternating rhythm pairs to swing 8ths, if the first note of the pair is twice as long as the second note.
- 6) The most common group shifts are soloist, soloist and one other, or two or three players. The bass player usually stays in the old pulse for reference.

5F: More Development Combinations

In this chapter you'll learn about:

- Sources for Motifs
- Variations
- Combinations and Examples



As an advanced improviser, you need to draw on many sources for ideas and then vary and combine those sources. This chapter gives you a fresh look at doing that. Motifs and variations can be played in any key, usually with any chord and in any style. You can also add expression and use melodic resolution between chords. If your playing is in a rut, spend time working on the concepts in this chapter and you'll see many new possibilities.

Sources for Motifs

Below are some ideas for creating motifs. They are listed with chapter numbers so you can spend time reviewing them before trying them. The faster you can identify and play them, the faster you can use them in your solos. And *as you play* one of these ideas, you should briefly *be aware of its name* so you can control and develop the technique you're using.

Melodic Source	Chapter	Rhythmic Source	Chapter
Flexible scales	1A	Consecutive offbeats, w/ returns	1D
Emphasizing color tones	1C	Triplets (quarter or eighth)	1D
Outer ranges	2B	Rhythmic combinations	1D
Flattened contours/chromatic	2B, 3A	3/4 rhythms in 4/4	2D
Offset contours	2B	3-note or 6-note contours	2D
Partial, complete, delayed fills	2B	Triplet contours of 2 or 4	2D
Embellishments	2E	4/4 rhythms in 3/4	2D
Non-harmonic tones	3A	4-note contours in 3/4	2D
Chord anticipation	3B	4-note brackets in 3/4	2D
Chord delay	3B	Double-time	4B
Dominant alterations	3K	Half-time	4B
Quotes (partial, full, or varied)	4D	Triple-time	4B
Riffs (single, 2-part, combined)	4D	Shifted triplets	5C
Tritone substitutions	4E	Burning	5D
Outside keys	5A	Wiggling	5D
Consecutive fourths	5A	5/4 rhythms in a 4/4 tune	5D
Augmented seconds	5A	Contour groups of 5	5D
Outside arpeggios	5A	Brackets of 5	5D
		7/4 rhythms in a 4/4 tune	5D
		Contour groups of 7	5D
		Brackets of 7	5D

Variations of Motifs

Melodic Variation	Chapter		
Expand intervals	2F	Offset patterns	3F
Shrink intervals	2F	Special effects	4C
Adding notes	2F	ii-V, V-I, ii-V-I chains	4F
Omitting notes	2F		
Inverting the contour	2F	Rhythmic Variation	Chapter
Diatonic sequences	3E	Augmenting rhythms	3H
Transposed sequence	3E	Compressing rhythms	3H
Semi-sequences	3E	Fragmenting	3H
Linking sequences	3E	Displacing	3H
Pulling patterns	3F	Slow-to-fast rhythms	5C
		Fast-to-slow rhythms	5C

Development Combinations

The columns below show various sources and variations discussed in this book. To get started, pick at least one source and one variation. For example, 6-E-7 could be a skip with a 3-note contour fill, then played again up a whole step. Or, 12-5-f could be a riff that gets inverted and gradually slowed down. Remember, you can use combinations of two, three, or four items from the columns below. At first, try combinations of two from any columns, then try three or four items. When you use a melodic or rhythmic variation, it comes on the repetition of the motif. There are thousands of possible combinations, but some combinations are more effective than others. Experiment with them and see which are “golden” for you.

