

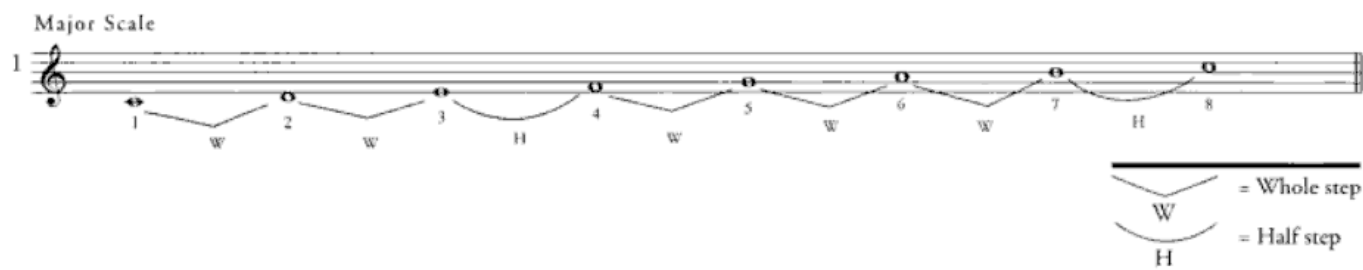
CHAPTER 1 YOUR BASIC TOOLBOX

SCALES

The first thing we'll pull out of our toolbox is *scales*. Most scales in Western music are made up of a specific pattern of *half steps* and *whole steps*. A half step is the shortest distance between two notes. Two half steps make a whole step.

Major Scales

The *major scale*, shown here in the key of C, has the following pattern of half and whole steps. Notice the numbers underneath; these are *degrees*, which show each note's position within the scale.



A NOTE ABOUT FINGERING SCALES

Before you actually begin to play the major scales on page 9, it's worth taking a moment to develop some strategies for fingering. Most effective scale fingerings are based on a few basic principles that can be applied to virtually any scale.

- Most traditional scale fingerings are based on the principle of efficiency—that is, minimizing unnecessary motion such as excessive finger crossing. If you cross over (or under) every two notes, you're probably not using the most effective fingering; if you find yourself running out of fingers, you're probably not crossing often enough.
- Avoid using your thumb on black keys. Finger crossing almost always involves the thumb, and if the thumb avoids black keys, the chances of getting tangled are greatly lessened. Most standard fingerings, especially for scales with many black keys, ensure that the thumb always lands on a white key.
- When playing scales, use your 5th finger only on the first note (left hand) or last note (right hand) of the scale. Crossing to or from the 5th finger will land you in an awkward position.
- Look ahead as you play and watch for signposts that suggest fingering strategies. Take note, for example, of how many notes are left in the passage, or how many black keys come before the next white key. Observations like these will help you determine what you need to do to avoid running out of fingers or crossing too often.
- Similar scales often have similar fingerings. Unless it involves a violation of the previous guidelines, you can often apply the fingering for one scale to a different scale that begins on the same note. If you know the fingering for the C Major scale, for example, you can use it for most other seven-note scales that begin on C.

The main principle to keep in mind when it comes to fingering is that using the correct fingers for the job at hand will give you the best results. At the same time, it's important that you stay alert to the unique fingering demands of certain situations. For instance, when scales are used in an improvisation or in the context of a melody, traditional scale fingerings may have to be adjusted accordingly.

Below are all 12 major scales, including their traditional fingerings. Right-hand fingerings are shown above the staff; left-hand fingerings are shown below the staff. Notice that in some instances, two different finger numbers are shown for the same note. Use the number closer to the staff for endings or beginnings of scales, and the other number for scales that continue beyond one octave.

R.H. = Right Hand
 L.H. = Left Hand

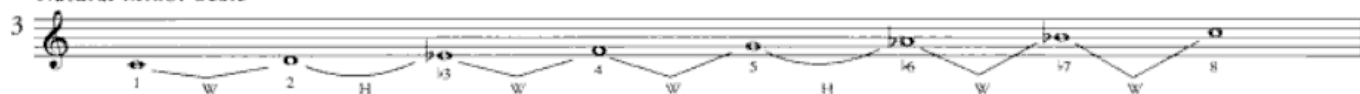
<p>C Major (no accidentals)</p>	<p>G Major (one sharp)</p>
<p>D Major (two sharps)</p>	<p>A Major (three sharps)</p>
<p>E Major (four sharps)</p>	<p>B Major (five sharps)</p>
<p>G^b Major (six flats)</p>	<p>D^b Major (five flats)</p>
<p>A^b Major (four flats)</p>	<p>E^b Major (three flats)</p>
<p>B^b Major (two flats)</p>	<p>F Major (one flat)</p>

Other scales and keys can be used when *enharmonic equivalents* are employed. An enharmonic equivalent is a note that has a different name but sounds the same. For example, the enharmonic equivalent of G^b is F[#]. So, there can be a key of F[#] which has six sharps (F[#], C[#], G[#], D[#], A[#], E[#]). Also, the key of B could be enharmonically respelled as C^b (seven flats: B^b, E^b, A^b, D^b, G^b, C^b, F^b).

Minor Scales

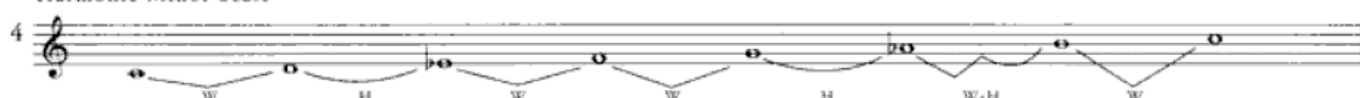
Minor scale is actually a general reference to several different scale forms. The most basic form of the minor scale is the *natural minor*, which you can think of as a major scale with a lowered 3rd ($\flat 3$), lowered 6th ($\flat 6$) and lowered 7th ($\flat 7$).

Natural Minor Scale



You can think of the *harmonic minor* scale as a major scale with $\flat 3$ and $\flat 6$. As the name implies, harmonic minor has traditionally been the form of the minor scale from which harmonies are most often derived, though it's also used in melodic contexts.

