BERKLEE
ONLINE

MUSIC THEORY HANDBOOK VOL 1

MUSIC THEORY
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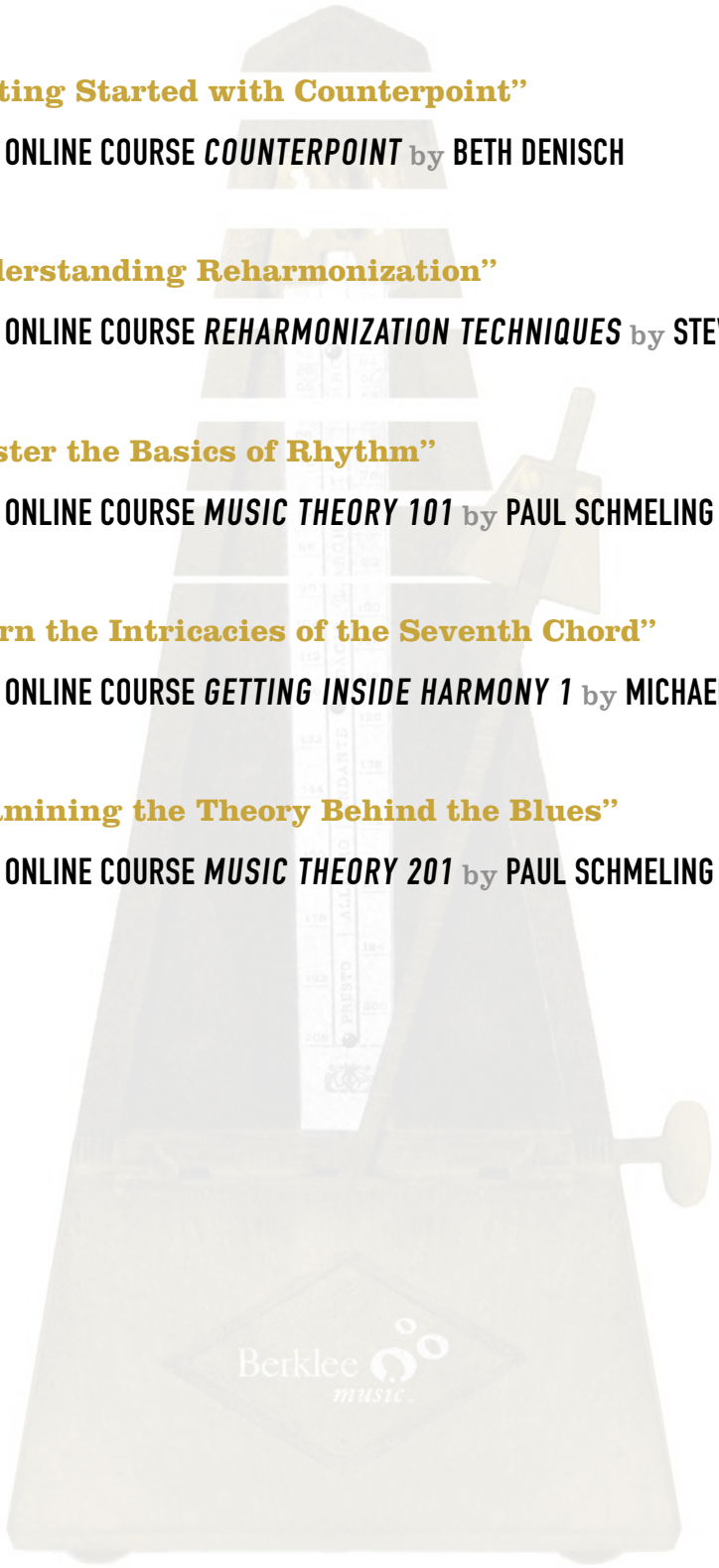


GETTING STARTED WITH COUNTERPOINT
FROM THE ONLINE COURSE *COUNTERPOINT*

BY BETH DENISCH

Beth Denisch is a professor in the Composition Department at Berklee College of Music. Her music has been performed throughout the U.S. and in Canada, Mexico, Greece, Ukraine, Russia, China, and Thailand, and recorded by Juxtab, Albany, and Interval record labels.

Consider music from the Medieval, Renaissance, Baroque, Classical, Romantic, and 20th century periods.

What connects these diverse musical eras? It is the use of multiple melodic lines to create effective music. This is counterpoint. The term *counterpoint* refers to two or more independent melodic lines working together to create music. In contrapuntal music—music created using counterpoint—each of the melodies works independently as well as together. Together these melodies create a texture called polyphony. Polyphony and counterpoint have been around for about 1,000 years and are at the root of melody and harmony in Western music.

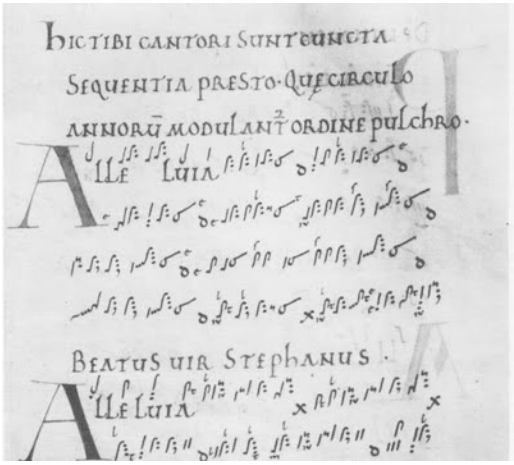
You may already be thinking about how good it sounds in contemporary popular music when the bass and lead lines complement each other just right. This happens when 1) each line stands independently as an effective melodic line and 2) both lines stand together, keeping their independence, but also creating a great sound when heard together. This is counterpoint.