Melody Source	Rhythm Source	Melodic Variation	Rhythmic Variation
1) Flexible scales	A) Consec. offbeats	1) Expand intervals	a) Aug. rhythm
2) Color tones	B) Triplets	2) Shrink intervals	b) Compressing rhythm
3) Outer ranges	C) Rhythmic comb.	3) Add notes	c) Fragmenting
4) Flat contour/	D) 3/4 rhythms in 4/4	4) Omit notes	d) Displacing
5) Offset contour	E) 3- or 6-note contours	5) Invert the contour	e) Slow-to-fast rhythms
6) Skips / Fills	F) Triplet contours, 2, 4	6) Retrograde	f) Fast-to-slow rhythms
7) Embellishments	G) 4/4 rhythms in 3/4	7) Diatonic sequence	
8) Non-harmonic tones	H) 4-note contours, 3/4	8) Transposed sequence	
9) Chord anticipation	I) 4-note brackets, 3/4	9) Semi-sequence	
10) Chord delay	J) Double-time	10) Linking sequence	
11) Riffs	K) Half-time	11) Pulling pattern	
12) Tritone subst	L) Triple-time	12) Offset pattern	
13) Outside keys	M) Shifted triplets	13) Special effects	
14) Consec. 4ths	N) 5/4 rhythms	14) ii-V chain	
15) Aug. seconds	O) Contour groups of 5	15) V-I chain	
16) Outside arpeg.	P) Brackets of 5	16) ii-V-I chain	
	Q) 7/4 rhythms	17) Chord Delay	
	R) Contour groups of 7		
	S) Brackets of 7		

5G: Free Improvisation

In this chapter you'll learn about:

- About Free Improvisation
- Degrees of "Free"
- Free Melody and Harmony
- Free Rhythm
- Free Jazz

Free improvisation is an interesting paradox. It sounds like you play whatever you want, but there's actually some rhyme and reason to it, as this chapter explains. Famous free jazz soloists include Ornette Coleman, Cecil Taylor, John Coltrane, and Dave Liebman.

About Free Improvisation

Wherever there's freedom there's also responsibility. Free jazz is a challenging experience for both the player and the listener. Instead of familiar keys, chord progressions, melodies, and rhythm backgrounds, there's a new focus to the music: it goes in different directions with many new possibilities.

Two important principles in approaching free improvisation are these:

- Freedom can be used in many degrees, in your solos and in your group (see *Degrees of Freedom* below).
- Freedom doesn't mean getting rid of musical elements like melody, chords, and rhythm; it means approaching them in a less structured or less traditional way.

Degrees of "Free"

Free improvisation isn't necessarily all "free"; there are many degrees of freedom within a solo or in the way a group handles a tune. Here are some possibilities:

- The soloist improvises freely while the rhythm section stays traditional.
- One or more rhythm section players drift into free accompaniment behind a solo.
- The entire group goes free for a short while. This can be done at the beginning or end of a tune, or in response to a free-sounding solo (usually followed by a transition back into the regular tune).
- All the group plays free for all or most of a tune.

You can mingle these degrees of freedom in your tunes to loosen things up a bit. Be sure to use the concepts in Chapter 4A: *Soundscape*s to give your free improvisation a sense of direction and intensity.

Using Themes

To begin experimenting with free improvisation, you can select *themes* to improvise on. Themes help you start and focus your improvisation, but they are better as a practice technique than as a performance means (unless you're doing a music workshop).

Examples of themes include emotions (joy, anger, worry, etc.) or visual pictures (places, people, things, etc.). To practice themes,

- 1 Select a theme to use in free improvisation.
- 2 Have everyone in the group concentrate on the theme for a few seconds before playing.
(Focus on the mood or picture of the theme, not on the specific notes you're going to play.)
- 3 Begin playing, and listen carefully to how the music evolves. There may or may not be a common key.

As you practice themes, make it an exercise in creative teamwork. Don't control the music too tightly; keep the interplay and communication flowing.

Group Interaction

Free improvisation often blurs the harmonic and rhythmic structure of music, but it also highlights interaction and development. Your group needs to handle interaction situations quickly and effectively, including choices of when and how much to imitate or support main ideas. The better your group handles these situations, the better your free improvisation is likely to be. For more ideas on interaction, see Chapter 4J: *Group Interaction*.

Free Melody and Harmony

So how do you keep a free melody interesting, instead of sounding like it's going nowhere fast? Although a free melody doesn't cling to a key, it still uses strong melodic elements as discussed below.