Harmonic Minor Scale



The *melodic minor* scale uses one form when ascending and another when descending. In its ascending form, you can think of melodic minor as a major scale with a $\flat 3$. In its descending form, melodic minor is the same as natural minor ($\flat 3$, $\flat 6$ and $\flat 7$). When only the ascending form is used, the scale is often called the *jazz minor* scale.

Melodic Minor Scale



Pentatonic Scales

A *pentatonic scale* is any scale made up of five different notes. Two forms of pentatonic are especially common in jazz. In relation to the major, the *major pentatonic* scale is made up of scale degrees 1, 2, 3, 5 and 6. You can also think of this scale as a major scale with scale degrees 4 and 7 omitted.

C Major

C Major Pentatonic



The *minor pentatonic* scale is made up of scale degrees 1, $\flat 3$, 4, 5 and $\flat 7$. It can also be thought of as a natural minor scale with scale degrees 2 and 6 omitted.

C Natural Minor

C Minor Pentatonic



Blues Scale

In relation to the major scale, the blues scale is made up of scale degrees 1, $\flat 3$, 4, $\flat 5$, 5 and $\flat 7$. You can also think of the blues scale as a minor pentatonic scale with the addition of $\flat 5$.

C Blues



Scale Variations

A number of scales have “alternate” versions that can add color and interest to your improvisations.

Example 9 shows two common scale variations.

9

C Minor Pentatonic (Alternate Version) C Blues (Alternate Version)

INTERVALS

An *interval* is the measure of distance between two notes. The most basic building blocks for intervals are half steps and whole steps. The intervals we use also have more specific names.

The *class* of an interval is first defined by its size, using a numerical name. For example, to determine the interval class of D up to G, count all the different note names between those two notes (ignoring for now whether they are natural, sharp or flat). In this case, you have D, E, F and G. That's four, so you have some kind of 4th.

The interval's name is then refined by giving it a *quality*: major, minor, perfect, augmented or diminished. The chart below shows the most basic intervals. In addition, any perfect or major interval can be made augmented by making it a half step larger. Any perfect or minor interval can be made diminished by making it a half step smaller. The numerical name can be altered with an accidental to indicate the quality. For example, in C, the second note of the major scale is D, (a major 2nd), which can also be called “2”. D^b, a minor second above C, can be called ^b2 (“flat two”); D[#], an augmented 2nd above C, can be called [#]2 (“sharp two”).

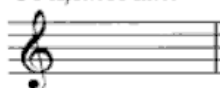
For each of the intervals below, you're given five pieces of information: the numerical name, the “formal” name, the abbreviation of that name, the size in half steps and an example beginning on the note C.

NUMERICAL NAME	INTERVAL NAME	ABBREVIATED NAME	NUMBER OF HALF STEPS	INTERVALS ABOVE MIDDLE C
1	Perfect Unison	PerU	0	
^b 2	minor 2nd	min2	1	
2	Major 2nd	Maj2	2	
^b 3	minor 3rd	min3	3	
3	Major 3rd	Maj3	4	
4	Perfect 4th	Per4	5	
[#] 4/ ^b 5 (tritone)	Augmented 4th diminished 5th	Aug4/dim5	6	
5	Perfect 5th	Per5	7	
[#] 5/ ^b 6	Augmented 5th minor 6th	Aug5/min6	8	
6	Major 6th	Maj6	9	
^b 7	minor 7th	min7	10	
7	Major 7th	Maj7	11	
8	Perfect Octave	Per8	12	

KEY SIGNATURES

As you know, the major scale always has the same pattern of whole steps and half steps: W-W-H-W-W-W-H. That's why the major scale always has a certain sound no matter what key it's in. Key signatures tell us which notes in a key have to be raised (with sharps) or lowered (with flats) to retain that sound. These sharps and flats are applied in every octave as long as the key signature is there (and no other accidental, such as a natural sign \natural , has been applied). Sometimes a scale or piece will be minor, not major. If we use the minor key with the same key signature as a major key, we call that the *relative minor*. The relative minor can be found by playing a scale beginning from the 6th degree of its *relative major* scale. For example, if we play a C Major scale starting and ending on A, the 6th degree, we will have A Minor.