The term *texture* is used to describe the relative "thickness" or "thinness" of musical sound. Musical textures, like the texture of fabric, can be rough or smooth, simple or complex, dense or sparse. Here are three basic musical textures, only one of which defines counterpoint:

1. **Monophony**—A solo melody, just one line of music. This is the simplest musical texture. (From the Greek: *mono*—one; and *phony*—sound or voice.) Common monophonic performances include a solo singer or performer on a monophonic instrument like a flute or trumpet.

2. **Homophony**—A melody with chords, like a song; a harmonized

melody. The chords (harmonies) do not stand on their own as independent melodies but are heard as sound shapes supporting or "harmonizing" the single melody, often in the same rhythm as the melody. (From the Greek: *homo*—same; and *phony*—sound or voice.) Homophony is the dominant texture of contemporary music. The majority of rock music consists of a melody sung by a lead vocalist over a chordal background provided by the band.



A portion of the Winchester Troper

3. **Polyphony**—More than one melody happening at the same time. For example, in "Canto di Bella Bocca," by Barbara Strozzi, you can hear two vocal melodies working together to create beautiful harmonies while at the same time maintaining their melodic independence from each other. That is, multiple layers are heard separately and simultaneously. This is called polyphony. (From the Greek: *poly*—many; and *phony*—sound or voice.)

Counterpoint will always occur as a polyphonic texture. The term counterpoint comes from the Latin "punctus contra punctum," meaning note against note (point against point).

Counterpoint has been evolving in Western music for about 1,000 years. One of the earliest examples is found in the Winchester Troper from the 11th century, and contrapuntal writing continues today, as in the music of Estonian composer Arvo Pärt. Today, counterpoint is everywhere, even in popular music. Its influence can be heard in pop music such as the Beatles' "Paperback Writer," progressive rock artists like Emerson, Lake & Palmer and King Crimson, and even in the musique concrète aspects of hip-hop.

Taking a contrapuntal perspective on music means that you are looking at it horizontally—via melody—but are also taking into consideration the vertical (harmonic) sounds or implications of this simultaneous melodic motion.

Still, the texture of counterpoint remains: Two or more melodic layers maintain their independence while creating desirable harmonies.

Find a piece of music you like and think of at least two of the topics that generally describe the sound of your selection. For example, you might say the music is homophonic and consonant, as in a "pretty" song with melody and simple chords. Or you may say the heavy metal guitar solo is dissonant and polyphonic with the bass guitar.

CONSONANCE vs. DISSONANCE

What is **consonant** and what is **dissonant**? There is no absolute answer to this question. Consonance and dissonance, and the many variations across this spectrum of apparent polar opposites, are only defined by the common practices found in each particular style of music.

Consonance, in general, refers to a pleasant sound, something that is at rest, comfortable. Dissonance, on the other hand, refers to tension and instability, a sense that the music needs to "go somewhere" for resolution.

BETH DENISCH'S ONLINE COURSES

COUNTERPOINT

This course uses musical examples from the Medieval, Renaissance, Baroque, Classical, Romantic, and 20th century periods, in addition to relevant examples from contemporary popular artists and styles. You'll have access to a timeline from which you can see the chronological and geographical placement of musical examples as you listen to them. Throughout the course, you will strengthen your music listening, reading, and writing skills through hands-on writing activities. The goal of the course is to give you a broad overview of counterpoint and improve your compositional skills, regardless of stylistic preference.

UNDERSTANDING REHARMONIZATION
FROM THE ONLINE COURSE *REHARMONIZATION TECHNIQUES*

BY STEVE ROCHINSKI

Steve Rochinski is a Professor in the Harmony Department at Berklee College of Music. An accomplished guitarist, recording artist, and internationally known performer and clinician, Steve has received numerous grants and awards including a 1993 Jazz Fellowship from the National Endowment for the Arts for private study with Tal Farlow.

When the late jazz guitar legend Tal Farlow explained his motivation to reharmonize standard tunes, he replied with this twist on an old adage: "If it ain't broke, fix it anyway." And so it goes. In the world of artists of all mediums and disciplines, the musician is most audacious when it comes to altering another's creation. Imagine an artist taking a palette of paints and a brush to the Museum of Fine Arts and painting an extra nose on a Picasso masterpiece? Or someone putting a hat on Rodin's timeless bronze and marble sculpture *The Thinker*? Scandalous, to say the least … and possibly resulting in some jail time!

However, the history of jazz performance and arranging, as well as European classical tradition, as exemplified by *Rhapsody on a Theme of Paganini* by Rachmaninoff, is filled with players and writers whose creative intention could be distilled down to Tal's response.

There are instances in which the reharmonized song is considered so superior to the original chord changes that the new version becomes the standard harmonic form—which, in turn, becomes subjected to further variation. The Victor Young classic "Stella By Starlight" and the Burke/Van Heusen standard "Like Someone In Love" are excellent examples of "new" standards.

Can you imagine what a cocktail pianist, who has been on the same five-night-a-week gig for ten years, would have to endure if some kind of harmonic liberty was not taken with the repertoire? Maybe reharmonization contributes to good mental health for the performer. No matter how you frame it, reharmonization has a long-standing tradition in the world of jazz and popular music.