Playing Free Melodies

A tune has a free-sounding melodies when you

- Play outside (see Chapters 5A and 5B), including angular lines.
- Use rhythmic freedom in the melody (Chapters 5C and 5D).
- Use wide, unfilled intervals in melody lines.
- In most cases, avoid outlining traditional chords and progressions (see *Playing Free Harmonies* below).
- Use expression.
- Use unusual sounds and special effects (Chapter 4C).
- Use principles of melodic development.

Playing Free Harmonies

A tune has free-sounding harmonies when you

- Avoid traditional chord progressions (such as ii-V-I's) and home keys.
- Use multiple keys at once (polytonal chords)

A useful technique for free harmonies is to have a pedal (usually a bass pedal or left hand in the keyboard) behind the changing chords. As you play free-sounding melodies and harmony, the bass and drums can keep steady time, or they can use free rhythms as explained below.

Free Rhythm

The simplest free rhythm is “no rhythm,” such as a long rest, or a long or randomly repeated note or chord. In addition to that, here are some suggestions for playing free rhythms:

- Use techniques of rhythmic freedom (see Chapters 5C and 5D).
- Don't emphasize downbeats, time, or tempo.
- Start with simple rhythms placed unexpectedly.
- Mix percussive attacks with longer notes.
- Use principles of rhythmic development.

Near the end of the tune “Beat the Rats” on the BRIDJJ CD, the drums play free fills while the rest of rhythm section keeps playing structured time (4/4 + 5/4).

Free Jazz

When you combine free melody, free harmony, and free rhythm, you get free jazz. Remember that free jazz can be very demanding for listeners, so be sure your audience is ready for the experience. And in free jazz, group interaction is still very important, so listen carefully to how ideas are evolving in your group.

At college, I used to practice free improvisation with a quintet. We would close our eyes and play whatever we heard. Often we would spontaneously line up harmonies and develop counterpoint on the fly. It was a great exercise in listening and real-time composing.

By the way ... be careful about advertising a “free jazz” concert; some people may show up expecting to get in for free.

Chapter Review

- 1) Free jazz is built on the traditional elements of improvisation, such as melody, rhythm, expression, development, and chords.
- 2) There are many degrees of freedom in free jazz, from slight to extreme.
- 3) Group interaction is important in free jazz, but the interaction is usually looser and more varied.
- 4) In free jazz you need to know what to avoid (traditional chord movements, resting pitches and rhythms, etc.) as well as what to emphasize (non-harmonic tones, rhythmic freedom, outside playing, strong effects, etc.).

Expressions

*Nothing is more terrible than activity without insight. *Thomas Carlyle*

*All poetry [is] putting the infinite within the finite. *Robert Browning*

*Chance is always powerful. -- Let your hook be always cast; in the pool where you least expect it, there will be a fish. *Ovid*

*Talents are best nurtured in solitude; character is best formed in the stormy billows of the world. *Goethe*

*You cannot dream yourself into a character; you must hammer and forge one for yourself. *Froude*

*It is by attempting to reach the top at a single leap, that so much misery is caused in the world. *Cobbett*

*Ambition is like love, impatient both of delays and rivals. *Denham*

*Applause is the spur of noble minds; the end and aim of weak ones. *Colton*

*A little learning is a dangerous thing; Drink deep, or taste not the Picerian spring; There shallow draughts intoxicate the brain, And drinking largely sobers us again. *Alexander Pope*

*A peacock has too little in its head and too much in its tail. *Swedish Proverb*

*Ah, but a man's reach should exceed his grasp, or what's a heaven for? *Robert Browning*

*I light my candle from their torches. *Robert Burton*

*I am a great believer in luck. The harder I work the more of it I seem to have. *Coleman Cox*

*I have a friend who's a weather forecaster. He bases his forecasts on reports cabled him by experts in all parts of the world. And he's a rotten forecaster -- because he never looks out the window. *Dr. Harvey Cushing*

*Neither human applause nor human censure is to be taken as the test of truth; but either should set us upon testing ourselves. *Whately*

*He has occasional flashes of silence that made his conversation perfectly delightful. *Sydney Smith of Macaulay*