C Major/A Minor



G Major/E Minor



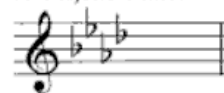
E Major/C# Minor



F Major/D Minor



A# Major/F Minor



D Major/B Minor



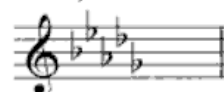
B Major/G# Minor



Bb Major/G Minor



D# Major/Bb Minor



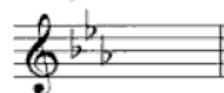
A Major/F# Minor



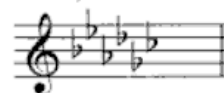
F# Major/D# Minor



Eb Major/C Minor

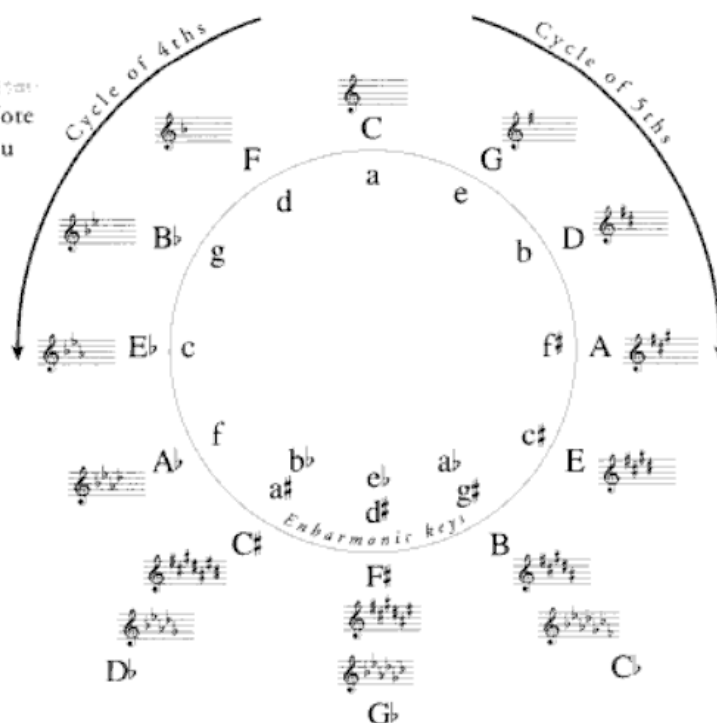


G# Major/Eb Minor



CYCLE OF 5THS

Take a look at the key signatures above. Note that with the sharp keys, every time you move up a 5th, you add a sharp. With the flat keys, every time you move up a 5th, you subtract a flat. This brings us to the *cycle of 5ths*, (the cycle of 4ths if you're moving counterclockwise) or, for the visually inclined, the *circle of 5ths* (or 4ths). This cycle organizes key signatures (or tones) in 5ths. Each key is similar to the key next to it on the circle, with a difference of only one sharp or flat. Major keys are on the outside, minor keys are on the inside.



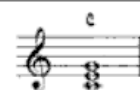
TRIADS

Triads are three-note chords. There are four kinds of triads: *major*, *minor*, *augmented* and *diminished*. A triad can be built by using every other note of the first five notes of the major scale. For example, starting on C and selecting every other note of the C Major scale will yield C, E and G—a *C Major triad*. Starting from the lowest note (C) and going up, these notes are called the *root*, *3rd* and *5th* of the chord.

C Major Scale
C Major Triad

You can also build triads by adding intervals above a root (1). The following examples show how to build the four kinds of triads with this method. The numerical names of the notes in each triad are shown to the right of the music. The numbers can be thought of as the formula for that type of triad.

To build any major triad, we use the note a major 3rd above the root (3) and the note a perfect 5th above the root (5).



To build a *minor triad*, we lower the 3rd of a major triad (with a flat or a natural sign), leaving the root and 5th the same. This results in a minor 3rd ($\flat 3$) and a perfect 5th (5).



To build a *diminished triad*, we lower the 5th of a minor triad, resulting in a minor 3rd ($\flat 3$) and a diminished 5th ($\flat 5$).



To build an *augmented triad*, we raise the 5th of a major triad (using a sharp or a natural sign), resulting in a major 3rd and an augmented 5th ($\sharp 5$).



This chart shows the abbreviated symbols you may encounter to notate each type of chord. The first symbol listed for each chord is the one that will be used in this book.

TRIAD	POSSIBLE SYMBOLS IN C	FORMULA
Major	C, CMaj, CM, C Δ	1, 3, 5
Minor	Cmin, Cmi, Cm, C-	1, $\flat 3$, 5
Diminished	Cdim, C $^\circ$	1, $\flat 3$, $\flat 5$
Augmented	CAug, C+	1, 3, $\sharp 5$

FOUR-NOTE CHORDS: 7TH AND 6TH CHORDS

While triads are the building blocks of most harmony in the Western world, jazz musicians usually add notes to them, such as 7ths and 6ths, to create other chords. All of the four-note chords below are made by adding a note on top of an existing triad. From the bottom up, the four notes in these chords are called the root, 3rd, 5th and 7th (or 6th, as the case may be).

The *major 7th* chord is made by adding a major 7th above the root of a major triad. It can also be thought of as adding a major 3rd above the 5th of a major triad. The formula is 1, 3, 5, 7.



The *dominant 7th* chord is made by adding a minor 7th above the root of a major triad. It can also be thought of as adding a minor 3rd above the 5th of a major triad. The formula is 1, 3, 5, $\flat 7$.



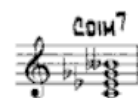
The *minor 7th* chord is made by adding a minor 7th above the root of a minor triad. It can also be thought of as adding a minor 3rd above the 5th of a minor triad. The formula is 1, $\flat 3$, 5, $\flat 7$.



The *minor 7 flat 5* (or "half-diminished") chord is made by adding a minor 7th above the root of a diminished triad. It can also be thought of as adding a major 3rd above the $\flat 5$ of a diminished triad. The name "half-diminished" means that the 5th is diminished, but not the 7th (as opposed to the "fully diminished" chord below). The formula is 1, $\flat 3$, $\flat 5$, $\flat 7$.



The *diminished 7th* chord is made by adding a diminished 7th above the root of a diminished triad. It can also be thought of as adding a minor 3rd above the $\flat 5$ of a diminished triad. The diminished 7th on top is enharmonically equivalent to a major 6th. The formula is 1, $\flat 3$, $\flat 5$, $\flat \flat 7$.



The *major 6th* chord is made by adding a major 6th above the root of a major triad. It can also be thought of as adding a major 2nd above the 5th of a major triad. The formula is 1, 3, 5, 6.



The *minor 6th* chord is made by adding a major 6th above the root of a minor triad. It can also be thought of as adding a major 2nd above the 5th of a minor triad. The formula is 1, $\flat 3$, 5, 6.



The chart below shows the common symbols used for the different types of 7th and 6th chords. As with triads, the first symbol listed for each chord is the one that will be used for the rest of this book.

TRIAD	POSSIBLE SYMBOLS IN C	FORMULA
Major 7	CMaj7, CM7, C Δ 7	1, 3, 5, 7
Major 6	C6, CMaj6, CM6, C Δ 6	1, 3, 5, 6
Dominant 7	C7	1, 3, 5, $\flat 7$
Minor 7	Cmin7, Cmi7, CM7, C-7	1, $\flat 3$, 5, $\flat 7$
Minor 6	Cmin6, Cmi6, CM6, C-6	1, $\flat 3$, 5, 6
Minor 7 $\flat 5$	Cmin7 $\flat 5$, C \sharp , CM7 $\flat 5$, CM7 $\flat 5$, C-7 $\flat 5$	1, $\flat 3$, $\flat 5$, $\flat 7$
Diminished 7	Cdim7, C \circ	1, $\flat 3$, $\flat 5$, $\flat \flat 7$

VOICINGS AND INVERSIONS

Voicings

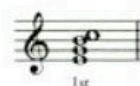
A *voicing* is the specific arrangement of notes in a chord. Any chord can be voiced in multiple ways; for example, we can *double* (repeat), add or omit notes. We can choose the order in which to play the notes, where on the keyboard to play the notes, how to get from one chord to the next and so on. When you hear players say “that pianist has great voicings,” or “I’m working on Bill Evans and McCoy Tyner voicings,” that is what they are talking about.