So specifically, why reharmonize?

Occasionally, there is a need to use material from the standard repertoire where

reharmonization can place the ordinary into an extraordinary setting. There may also be situations in which the melody and chords may not be in vertical agreement—a change in the harmony may be called for.

For the improvising player, reharmonization is regarded as improvising *harmonies* to a fixed melody line—the opposite of melodic improvisation. For the improviser who is soloing melodically within the standard framework of the chord changes of a tune, the various substitution and approach techniques learned in this course and superimposed against the rhythm section accompaniment can be applied to great effect.

> "TO REHARMONIZE MEANS TO ALTER THE UNDERLYING HARMONIC FORM OF A PIECE OF MUSIC, WHILE MAINTAINING THE ORIGINAL MELODIC STRUCTURE."

To reharmonize means to alter the underlying harmonic form of a piece of music, while maintaining the original melodic structure. It is essentially an arranging application where the primary focus is on the harmony, whether done on paper or in real time.

Reharmonization alters the mood of a song by:

- increasing tension and release through substitution and approach techniques
- prolonging expectations for resolution of nontonic functions
- creating a more, or in some cases, less active harmonic stream
- enhancing the bass line

For a reharmonization to be acceptable to the listener, there are two relatively absolute conditions:

1. The melody must be recognizable.
2. The harmony must be logical and familiar.

This means that little or no melodic embellishment is used and the harmony is resourced from common practice chord patterns of standard popular repertoire. There will always be exceptions to these conditions, but until further notice, these will be absolutes.

Depending on his or her listening experiences, the average non-musician has a catalog of common, internalized harmonic progressions that may be more limited than those of the professional musician. The more experienced the listener, the more complex a reharmonization can be and still be acceptable.

Ultimately, for the listener to accept the new harmonization as valid, arbitrary chord choices must be avoided.

There are several levels on which to measure the effects of reharmonization. One of three outcomes can be expected with reharmonization relative to the harmonic rhythm:

1. The original harmony will be **substituted** through structural conversion and with chords of a similar function—in most cases, there's no

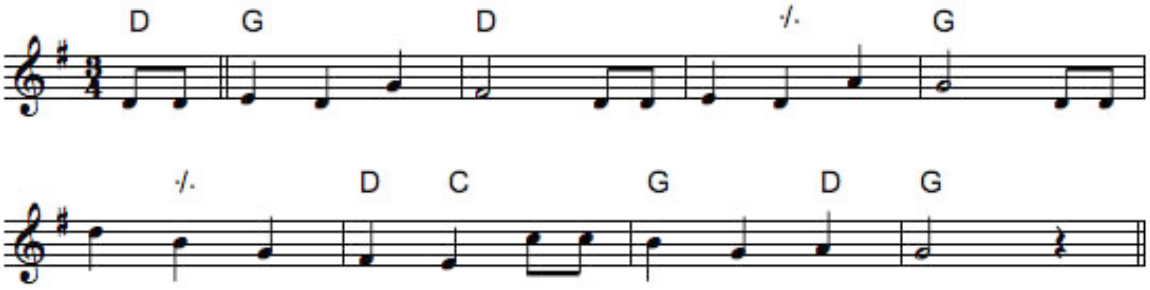
change in the harmonic rhythm. (There will be exceptions.)

2. The original harmony will have **approach** chords added that have either a **functional or a structural relationship** with an original target chord—the harmonic rhythm becomes faster.

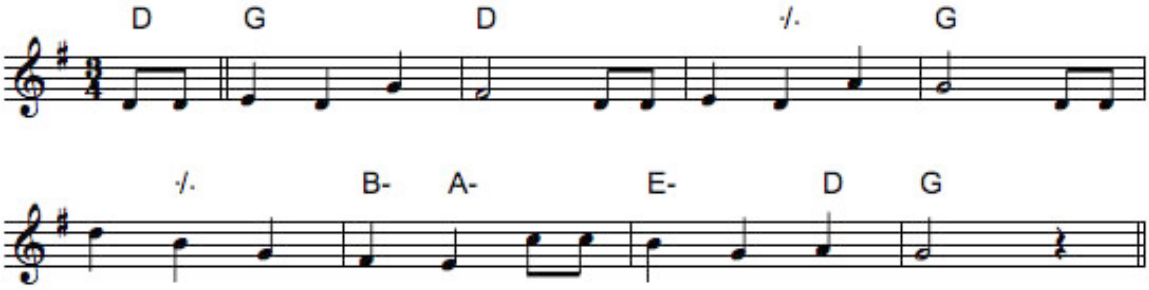
3. The original harmony will be modified by **removing** chords—the harmonic rhythm may become slower.

Here are several versions of a popular birthday song originally titled "Good Morning To You."

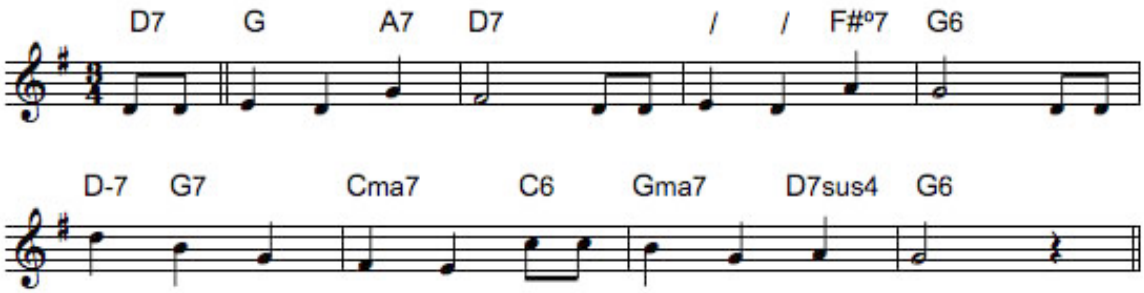
The first version is harmonized with the original chords.