*His imagination resembles the wings of an ostrich. *Thomas Babington Macaulay of Dryden*

*A journey of a thousand miles must begin with a single step. *Lao Tse*

*Trust, not tricks, will keep customers loyal. *Author Unknown*

*Failure is more frequently from want of energy than from the want of capital. *Daniel Webster*

*Bad artists always admire each other's work. *Oscar Wilde*

*Don't talk unless you can improve the silence. *Vermont Proverb*

*Never put that which matters most at the mercy of that which matters least. *Montaigne*

*Solitude is as needful to the imagination as society is wholesome for the character. *James Russell Lowell*

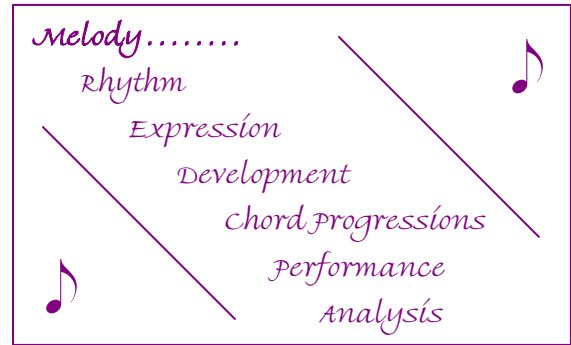
*Only a mediocre person is always at his best. *W. Somerset Maugham*

*Ever building to the clouds, and never reflecting that the poor narrow basis cannot sustain the giddy, tottering column. *Schiller*

5H: The Matrix

In this chapter you'll learn:

- About The Matrix
- Symmetrical Sequencing
- Construction and Movement
- Integrating The Matrix



The basic challenges of playing outside are: 1) coming up with interesting ideas that go outside the key, and 2) organizing those ideas so they have strong relationships to each other. This chapter will help you achieve those goals.

About The Matrix

The Matrix © is a system developed by Rich Dixon, guitarist for BRIJJ. It provides an effective way to meet the two goals of outside playing stated above. The Matrix uses symmetrical sequencing, described below, to help you create a world of “controlled atonality.” By nature, the Matrix is a high-energy approach to melody, moving quickly through keys while keeping strong interval and harmonic relationships. When you combine The Matrix with other improvisation concepts (see *Integrating the Matrix* later in this chapter) you can lead the listener inside and outside the key, with smooth and effective ideas.

You can listen to Rich’s solos that use concepts from The Matrix. They are MP3 guitar solos in the BRIJJ Solos folder on the CD.

In the future Rich plans to publish an entire method describing The Matrix in detail. This chapter is a brief look at the basics of The Matrix, courtesy of Rich.

What You Need to Know

To understand and use The Matrix you should be comfortable with the concepts in the topics listed below. If you’re not, you should review them before you continue with this chapter.

- Transposed Sequences Chapter 3E
- Whole-Tone Scales Chapter 3K
- Diminished Chords and Scales Chapter 3K
- Outside Notes and Keys Chapter 5A
- Sequencing & Developing Outside Ideas Chapter 5B

Remember that it definitely takes a while to master The Matrix. (Rich is still working on it!) At first you may need to rework the same patterns and ideas repeatedly until they are comfortable. In time you’ll expand the number of ideas you can play, as well as develop and vary them “in flight” – a very rewarding experience! As Rich describes it, it’s a “melodic and harmonic roller-coaster ride.”

Symmetrical Sequencing

The Matrix is built on the idea of “symmetrical sequencing,” which divides the chromatic scale into equal parts. You have already learned some of the basics of symmetrical sequencing in this book, as listed in the chapters above.

The basic types of symmetrical scale divisions are diminished and augmented. Each of these is described below. As you see and learn these divisions, think of them as ways to visualize the chromatic scale and ways you can organize your approach.

A. Diminished Scale Divisions

The diminished version divides the scale into halves (at the #4) then into equal quarters (outlining the diminished 7 chord) as shown below.