Inversions

The first step on the road to masterful voicings is the mastery of chord *inversions*. As an example, let’s look at a C Major 7th (CMaj7) chord. In its “natural state,” with the root on the bottom, it is said to be in *root position*.



If we play the same chord with the 3rd on the bottom, it is in *1st inversion*.



If we play the same chord with the 5th on the bottom, it is in *2nd inversion*.



If we play the same chord with the 7th on the bottom, it is in *3rd inversion*.



Which note you play on the bottom also impacts which note will wind up on top. In a jazz context, we use the top note at least as often as the bottom note in deciding which inversion to use in a given situation. To take it one step further, we can use the concept of inversion as a voicing tool, even with root position chords. If we want to retain the sound of the root on the bottom, but want the flexibility of a different inversion, we can play the inversion of our choice with the right hand and lay down the root underneath with the left hand. In a group setting, we can play the inversion of our choice with either hand and let the bassist play the root.



Root position with 2nd inversion in the right hand.

DIATONIC HARMONY

Diatonic Harmony in Major Keys

Diatonic means “of the scale,” so the most basic definition of *diatonic harmony* is the chords built from a particular scale. While diatonic harmony itself isn’t an improvisational tool, any jazz improviser must be able to identify the keys to which the chords in a tune relate, and how those chords function in those keys. One way to build these chords is to stack 3rds on each degree of the scale. In the case of 6th chords, you simply add a 6th above the root. (Note that in improvisational situations, 6th chords are often used in place of Maj7 chords.) Below are the diatonic 7th chords in the key of C. Note the use of Roman numerals under the music. They are discussed below.

11

CMaj7 or C6 Dmin7 Emin7 FMaj7 G7 Amin7 Bmin7b5 CMaj7 or C6

I ii iii IV V iv vii I

We use Roman numerals to signify the scale degree a chord is built on, since they’re not specific to a particular key. We use uppercase Roman numerals for chords with a major 3rd (major, augmented, major 6, major 7 and dominant 7), and lowercase for those with a minor 3rd (minor, diminished, minor 7, minor 6, minor 7 flat five and diminished 7). Here’s a quick review of the Roman numerals you’ll need and their Arabic equivalents:

ROMAN NUMERAL	ARABIC EQUIVALENT
I.....or.....i.....	1
II.....or.....ii.....	2
III.....or.....iii.....	3
IV.....or.....iv.....	4
V.....or.....v.....	5
VI.....or.....vi.....	6
VII.....or.....vii.....	7

Notation using Roman numerals is useful because the kind of chord built on each degree is the same in every key. Here are the diatonic 7 chords that you’ll find in every major key:

DEGREE	QUALITY
I.....	Maj7/6
ii.....	min7
iii.....	min7
IV.....	Maj7
V.....	Dom7
vi.....	min7
vii.....	min7b5

As a tool for memorizing the diatonic chords in every key, make yourself a chart like this:

KEY	I	ii	iii	IV	V	vi	vii
C	CMaj7	Dmin7	Emin7	FMaj7	G7	Amin7	Bmin7b5
G	GMaj7	Amin7	Bmin7	CMaj7	D7	Emin7	F#min7b5

Continue through all the keys in the cycle of 5ths.

Diatonic Harmony in Minor Keys

The most obvious way to find the diatonic 7th chords in a minor key is to look at the relative major key, borrow the chords and shift the Roman numerals. Here are the diatonic 7th chords for A Minor, the relative minor of C Major:

12

A musical staff in treble clef showing eight chords. Above each chord is its name and below it is its Roman numeral. The chords are: Amin7 (i), Bmin7b5 (ii), CMaj7 (III), Dmin7 (iv), Emin7 (v), FMaj7 (IV), G7 (VII), and Amin7 (i).

It doesn't end there, however. What you see above is based on the natural minor scale. But as we know, the natural minor is only one of three types of minor scales (see page 10). The primary use of the harmonic minor scale is just as the name implies—it's a scale from which harmonies are derived. This is because it provides a dominant 7 chord on V. Here are diatonic 7 chords of an A Harmonic Minor scale:

13

A musical staff in treble clef showing eight chords. Above each chord is its name and below it is its Roman numeral. The chords are: Amin/Maj7 (i), Bmin7b5 (ii), CMaj7b5 (III), Dmin7 (iv), E7 (V), FMaj7 (VI), G#dim7 (vii), and Amin/Maj7 (i).

As we can see, the i chord in harmonic minor is a minor chord with a major 7th (min/Maj7 or min^b7) and the III chord is a major 7 chord with a raised 5th (Maj7^{#5}). These are both unusual chords that sound most appropriate in a very modern setting. We'll examine both of these chords later as we explore modern and non-diatonic harmony.

In real musical situations, chords from both the natural and harmonic minor scales are used side by side—most often, i and III from natural minor, V and vii from harmonic minor, and the ii, iv and VI common to both. Sometimes, a min6 chord is used in place of the min7 i chord.

14

A musical staff in treble clef showing eight chords. Above each chord is its name and below it is its Roman numeral. The chords are: Amin7 or Amin6 (i), Bmin7b5 (ii), CMaj7 (III), Dmin7 (iv), E7 (V), FMaj7 (VI), G#dim7 (vii), and Amin7 or Amin6 (i).

Chord Changes and the ii-V-I Progression

Using Roman numerals, we can identify the common ways in which chords move from one to the next. In jazz, these specific combinations of chords, or *progressions*, are most often referred to as *chord changes* or simply *changes*. The progression that serves as the backbone for the majority of jazz tunes is the famous ii-V-I (ii-V-i in minor).