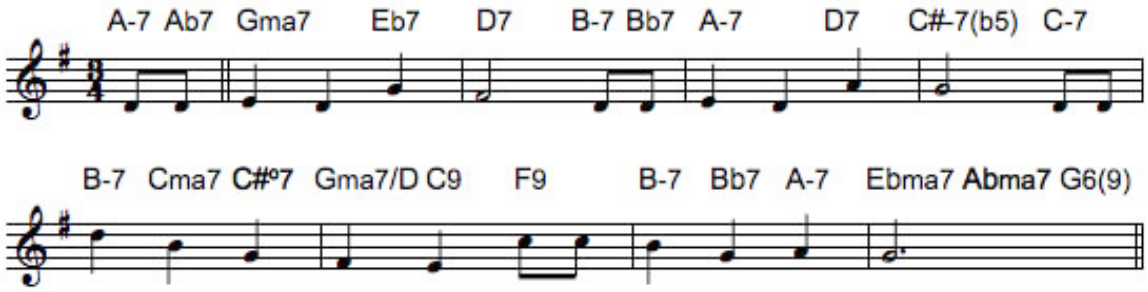
The second version is reharmonized with simple, substitute diatonic chords. There's no change in the harmonic rhythm.



The third version is reharmonized with approach chords, along with 6th and 7th chords to enrich the triads, resulting in a more active harmonic rhythm.



The final version is a reharmonization using a combination of substitute and approach treatments. This creates a very active and colorful harmonic support with the majority of the melody notes harmonized with a different chord.



If you can, try playing these melodies. How would you describe the emotional differences between them?

STEVE ROCHINSKI'S ONLINE COURSES

REHARMONIZATION TECHNIQUES

Reharmonization Techniques teaches where and how to approach changing the harmonic form, especially in the context of historical stylized treatments. You will learn to make a creative judgment about how much or how little to change a song and then make logical, creative choices to achieve that outcome. The course begins with an historical overview of reharmonization techniques and moves quickly into using basic substitution techniques (e.g., tonic for tonic, subdominant for subdominant, dominant for dominant, and so forth) in selected areas of the form. It then expands into bass line reharmonization and the various approach techniques covering larger sections of the song, techniques such as diatonic and dominant approaches relative to a target chord and chromatic and parallel approaches relative to a target chord.

MASTER THE BASICS OF RHYTHM
FROM THE ONLINE COURSE *MUSIC THEORY 101*

BY PAUL SCHMELING

Paul Schmeling is a master pianist, interpreter, improviser, and arranger who has inspired countless students since he began teaching at Berklee in 1961. He has performed or recorded with jazz greats such as Clark Terry, Rebecca Parris, George Coleman, Carol Sloane, Frank Foster, Art Farmer, Herb Pomeroy, Phil Wilson, Dick Johnson and Slide Hampton.

Rhythm is the aspect of music relating to time—when musical events happen (notes and other sounds) in relation to other musical events.

A regular pulse is fundamental to music and some pulses or **beats** are emphasized more than others. Say the word "**alligator**." Notice that "al" has the strongest emphasis. The strongest beat is beat 1 ("al") and is called the **downbeat**. Beat 3 ("ga") is also considered a strong beat, although not as strong as beat 1. Say "alligator" over and over, keeping the beat regular and on each syllable. Notice how the beats are grouped into sets of four. Now, say "crocodile" over and over. Here, the beats are grouped into sets of **three**. The downbeat is on the syllable "croc." Next say "lizard" over and over. What do you notice? Yes, "lizard" has 2 beats. The downbeat is on the syllable "liz".

What are some other examples of 2, 3, or 4 pulse words? What about a 5 pulse word? Which syllable has the downbeat?

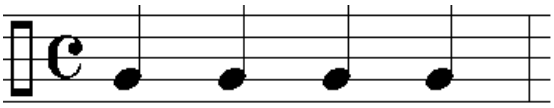
When beats are grouped together, the pulse is said to be in meter. Most music has a regular underlying meter. Each group of beats is called a measure or bar. In music notation, meter is indicated by a time signature. A time signature usually has two numbers, one above the other. The **top** number indicates how many beats are in each measure. For example:

In this time signature, $\frac{4}{4}$ there are **four** beats per measure.

In this time signature, $\frac{3}{4}$ there are **three** beats per measure.

In this time signature, $\frac{2}{4}$ there are **two** beats per measure.

Let's focus on the 4/4 time signature, or as it is also called, **common time (C)**. This is the most common meter in popular and jazz music.



Bar lines separate measures, and the music ends with a final bar line—a thin and thick line.

Notes are the building blocks of music. They can last for any number of beats—we will refer to this as the note's duration or value. Each note value represents a rhythmic attack. Let's look at three common types of note values: whole, half, and quarter notes:

- Whole notes last for a whole measure in common time, which is four beats. The symbol for a whole note is an open notehead.

- Half notes last for half as long as whole notes: 2 beats. Their symbol is an open notehead with a vertical line called a **stem**.

