
CPID 592114



# Harmony 2

## The Course Text for HR-112

Joe Mulholland
and
Tom Hojnacki

Third Edition

Berklee College of Music

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by

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# Introduction

This is the first major revision of the Berklee Harmony 2 Course Text in almost twenty-five years, an eternity in the world of contemporary music. In that time much has changed; however certain musical values and concepts will always animate our thinking about arranging, composition and improvisation. Our aim here is to give clearly written explanations of the concepts that are taught at the college, so that the technical language introduced in the classroom can be reviewed slowly and carefully and be more easily absorbed during study time. The dedicated student will find here a solid review of functional diatonic harmony followed by a logical presentation of the chromatic topics presented in Harmony 2.

While the text is organized by concept, we strongly suggest that *Chapter 7: Voicings* be addressed early in the semester so that students will begin to understand the variety of ways in which a chord symbol can be realized. Regular practice in voice leading chord progressions will ensure that the student's mastery of musical rudiments grows. *Chapter 8: Melody* is divided into 5 parts that can be interspersed with the topics of the first six chapters.

This book was written in parallel with the new edition of the Harmony 2 Study Supplement. The Course Text and the Study Supplement together offer a powerful way to explore and master the underlying concepts and mechanisms of popular music and jazz. There are frequent references to solfege concepts throughout the materials, in order to support the work of our colleagues in the Ear Training Department. It is the common goal of both departments to help students to "see with their ears" – consciously identify the musical materials they hear—and to "hear with their eyes" – have the ability to aurally imagine what they see in a printed score. It is our assertion that the attainment of these two abilities defines the well-educated musician.

We hope that these new materials will serve as a rich resource to support the critical classroom experience. The faculty of Berklee College of Music excels at making musical concepts come alive for its students. By these means we hope to turn out well-trained, creative artists who will not merely follow trends, but create new ones!

– Joe Mulholland & Tom Hojnacki
July 31, 2015

**Acknowledgements**

We wish to thank all of those who reviewed this text as it was being prepared. Many thanks to Curriculum Committee members Eric Byers, Suzanne Clark, Lucy Holstedt, and Michael Wartofsky, as well as Harmony faculty members David Harris, Darrell Katz, Rick McLaughlin, Daniel Ian Smith, John Stein, Nicholas Urie and Mark Zaleski for their helpful comments and suggestions.

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# Chapter 1: Major Key Harmony Review

Major key harmony is both *tonal* and *functional*.

- *Tonal music* has one pitch as its primary focus: a *tonal center* that serves as a reference point for all the other chords and melody notes in the piece.
- *Harmonic function* describes the relationship of each chord to its tonal center. Chords function by moving around or resolving to the tonic.

## The Major Scale and Basic Diatonic Functions

The major scale and the chords that are derived from it are the reference point for our thinking about harmony in general. The melodic tendencies in the major scale are the basis for harmonic motion. If you sing slowly up and down a major scale, you can sense these tendencies on a physical level:

- Scale degrees 1, 3, and 5 are quite stable; they have no tendency to move towards other notes.
- Scale degree 4 has a strong tendency to move *down* to 3 (*Fa-Mi*).
- Scale degree 7 has a strong tendency to move *up* to 1 (*Ti-Do*).
- Scale degree 2 has a strong tendency to move *down* to 1 (*Re-Do*).
- Scale degree 6 has a strong tendency to move *down* to 5 (*La-Sol*).

Of these, the strongest tendencies are 4 to 3 (*Fa-Mi*) and 7 to 1 (*Ti-Do*).

The unstable tones also feel resolved moving to other adjacent stable tones:

- Scale degree 2 can move *up* to 3 (*Re-Mi*).
- Scale degree 4 can move *up* to 5 (*Fa-Sol*).

Scale degrees 6 and 7 often pass through each other on their way to a more stable resting place:

- 6 can move stepwise *up* through 7 to 1 (*La-Ti-Do*).
- 7 can move stepwise through 6 *down* to 5 (*Ti-La-Sol*).

Fig. 1.1 shows a more complete summary of scale-tone tendencies. The stable tones are represented by open note heads; unstable tones are represented by darkened note heads:

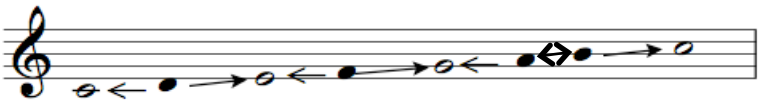


Fig. 1.1. Scale-Tone Tendencies

Scale degrees and their tendencies are like the letters of a language—the most basic unit. Next, we will look at the "words"—diatonic chords, the vocabulary of harmony. We will do this through the theory of *harmonic function*: the essential dynamic role each chord plays in a key. After those basic identities are defined, we will combine them and explore the grammar of harmonic progression.