15

C Major C Minor

DMIN7 G7 CMaj7 DMIN7^{b5} G7 CMIN7

ii V I ii^o V i

Most music builds excitement (*tension*) and then gives the listener some closure (*resolution*). The study of jazz chord progressions is really a study of how to build up different amounts of tension and how to achieve different levels of resolution. The dominant chord resolving to the I or i chord a perfect 5th below is the essence of tension and resolution in Western harmony. Play this and hear for yourself how this works in both major and minor keys.

16

C Major C Minor

G7 C G7 CMaj7 G7 CMIN G7 CMIN7

V I V I V i V i

The next step is the ii chord. Since our ears are used to the sound of one chord moving to another chord a 5th below, as in example 16, we can precede the V chord with the chord a 5th above—the ii chord. However, the dominant 7 chord that serves as the V in both major and minor keys has an unstable sound that wants to resolve—that's why it sounds so good when it resolves to the I chord. By going from ii to V, you actually prolong and intensify the tension, which in turn makes the resolution more dramatic.

17

C Major C Minor

DMIN7 G7 CMaj7 DMIN7^{b5} G7 CMIN7

ii V I ii^o V i

VOICE LEADING

If you've spent any time with harmony, you've surely dealt with *voice leading* on some level. Voice leading is the smooth movement of the notes (or *voices*) from one chord to the next, and it applies to any type of voicing. The whole idea comes from vocal groups. If you have four voice parts in a choir, the goal is to create rich-sounding chords with those four voices. Just as important, though, is that each voice in the choir has smooth, singable lines, rather than a sequence of acrobatic leaps. Good voice leading bridges the gap between these two goals. Compare the voice leading in examples 18A and 18B.

18

A

D^{MIN}7 G⁷ C^{MA}7

B

D^{MIN}7 G⁷ C^{MA}7

If you follow any individual voice in the first two bars, you'll find a series of leaps that would be difficult to sing. Although at the keyboard you don't need to literally sing the lines, the result of this leaping is that the chords don't sound as if they relate to one another. Even though it uses the same basic chords, the second example sounds more like a "natural" progression because of the voice leading that allows for smooth movement between voices.

A basic technique for getting started with voice leading is to calculate the shortest distance each voice can move to arrive at the next chord. In other words, you must figure out which appropriate voicing for the following chord will involve the least movement.

19

Least Movement

D^{MIN}7 G⁷

More Movement

D^{MIN}7 G⁷

A Lot More Movement

D^{MIN}7 G⁷

Note that the roots played by the left hand are not expected to follow the guidelines of smooth voice leading. In fact, it is the leaping movement of the roots that clarifies the harmonic movement in the smoothly changing chord voicings above.

Having a solid grasp of voice leading is useful beyond helping you play chords smoothly. Since chords often form the basis for improvised solo lines, mastery of voice leading is crucial in developing fluency as a soloist. When you practice, work on being able to lead any voice in a chord to a nearby voice in the next chord.

LEAD SHEETS

Lead sheets are probably the most common way of notating jazz tunes or other songs that are to be played in a jazz setting. In contrast to fully notated music, a lead sheet provides you with the bare-bones musical information—melody, chords and form—that you need to play a tune. This allows for a creative, personal interpretation and gives you a jumping-off place for improvisation.

You'll often encounter lead sheets in the context of a *fake book* or *real book*, which is essentially a single-volume collection of lead sheets for different tunes. (In case you're wondering: Despite the name, some fake books are considered a "legit" source of tunes.)

Example 20 uses lead sheet-style notation for a jazzed-up version of the old classic "Greensleeves." This tune has been recorded by many jazz artists, including John Coltrane, Jimmy Smith, Ben Webster, Coleman Hawkins, Oscar Peterson and Ray Bryant.

Greensleeves

20

3/4

GMIN7 C7 FMA7 BbMA7

1. EMIN7b5 A7 D7

2. Eb7 D7 GMIN7

15

GMIN7 C7 FMA7 BbMA7

17

1. EMIN7b5 A7 D7

2. Eb7 D7 GMIN7

24

CHORD EXTENSIONS

By turning triads into 7th chords, we've already looked at ways of adding notes to a chord to achieve a richer sound. Modern jazz pianists often add *extensions* (often called *color tones* or just *colors*) to chords for still more richness. These tones can also be incorporated into one's improvisation.

Take a look at the C Major 7th chord to the right. It is a series of stacked 3rds, or a scale (in this case, C Lydian) in which every other note is skipped. If you continue stacking 3rds, you wind up with 9, $\sharp 11$ and 13. In a scale, you would call these notes 2, $\sharp 4$ and 6, but the numbers 9, 11 and 13 are used instead to clarify that these notes are in the second octave. From a structural standpoint, they're not among the fundamental chord tones, but rather added on top of them. Notice how the $\sharp 11$ avoids clashing with the 3rd in the chord in a way that a $\sharp 11$ would be unable to do. Example 109 shows the extensions most commonly used on 7th and 6th chords.

From C Lydian scale

108

109

Because a $\sharp 11$ on a dominant 7th chord clashes so much with the 3rd, that note should be used instead of the 3rd. This creates a "suspended" chord, in which case the 11 is called 4. The major 7th can be used with both minor 6th and diminished 7th chords, but it likewise tends to take the place of the 6th ($\flat 7$) in either chord rather than serving as an extension. These differences are shown in example 110.

110

When changing from a min6 to a min/Maj7 chord, the 6th is omitted

When changing a dim7 to a dim/Maj7 chord, the $\sharp 7$ (6th) is omitted

Altered Dominant Chords

All of the chord extensions above are meant to add color to a chord without fundamentally altering its identity. However, there is one case in which altering a chord's identity is frequently useful. *Resolving dominant chords* are dominant 7th chords that in one way or another serve the function of resolving to other chords. Because these chords resolve (not always the case with dominant 7th chords), they can handle colors that introduce more tension to their sounds. The four tones in example 111 are used in various combinations with the root, 3rd and 7th of a dominant chord to create an *altered dominant* or just *altered chord*, which adds extra tension to the chord.