- Quarter notes last for a quarter of a whole note: one beat. Their symbol is a closed notehead with a stem.

Each note value has a corresponding rest symbol, which indicates **silence** for that value. Let's look at three types of rests: whole, half, and quarter rests:

- Whole rests are small, solid rectangles that hang down from a staff line. They represent four beats of silence. If the whole measure is silent, a whole rest is also used, regardless of the time signature.

- Half rests are rectangles that lie on top of a staff line. They last for two beats.

- Quarter rests look like a sideways W with a thick middle. They last for one beat.

Think about setting these words to music: "Yesterday is history; tomorrow a mystery." Which syllables should be stressed? What meter would they best fit into? How many measures would be required?

MUSIC THEORY 101

Join our community of beginning learners for engaging, hands-on activities that will help you read, write, and truly hear the elements of music like never before.

MUSIC THEORY 201: HARMONY AND FUNCTION

Through ear training exercises, musical examples, and personalized feedback from your instructor, you'll be able to analyze, read, write, and listen more effectively as well as understand the fundamental knowledge essential to the beginning studies of harmony.

MUSIC THEORY 301: ADVANCED MELODY, HARMONY, RHYTHM

Establish a toolkit of musical expertise that will prepare you for any musical endeavor or opportunity. This advanced music theory course provides you with a professional command of the mechanics of contemporary music.

LEARN THE INTRICACIES OF THE SEVENTH CHORD

FROM THE ONLINE COURSE *GETTING INSIDE HARMONY 1*

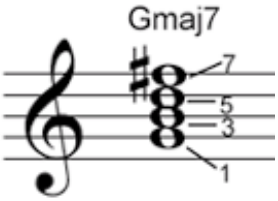
BY MICHAEL RENDISH

Michael Rendish is the former Assistant Chair of Berklee College of Music's Film Scoring Department. A gifted performer and award-winning writer, he has composed, orchestrated, and conducted some thirty film scores, including *Faces of Freedom*, *A Place of Dreams*, *Yorktown*, and the five-part PBS series *America by Design*.

Beyond the basic 1–3–5 triad, how can we further add spice to our harmonies? How do all those jazz musicians create such interesting and groovy sounds?

The answers to these questions lie in seventh chords, a vital part of your harmonic vocabulary. The seventh chord forms an essential harmonic "ribcage" for your music, as we'll see. Seventh chords come in several different varieties, each serving distinct musical functions.

Think of a seventh chord as an upward extension of a triad. The chord members, then, are the root, third, fifth, and seventh.



Picture what kind of *third*, what kind of *fifth*, and what kind of *seventh* occur above the root when the chord is in close, root position.

There are four kinds of seventh chord found on the degrees of the major scale: major seventh, minor seventh, dominant seventh, and minor seventh (5).

- Major 7th

Chord Type	Symbol	3rd	5th	7th
major7th	Gmaj7	major	perfect	major

- Minor 7th

Chord Type	Symbol	3rd	5th	7th
minor7th	G–7	minor	perfect	minor

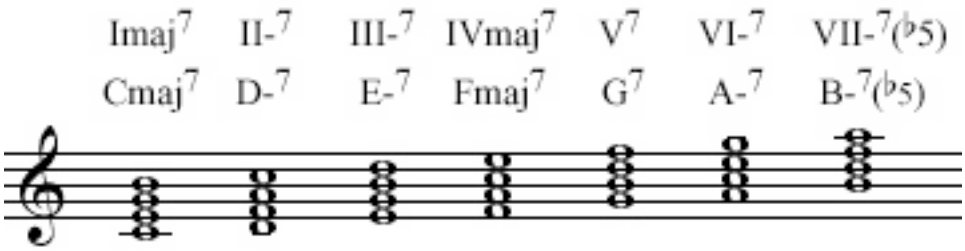
- Dominant 7th

Chord Type	Symbol	3rd	5th	7th
dominant7th	G7	major	perfect	minor

- Minor 7(♭5)

Chord Type	Symbol	3rd	5th	7th
minor7(♭5)	G–7(♭5)	minor	diminished	minor

Let's see what kind of seventh chords we find on each degree of the major scale. Building a diatonic seventh chord above each scale degree in C major, we get:

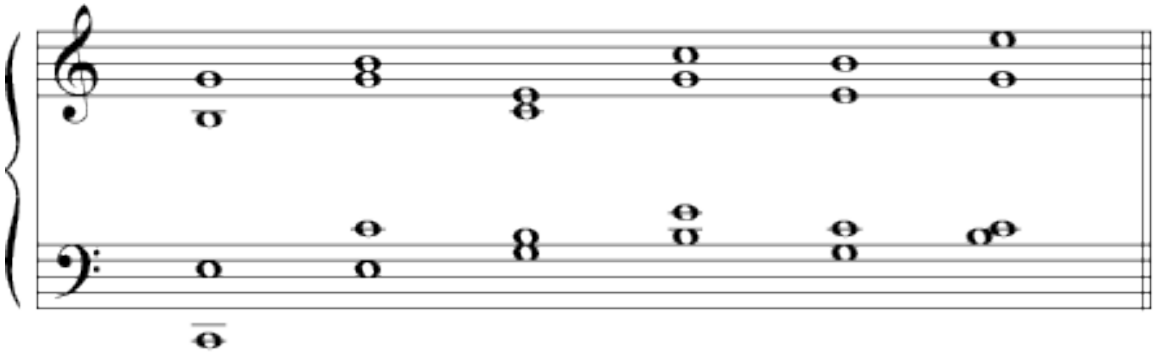


In summary, then, we find the following types of seventh chords diatonic to the major scale:

- Major7th on I and IV
- Minor7th on II, III, and VI
- Dominant7th on V
- Minor7(♭5) on VII

Why might the term *position* rather than *inversion* be more appropriate when referring to any of the various ways a chord's notes can be arranged?