-----|-----
C C# D Eb E F F# G Ab A Bb B C

Example A - Diminished division: chromatic scale into half, at the #4

-----|-----|-----|-----
C C# D Eb E F F# G Ab A Bb B C

Example A1 - Diminished division: chromatic scale into quarters (diminished 7 arpeggio)

The diminished scales you learned earlier (diminished-1 and diminished whole-tone) are good choices for soloing in this context.

Exercise A – Creating Diminished Scale Divisions

Basic ___/___/___ ()

**Basic:* Using the information above as a guide, create diminished scale divisions for the other diminished-1 scale that begins on C# (Db).

B. Augmented Scale Divisions

The augmented version divides the scale into thirds (augmented triad) and then into sixths (whole-tone intervals):

-----|-----
C C# D Eb E F F# G Ab A Bb B C

Example B - Augmented division: chromatic scale into half, at the #4

-----|-----|-----
C C# D Eb E F F# G Ab A Bb B C

Example B1 - Augmented division: chromatic scale into thirds (augmented arpeggio)

The whole-tone scale you learned earlier is a good choice for soloing in this context.

You can also divide the scale into half and then sixths, creating a whole-tone set, but this lacks the diminished or augmented sense that the other scale divisions have.

Exercise B – Creating Augmented Scale Divisions

Basic ___/___/___ ()

**Basic:* Using the information above as a guide, create augmented scale divisions for the other whole-tone scale that begins on C# (Db).

Construction and Movement

With symmetrical sequencing in mind, you can now focus on the two major activities of the Matrix:

- Building a component motif
- Moving (transposing) the component motif

Keep these important points in mind: The Matrix *builds* components via *diminished* scale divisions. It *moves* them via *augmented* scale divisions. The different use of scale divisions between building and moving provides contrast and fuels interesting ideas in The Matrix.

C. Building the Components

As explained earlier, the diminished scale division produces the diminished-1 scale. This is what The Matrix uses to build components. The intervals in this scale that *don't* belong to the augmented scale division are the b3 and 4th. (The #4 belongs to both scales.) With The Matrix, you build components that are based mostly on b3's and 4ths.

In a C diminished-1 scale (C Db Eb E F# G A Bb B), there are many intervals of b3's and 4ths:

b3's: C to Eb, Db to E, E to G, F# to A, G to Bb, A to C, Bb to Db (every pair that skips one note)

4ths: Db to F#, E to A, G to C, Bb to Eb (both notes in the scale)

4ths: C to F, Eb to Ab, F# to B, and A to D (only the bottom note of each pair is in the scale)

Sample Components

You can experiment with the above intervals and mix them to create Matrix components. Here are the basic ways to get combinations:

- Use any one interval in the examples above (b3 or 4th) to create a 2-note component.
- Create a 3-note component by attaching a different interval at the end, such as m3 joined to a 4th, 5th ,or M2; or a 4th joined to a m3 or M2. The attached note may be outside the diminished scale. It's helpful if the second interval starts somewhat close to the end of the first interval.
- Combine two intervals (b3 and 4th) to get a 4-note motif.
- Reverse the contours of some parts of the components.

Here are some sample Matrix components using the C diminished-1 scale:



Example C - 2-note; m3



Example C1 - 2-note; 4th



Example C2 - 3-note; m3+5th



Example C3 - 3-note; 4th+M2



Example C4 - 4-note; 4th and m3



Example C5 - 4-note; m3 and 4th



Example C6 - 4-note; second interval reversed



Example C7 - 4-note; second interval reversed

Exercise C – Creating Matrix Components

Basic ___/___/___ () Medium ___/___/___ ()

**Basic*: Using the information above as a guide, create several new 2-note, 3-note, and 4-note components.

**Medium*: Transpose your new components to the 6 easier keys and practice them.

D. Moving the Components

With The Matrix, you move the component motifs by intervals found in the *augmented* scale division:

- Whole-step
- Major 3rd

It takes a while to get used to *moving* the components by using different intervals than they were *built* with, but that's what makes the Matrix! To get the hang of moving components,

1. Visualize the component clearly (SHAPE) in your mind to build it.
2. Quickly chose a movement (whole-step or major 3rd), up or down.