111

SUBSTITUTION

While substitution is primarily a harmonic technique, it also applies to soloing, so we'll take a brief look at it here. (See Chapter 5 of *Jazz Keyboard Harmony* for a more thorough explanation of chord substitution.)

When you see a set of changes in a tune, you're not always required or even expected to follow it verbatim. In a jazz context, *substitution* is the act of taking an existing chord progression and adding or changing chords. Substitution can be prearranged, or it can happen spontaneously. The fundamental principle is that significant points of tonal resolution should be left alone. The function of substitution is to provide varied and stimulating journeys to these established points of resolution, so the approach is to find a point of resolution and then work backwards. Let's look at some common substitution techniques, beginning with the four-bar progression in example 112. The fifth bar, CMaj7, is included here as a point of resolution towards which the substitutions will lead.

112

CMaj7 G7 CMaj7

I V I

One common and basic substitution practice is to expand a V chord into a ii-V, as in example 113A. In turn, you can expand the expansion by approaching it through root movement in 5ths, as in example 11B.

113

CMaj7 Dmin7 G7 Emin7 Amin7 Dmin7 G7

I ii V iii vi ii V

Dominant cycles create a sort of domino effect, whereby a dominant chord "resolves" to another dominant chord, as in example 114A. Such cycles can be stretched out to include several chords, as in example 114B.

114

CMaj7 D7 G7 Emin7 A7 D7 G7

I V V7 of V7 of V7 of V

In *tritone substitution*, you can add color by replacing a dominant 7th chord with the dominant 7th chord a tritone away, as in example 115A. You can create even more tension and surprise by preceding this new chord with the chord a 5th above, as in example 115B.

115

CMaj7 Dmin7 D7 CMaj7 Emin7 D7

I ii Tritone sub for V I Tritone sub ii-V

One reason the tritone substitution works is that the 3rd and 7 of the substitution chord are the 7 and 3rd (respectively) of the dominant chord. Usually, one or both of these will be enharmonically respelled in the substitution chord.

BLUES DEVICES

Some devices and ornaments are strongly associated with the sound of the blues. Some that we have already looked at, like grace notes, can be very evocative of the blues, but can also be used for other purposes; others are virtually inseparable from the blues sound. This section will lay out and provide examples of some devices that are associated with blues keyboard and which a jazz player can use to impart a blues feeling while improvising. Play all of these examples at a medium-slow tempo.

To play a *tremolo*, alternate between two notes as quickly as possible for a fluttering effect.

C^7



Crushed notes, which involve playing a series of notes very quickly without bringing out the articulation of individual notes, create a sweeping or smearing effect.

C^7



A *double-stop* is a pair of notes played simultaneously. 3rds and 6ths are common in blues-style playing.

C^7



Another popular double-stop technique is to keep the same top note throughout a phrase while the bottom voice moves to create the main melody. Notice how the fingerings in several cases involve sliding the same finger down from a black key to the adjacent white key.

C^7



Playing parallel octaves in the right hand is a widely used and dramatic technique. The left-hand chords use the same rhythm as that of the right-hand melody, creating a *block chord* (all notes sounding together) effect.

C^7

C^7



SHELL VOICINGS AND GUIDE-TONE LINES

Shell Voicings

One of the most widely used types of voicings in all of jazz harmony is the *shell voicing*. As the name indicates, shell voicings are stark and skeletal. The 5th is omitted; the root can be played in the bass register by the left hand or can be omitted entirely and left to the bassist (or whoever is covering the bass tones), leaving the 3rd and 7th of the chord. In addition to being used as they are, shell voicings can also serve as the basis for many more colorful voicings. Shell voicings provide the skeleton around which the chord is fleshed out, since the 3rd and 7th are central to defining the sound of a chord. Example 121 is a iii–vi–ii–V–I progression in shell voicings. If you want to reinforce the sound, you can play the roots in your left hand.

121

Notice the consistent smoothness of the voice leading. In this progression, as with most progressions in which the chord roots descend diatonically in 5ths, only one note changes with each successive change of chord. The 7th of each chord steps downward to the 3rd of the following chord while the 3rd of each chord stays put and becomes the 7th of the following chord.

Guide-Tone Lines

Guide-tone lines are melodic lines that emphasize the movement from one of the fundamental tones (3rd or 7th) to another at the moment the chords change. Example 122 shows a simple guide-tone line that continually moves from the 7th of one chord to the 3rd of the next.

122

While the example above is rhythmically basic, guide-tone lines can also be more involved. The key is that the guide-tone transition occurs as the chords change. The notes can be short or long, anticipated or on the beat, exposed or preceded by other notes. In example 123, the guide tones are highlighted in gray.

123

Note that when dominant cycles are used, the options for guide tones increase—in fact, they usually double. While only one note changes in most cases where chords descend diatonically in 5ths, both notes change when dominant 7th chords descend in 5ths. This is the case also when dominant 7th chords are used in tandem with tritone substitution. Dominant chords a tritone apart share the same guide tones (see page 59, bottom), so the same rules apply.

124

CONCEPTUAL CORNER: TENSION AND RELEASE

Picture this: Three versions of a movie are being pitched to a major film executive by three different screenwriters. See if you can guess which one will most likely be chosen.

The starring cast for all three: Good Guy, Good Guy's Gal Pal, Bad Guy.

Version 1: Good Guy is sitting in a field sipping herbal tea with Good Guy's Gal Pal. Good Guy's Gal Pal is suddenly kidnapped by Bad Guy. Good Guy goes on hair-raising quest to rescue Good Guy's Gal Pal. At various times, he comes close to rescuing her, but falls just short. At other moments, he comes close to meeting a perilous end, but narrowly escapes. Then, in a dramatic moment, he rescues Good Guy's Gal Pal. They embrace, breathe a sigh of relief and ride off into the sunset, as Bad Guy utters, "Curses, foiled again!" THE END.

Version 2: Good Guy is sitting in a field sipping herbal tea with Good Guy's Gal Pal. Good Guy's Gal Pal is suddenly kidnapped by Bad Guy. Good Guy stubs his toe while trying to answer his cell phone. The veterinarian calls on the other line to tell Good Guy that his dog is quite ill. He runs to his car, and finds that it won't start. Then, Good Guy gets kidnapped, too. THE END.