The notes of any standard chord (triad or seventh) are defined. A Cmaj7 will always contain a C, an E, a G, and a B. However, those notes may be positioned a number of different ways. Take a look at the following:



These are all Cmaj7 chords. All of these versions (and many others) are used all the time. As it was with triads, it's an important part of your chord recognition skill to be able to identify seventh chords in no matter what order the notes may appear.

And, as with triads, identifying seventh chords is simply a matter of reordering the note names until you get a sequence of thirds—this time, three consecutive thirds. You then have the chord in root position, so it's now merely a matter of noting the kind of third, fifth, and seventh in order to identify the chord.

MICHAEL RENDISH'S ONLINE COURSES

GETTING INSIDE HARMONY 1

Through a combination of activities (listening, thinking, visualizing, vocalizing, writing, and playing), you'll open your ears and deepen your understanding of the inner workings of harmony in a broad range of contemporary styles. You'll find that you learn songs more easily and can transpose them on sight. And you'll be able to equip yourself with the best chord scale choices for arranging and improvising.

GETTING INSIDE HARMONY 2

Through keyboard chord voicings and voice-leading exercises, you'll gain an understanding of the musical tools that go beyond the demands of a particular musical style, and develop a greater sense of control in your writing - by the end of the course you'll find you're in a position to actually contribute your personal touch to the development of any number of musical styles!

EXAMINING THE THEORY BEHIND THE BLUES

FROM THE ONLINE COURSE *MUSIC THEORY 201*

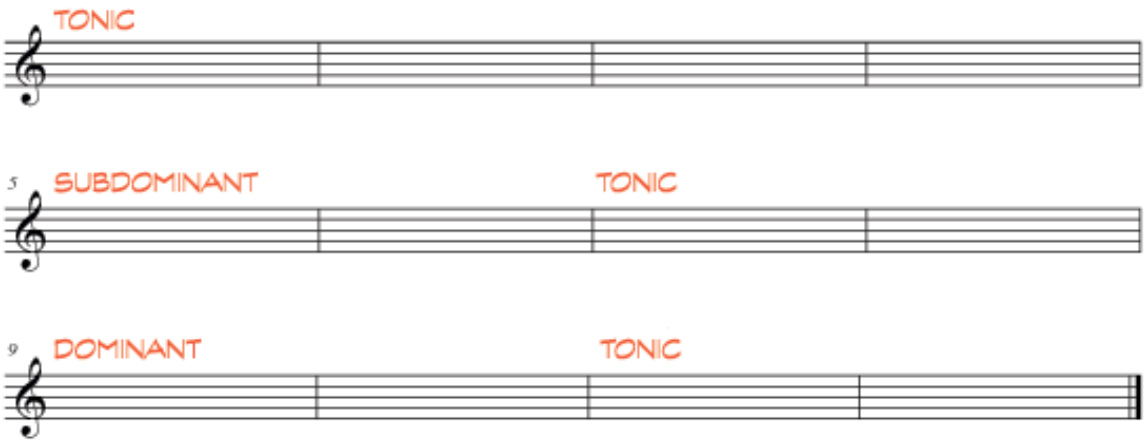
BY PAUL SCHMELING

Paul Schmeling is a master pianist, interpreter, improviser, and arranger who has inspired countless students since he began teaching at Berklee in 1961. He has performed or recorded with jazz greats such as Clark Terry, Rebecca Parris, George Coleman, Carol Sloane, Frank Foster, Art Farmer, Herb Pomeroy, Phil Wilson, Dick Johnson and Slide Hampton.

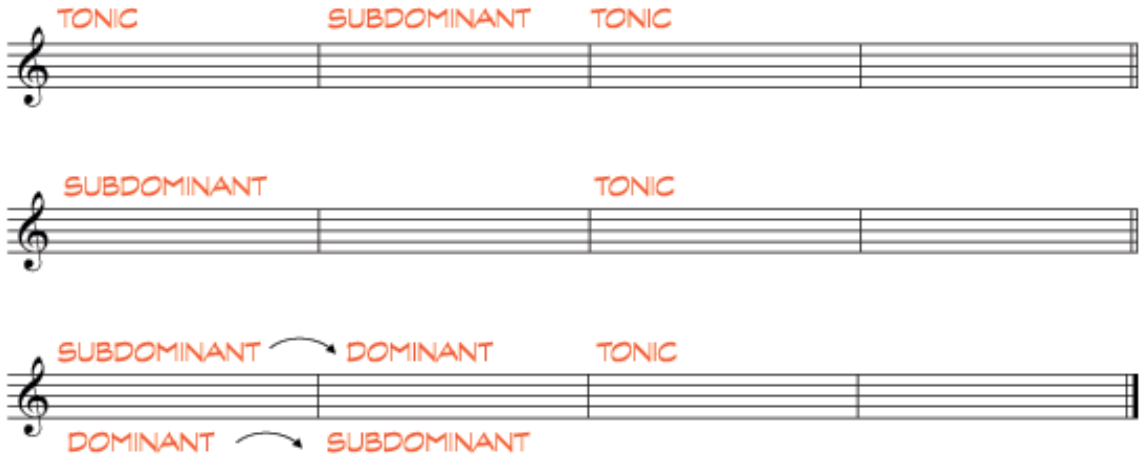
From B.B King to Stevie Ray Vaughan, the blues permeate the history of music, particularly in America. The influence of the blues is continually felt in any number of songs in the pop, rock, funk, fusion, and jazz styles. A working knowledge of the blues is a fundamental part of a solid theoretical background.