Sample Matrix Movements

The examples below show some of the many ways you can move Matrix components to create interesting melodies. Try them as written and then transpose them to different keys for extra practice. Vary the rhythms and contours as you like.



Example D - 2-note (4th) by whole-step



Example D1 - 2-note (m3) by major 3rd



Example D2 - 3-note (m3+5th) by whole-step



Example D3 - 3-note (4th+m3) by major 3rd



Example D4 - 4-note by whole step



Example D5 - 4-note by major 3rd



Example D6 - 4-note reversed, by whole-step



Example D7 - 4-note reversed, by major 3rd

Exercise D – Matrix in Motion

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic*: Choose a 2-note Matrix component and move it by whole-steps.

**Medium*: Choose a 3-note Matrix component and move it by major thirds.

**Challenge*: Choose a 4-note Matrix component where 2 notes are reversed, and move it by major thirds.

Combining Matrix Movements

In a longer phrase, you can combine different movements of Matrix components. This gives you a lot of freedom in creating outside melodies. For examples of longer Matrix lines, listen to Rich's guitar solos in the MP3 Solos folder on the CD, for tunes titled The Matrix (1:38-1:43) and Toasted Oafs (1:49-1:53).

Integrating the Matrix

The Matrix is a system that fits with other tools of improvisation. When you integrate Matrix melodies smoothly into your solos, your audience gets the best of the inside and outside worlds. The key integration methods are these:

- Use variation and development within Matrix melodies for extra interest.
- Use solid transitions in and out of The Matrix for strong context.

These techniques are described below.

E. Variations and Development

With a Matrix melody or pattern, there is room for variation, development, and expression. This adds more interest and helps the Matrix melody fit into your scheme of rhythms and development in the solo.

Here are a few of the techniques you can use:

- Rhythmic variations – introduce triplets, dotted quarters, etc. into the melodies
- 3 against 4 – use 3/4 rhythms or contours of 3 or 6
- Offset contours – start the patterns an 8th-note earlier or later
- Transpose one or more components up or down
- Use rhythmic development ideas such as augmentation, fragmentation, and displacement

Exercise E – Matrix Variations

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Choose a 4-note Matrix component, move it by major thirds, and vary the rhythms.

**Medium:* Same as Basic; use one of the other techniques listed above.

**Challenge:* Same as Basic; use two of the other techniques listed above.

F. Transitions

Getting in and out of Matrix phrases smoothly helps you use the concept more effectively. Here are some suggestions for good transitions with The Matrix:

1. Use the ending note of a “normal phrase” as the starting note of a Matrix component.
2. At certain spots within a Matrix phrase, linger in the current key a while. Then jump back into building Matrix components for your melody.
3. Return to the original key strongly, such as with a blues motif in minor or dominant, or arpeggios and color tones in the home key.

Exercise F – Matrix Transitions

Basic ___/___/___ () Medium ___/___/___ () Challenge ___/___/___ ()

**Basic:* Use suggestion #1 above.

**Medium:* Use suggestion #3 above.

**Challenge:* Use suggestion #2 above.

Chapter Review

- 1) The Matrix is a system for creating outside melody, a sort of “controlled atonality.”
- 2) Symmetrical sequencing divides the chromatic scale into diminished or augmented portions.
- 3) A diminished scale division starts with halves (C to F#, F# to C) then continues with quarters, based on minor 3rds (C to Eb, Eb to F#, F# to A, A to C).
- 4) An augmented scale division starts with halves (C to F#, F# to C) then continues with thirds, based on major 3rds (C to E, E to G#, G# to C).
- 5) The Matrix builds components via diminished scale divisions (m3 and 4th) and moves components with augmented scale divisions (whole-step and major 3).
- 6) You can combine Matrix movements in longer phrases to create interesting outside melodies.
- 7) To integrate Matrix melodies into your solos:
 - A) Vary and develop them.
 - B) Use effective transitions into and out of The Matrix.