Version 3: Good Guy is sitting in a field sipping herbal tea with Good Guy's Gal Pal. They drink some more tea. They take a nap. Upon awakening, they yawn and stretch, and then do some yoga for a while. After yoga, they leisurely sip some more tea and talk calmly about how pleasant the weather is. A refreshing breeze blows. THE END.

If you picked Version 1, you're very perceptive. It follows the always-effective pattern of setting a scene, building tension, and then releasing it, usually with several more small-scale moments of tension and release along the way. Version 2 is all tension and no release, and is likely to be quite unpleasant to most people. Version 3 is all release and no tension and is likely to be quite boring to most people. The dynamic of tension and release is central to what makes compelling theater, cinema, literature—and music. The exact manifestation of the tension and release varies by style, by each individual artist's vision and by personal taste. Some people like very little tension in their music, and others like a tremendous amount. Even people at the extremes of this continuum, however, depend on some degree of tension and release.

If you think you enjoy music with no tension, try playing this example, repeating indefinitely.



If you think you enjoy music with no release, try playing this example, repeating indefinitely.



Very few people will have much tolerance for either of the above examples, and those people are unlikely to have much use for or interest in the information in this book. For the rest of us, the goal is to gain a mastery of the various tools that enable a musician to incorporate tension and release into a compelling improvised solo, and many of the lessons in this book are designed to help develop these tools. Beyond that, it's up to you how much tension you want to build and when and how you want to release it. In any case, you're encouraged to be conscious of the universal effectiveness of tension and release and of how you can harness it.

CHAPTER 4 APPLICATION OF PROFESSIONAL TOOLS

MODAL TUNES

Modal tunes are often defined as tunes whose harmonies are based on modes, in contrast to tunes based on standard diatonic progressions (for example, ii–V–I). One special characteristic of modal tunes is that the *harmonic rhythm* (the rate of change from one chord to the next) tends to be very slow. For example, a single chord may provide the harmony for several measures in a row, reducing the need to negotiate chord changes and allowing you to stick with one mode. Some of the most popular modal tunes include “So What” by Miles Davis, “Maiden Voyage” by Herbie Hancock, “Freedom Jazz Dance” by Eddie Harris and “Little Sunflower” by Freddie Hubbard. The latter tune uses similar changes to those in example 126 (although the form in Hubbard’s tune repeats the Dorian section again at the end, creating an AABBA form). We’ll take a more extensive look at playing modal tunes in Chapter 6, but in the meantime, you can use the modes you have practiced to get started playing modal tunes like those listed above. Play this example with a Latin feel, using straight eighth notes.

Straight 8ths

127
36

A DMIN⁷
D Lydian

B E^bMA⁷
E^b Lydian

A DMIN⁷
D Lydian

B E^bMA⁷
E^b Lydian

A DMIN⁷
D Lydian

B E^bMA⁷
E^b Lydian

A DMIN⁷
D Lydian

MAKING THE CHANGES

Making the changes is a jazz term for playing lines that do a good job of delineating the harmonic motion of a chord progression. Many of the most admired soloists in jazz history, from Coleman Hawkins to Sonny Rollins, attained their stature in part through their ability to make the changes within the style of their day. While nobody makes the changes at every moment of every solo (and it would get mighty boring if they did), it's certainly true that being able to make the changes effectively and convincingly is an essential skill for anyone aspiring to improvise in any sort of bebop-inspired setting.

A good test for judging if a line is making the changes is this: If the chord progression is readily apparent from hearing a line alone, the player is probably making the changes. If you can't hear a chord progression except from the rhythm section, then the line is probably not making the changes. Making the changes is simultaneously a subtle art and a straightforward one. There are no hard-and-fast rules that will allow you to clearly distinguish a line that makes the changes from one that does not, but a jazz-trained ear can consistently tell when the changes are or aren't being made.

Play the melody in example 127, which uses notes from the C Major scale over iii-vi-ii-V-I in C.

127

Now play example 128, which is based on the same scale and rhythms as example 127.

128

If you have some experience with jazz, chances are that you'll think something sounds a little funny with example 127, while example 128 seems to make more sense. How can that be? After all, we established way back in Chapter 2 that scales within the key of a progression tend to work well as the basis for improvised melodies. Indeed, you can still use scales (and note that example 127 would sound a lot more strange if it were based on a less appropriate scale, such as E^b Major or F Blues). However, if your goal is to make the changes, chord tones must receive more emphasis than the other notes. By the same token, certain notes in a scale, especially those that don't function as extensions or color tones in a given chord, must be de-emphasized in order to create the impression of making the changes.

Keeping that in mind, play example 129, which uses the same music as in examples 127 and 128 and notice the notes that get the most emphasis (highlighted) in each measure. Notice how the emphasized notes in measures 1–5 relate (or don't relate) to the corresponding chords (they are non-chord tones). Compare those relationships with those relating to the emphasized notes in measures 7–11 (they are chord tones).

129

As hinted at on page 64, using just chord tones is perhaps the most obvious and surefire way to make the changes, which is what is done here.



Obvious and surefire, however, are not the foremost traits of a great bebop solo. Chord tones and arpeggios are indeed crucial to making the changes, but you'd find yourself pretty limited if they were all you had in your change-making toolbox.

Making the Changes: Rhythm

The techniques on pages 66–75 will enhance your ability to make the changes, but first we must examine the role of rhythm—specifically, the effect a note's rhythmic placement will have on the harmonic strength of that note.

Strongest In a measure of $\frac{4}{4}$, the first beat stands out as the most harmonically significant in the measure. Not coincidentally, the chords most frequently change on the first beat of a measure.



If you divide the bar in half, you end up with a note on beat 3 as well on the downbeat. Aside from the downbeat, beat 3 is the next strongest beat in $\frac{4}{4}$, and it's common for chords to change on this beat.



Important chord changes on beats 2 and 4 are fairly infrequent. Note that the rhythmic importance of these beats (for example, their roles in the backbeat) is not to be confused with their harmonic impact.