Let's take a look at the blues form and style—an essential part of the pop and jazz musician's vocabulary.

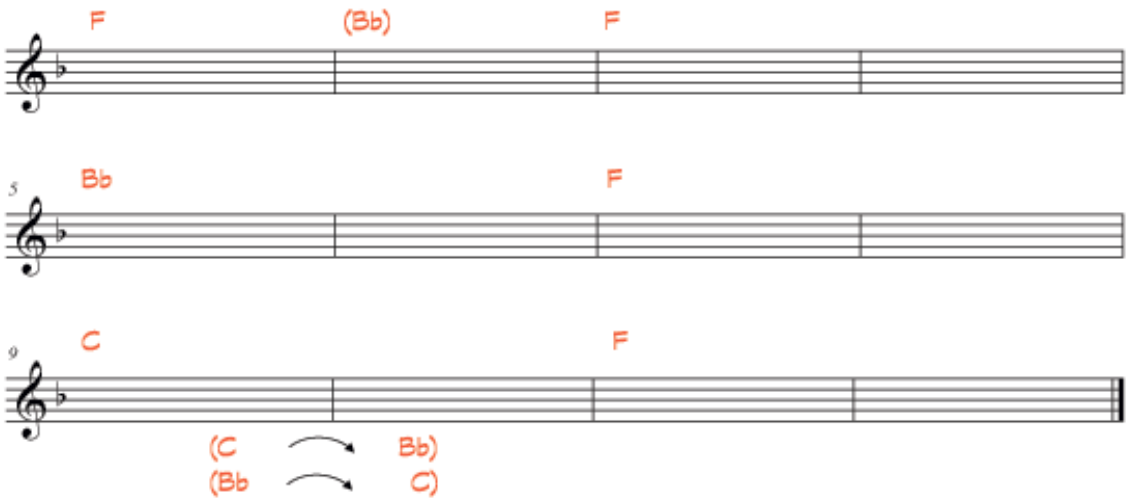
Blues is a twelve-measure form divided into three four-measure phrases. Regardless of style and degree of harmonic sophistication, all blues have the same harmonic functions occurring in the same places within the form. Blues must have at least this amount of, and placement of, harmonic activity to be considered the blues.



The most common variations of these basic harmonies are found in measures 9–10, the area of the dominant function, where the dominant chord may be followed or preceded by the subdominant. The other common variation is a subdominant chord in measure 2 and then a quick return to tonic in measure 3. Both of these variations are shown in the following example.

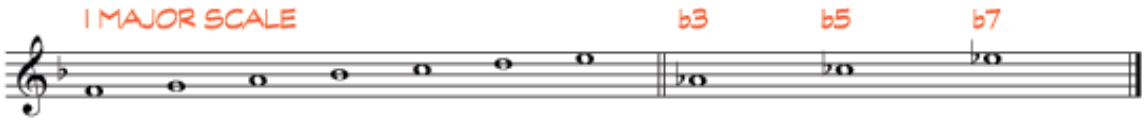


Before we move on to the actual chords commonly used in blues progressions, let's translate the function names into chord roots using the strongest of each function group. The tonic function will be the I chord; the subdominant function, the IV chord; and the dominant function, the V chord. Putting these chords into the key of F, the basic chords of blues would look like this:

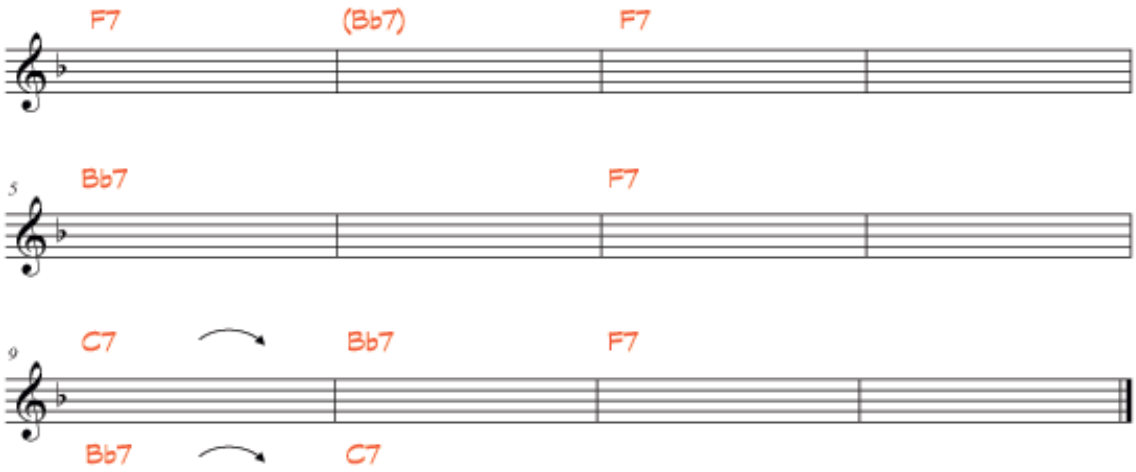


The term **blues** can be used to identify a musical form, as we have just discussed, or it can be used to identify a style, which we are going to look at next. Often the two are used together (both blues form and style), but sometimes a blues form may have a melody and chords that do not sound blues-like. Also, a song that is not a blues form can be made to sound "bluesy" by the use of the "blues notes."