Weakest Offbeats are even less harmonically significant, and any further subdivisions of the beat become less important still. Chord changes virtually never occur on the offbeats. Again, be sure not to confuse the role of offbeats in syncopation with their harmonic significance.



Where a note falls within the hierarchy explained above determines its effect in helping to make the changes. It's also important to be able to emphasize the chords at the moments that they change, but even that will generally coincide with this hierarchy. To summarize: A chord tone placed in a "strong" position will help outline the changes, while a clashing non-chord tone with the same rhythmic placement will obscure the changes. Chord tones on weak beats have less harmonic strength. This does not mean that you must play only chord tones on strong beats and save all other notes for weaker beats. When you need to emphasize a chord, however, you'll make significant use of this knowledge.

Note that an anticipation (or any other syncopated note not immediately followed by another note), while adding important rhythmic variety, will have the same harmonic impact as if it landed squarely on the beat that it is anticipating. If in doubt about this, pay attention to the context. A chord tone on a weak beat may actually be functioning as an anticipation to the following strong beat—if the note in question is tied over to the strong beat or if that strong beat is "unoccupied," then you are most likely observing this phenomenon in action. Example 135A shows notes that have the most rhythmic impact because of their rhythmic placement (marked with asterisks). Example 135B shows what happens when some notes are used as anticipations, thus attaining rhythmic emphasis.

135

A DMIN7 G7

The F is implied as an anticipation as it is the last note heard before the rest.

THE SKELETON OF A BEBOP LINE: GUIDE TONES AND MORE

The essence of a melodic line can often be defined by a small percentage of the notes in that line—a melodic *skeleton*. In fact, it's often only a few notes in a line that determine whether or not that line is making the changes, the remaining notes providing melodic enhancement. Guide tones (see page 61) are a great example of this phenomenon; just two notes outline the sound of one chord moving to the next, and a melodic line is built around that skeleton. That skeleton can also be altered if, for example, you want to change where points of resolution occur. As with arpeggios, the effect of the skeletal notes will be heard most clearly if those notes occur at the moment the chords change.

136

• = Skeletal notes

Another way to achieve this effect is through rhythmic emphasis. If guide tones are emphasized rhythmically (for example, by placing them on stronger beats), they'll stand out.

137

Yet another way to make guide tones to stand out is through the *register* (the range of notes used) of a line. The ear naturally hears the highest and lowest notes in a line as standing out a bit from others in between. If the peaks and valleys of the line coincide with the guide tones, they will stand out accordingly.

138

These techniques work not only for guide tones that move from the 7th of one chord to the 3rd of the next, but also for any notes that you choose to emphasize. If you want the sort of focus in your line that comes from a simple melody but also want the excitement of a more involved line, these techniques provide a great compromise. In a sense, you're using some of the same techniques you use in melodic embellishment, except you choose the melody yourself. Play example 139, which uses "Three Blind Mice" as the basis for a bebop line.

139

This skeletal process is also a way to access the sound of altered dominant chords. The sound of an altered tone resolving to an unaltered note in the chord of resolution, even if a color tone, is a powerful one and contributes to the tension and release central to making the changes.

140

Example 141 contains the first 16 bars of a popular set of standard changes in the style of the tune “All God’s Chillun Got Rhythm” and used for such bop tunes as Bennie Harris’s “Reets and I,” Miles Davis’s “Little Willie Leaps” and Horace Silver’s “May-Reh.” This example includes a skeleton of important change-making notes that you could use to negotiate these changes.

141

Chord progression for Example 141:

- Measures 1-4: FMA7, GMIN7, C7, AMIN7
- Measures 5-8: D7, GMIN7, C7, AMIN7
- Measures 9-12: BMIN7, E7, AMIN7, D7, GMIN7, C7, FMA7
- Measures 13-16: EMIN7, A7, DMIN7, GMIN7, C7

Example 142 takes the same changes and the same skeleton and shows how you might flesh out the skeleton from example 141 into a full-fledged bebop improvisation.

142

Chord progression for Example 142:

- Measures 1-4: FMA7, GMIN7, C7, AMIN7
- Measures 5-8: D7, GMIN7, C7, AMIN7
- Measures 9-12: BMIN7, E7, AMIN7, D7, GMIN7, C7, FMA7
- Measures 13-16: EMIN7, A7, DMIN7, GMIN7, C7

Using Modes to Make the Changes

Using a single scale through a whole progression is fine, but it doesn't always lend itself to making the changes. On the other hand, using chord tones solves that problem but makes it more difficult to create a lyrical melody. In a sense, using modes over individual chords in a progression gives you the best of both worlds. You get a lot of the melodic flexibility of scales and the change-making properties of chord tones in one technique. Check out example 143, which uses the mode that relates to each chord within the key (F Major).

143

B \flat Maj7
B \flat Lydian

A min7
A Phrygian

D min7
D Aeolian

G min7
G Dorian

C7
C Mixolydian

F Maj7
F Ionian

Once you practice the modes “straight” on any changes, you can begin to do so with more flexibility—that is, in a real melodic context.

144

B \flat Maj7
B \flat Lydian

A min7
A Phrygian

D min7
D Aeolian

G min7
G Dorian

C7
C Mixolydian

F Maj7
F Ionian

Jazz musicians often choose modes other than those dictated by the diatonic harmony. For example, the prevalence of the $\sharp 11$ as a color tone for a Maj7 chord leads many players to use the Lydian mode on a Maj7, even when it is not the IV chord in the key.

145

G min7
G Dorian

C7
C Mixolydian

F Maj7
F Lydian

D min7
D Aeolian

Likewise, minor-key progressions can present similar choices. For one thing, the Locrian mode can be applied to a min7 $\flat 5$ chord regardless of context (Chapters 5 and 6 will provide more options for this chord). The Dorian mode is used on tonic minor chords (that is, minor chords that function as i) even more often than Aeolian, which may seem to be the more logical choice.

146

E min7 $\flat 5$
E Locrian

A7
A Mixolydian

D min7
D Dorian

E min7 $\flat 5$
E Locrian