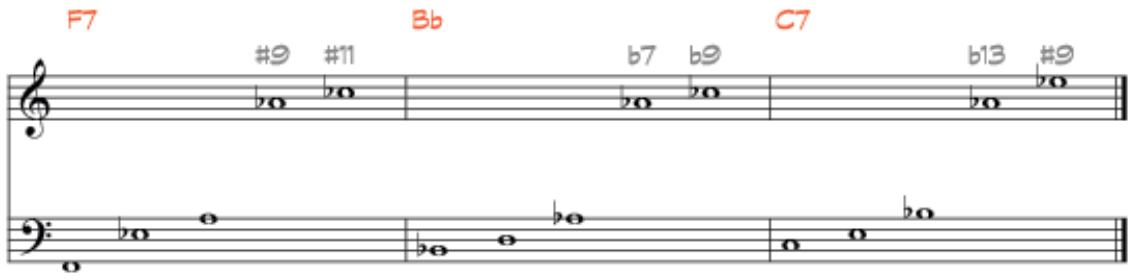
The blues notes, as you superimpose them over a major scale, are the flatted 3rd, the flatted 5th, and the flatted 7th. Their origin is in vocal music, where these flatted notes were vocal inflections or bendings of the pitch.



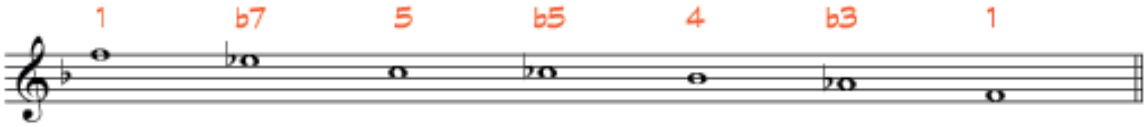
The most immediate and obvious influence the blues notes have is their effect on the harmony of a blues progression. Going back to the basic I, IV, and V chords discussed earlier, it is common that the I chord is a dominant 7th chord, as the ♭7 (E♭) is used as part of the chord. Similarly, the IV chord is also a dominant 7th as it uses the ♭3 (A♭) as its 7th. The V chord is already a dominant 7th chord as a diatonic chord in the F major scale.



Even the choice of tensions is often affected by the blues notes. The I chord frequently uses ♯9, and the V chord frequently uses the ♭13—both using the ♭3 (A♭). The ♭5 can show up as the ♭9 of the IV7 chord or the ♯11 on the I7 chord, but obviously won't work on the V7. The following sums up the potential use of the blues notes as tensions on the three chords of the basic blues progression.

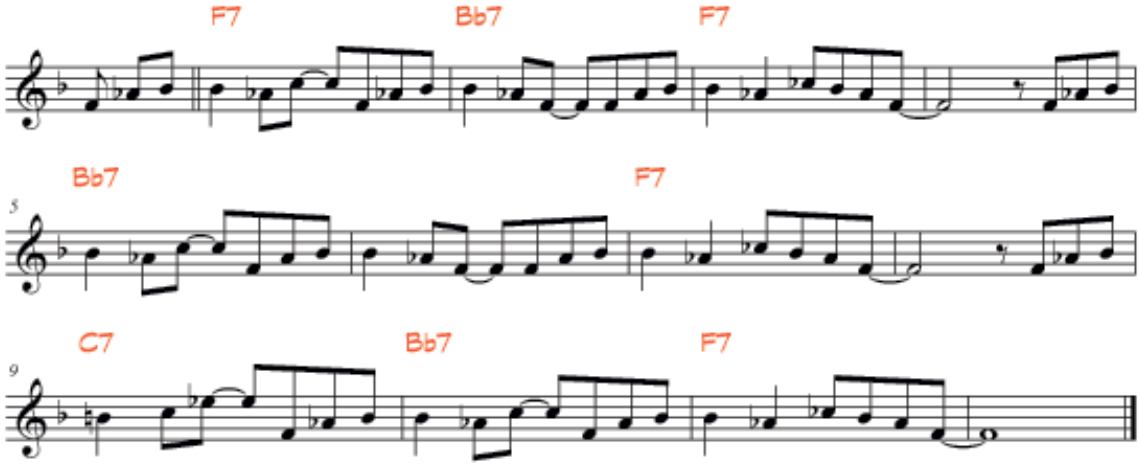


The blues notes (♭3, ♭5, ♭7) may be used in addition to, or instead of, the regular 3rd, 5th, and 7th from the major scale, but the most common blues scale is the following. Notice that the flatted 3rd and 7th are used instead of the regular 3rd and 7th, but the flatted 5th is used in addition to the natural 5th.



This same scale may be used over the three basic chords of a blues progression, even though not every note of the scale "fits" on each of the chords. The sound of the blues scale is strong enough to override these concerns.

The three four-measure phrases of the blues form are typically set up to be a four-measure phrase repeated in measures 5–8 and somehow varied in measures 9–12. Notice, in the following blues melody, the use of the blues notes, as well as the three four-measure phrases. The second phrase repeats the first, and the third phrase is similar to the first but changed a little for variation purposes.



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