## Triads vs. Seventh Chords

In earlier tonal music, the interval of a seventh was considered a dissonance that needed to be resolved melodically. Triadic progressions were covered thoroughly in PW-111; most of the progressions in this book will use seventh chords as the basis of the harmony. Seventh chords have a richer, more complex sound than triads.

## Tonic, Dominant, and Subdominant

*Harmonic function* describes the relationship of a chord to its tonal center. Each chord has a role to play in a piece of music. In the same way that all the different parts in an engine work together it to make it run smoothly—they each have a *function*—the chords in a progression have a role in making the music move forward and come to a satisfactory conclusion.

*Three functions govern major key harmony: tonic, subdominant, and dominant.*

Throughout the Berklee Harmony curriculum, we use the word "function" to describe a chord's stability relative to other chords within a piece of tonal music as well as its potential to progress in a certain way within a phrase.

## Tonic: Home Base

- The function of tonic is to provide a stable point of departure and return.
- I, Imaj7 or I6 are the primary tonic chords.

The term *tonic* expresses the idea that one note or *tone* serves as the fundamental reference and central point of rest in a piece or section of a piece. The tonic chord serves as the ultimate point of stability in a progression. Most tunes start on the tonic I chord and almost all end with it.

## Subdominant: Moving Away from Tonic

- IV is the primary subdominant chord. IVmaj7 and IV6 are modern versions of the IV triad.
- Subdominant chords have two possible functions:
  - to contrast with tonic (e.g, I to IV, IV to I, I IV I)
  - to prepare or precede the dominant (IV V).

The *subdominant* chord is rooted a perfect fifth *below* tonic: it is the ***sub***dominant. Although connected to the tonic chord by a common tone, the IV chord is a separate and distinct harmonic area within the key; it is different in its essential sound and function from both the tonic and dominant triads.

By sounding and sustaining a I chord, we become oriented to it as tonic or home base; if it is followed by a IV chord, there is a certain tension created by the pull away from tonic. This is due to the fact that the root of the IV chord is a very unstable note in the key; it tends strongly back to scale degree 3 (*Fa* to *Mi)*. In addition, the 3rd of the IV chord is also an unstable tone: it tends strongly back to scale degree 5, *La* to *Sol* . Subdominant to tonic motion is not as powerful as dominant to tonic resolution, for three reasons:

1. The IV chord lacks the *leading tone*, scale degree 7.
2. The IV chord is more closely related to the tonic triad by an important common tone, the tonic note itself.

3. The root motion of the subdominant chord back to tonic is a perfect fifth *ascending* (or perfect fourth descending); dominant resolves to tonic with *descending* perfect fifth (or perfect fourth ascending).

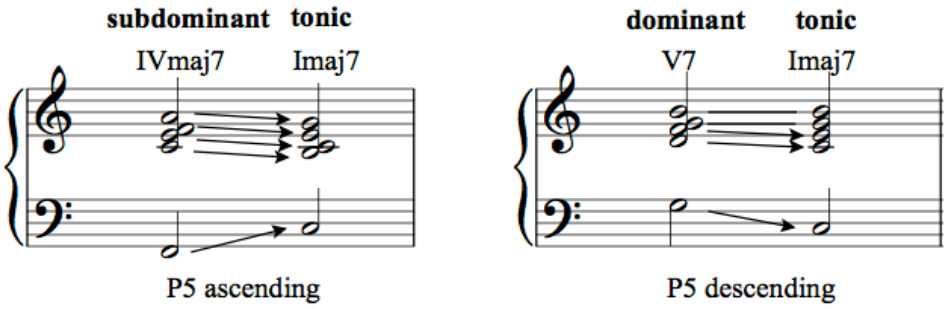



Fig. 1.2. Subdominant to Tonic vs. Dominant to Tonic

Despite the issues, subdominant to tonic is still felt as a release of harmonic tension.

## Dominant: the Drive to Tonic

- The function of the dominant chord is to cause the listener to expect resolution to the tonic.
- V7 is the primary dominant chord. The tritone is the defining characteristic of the dominant 7th chord.

This expectation is created by the vertical combination of unstable scale tones in the V7 chord: the interval of a *tritone* (augmented fourth or diminished fifth) created by the combination of scale degrees 4 and 7. In Fig. 1.3, there are three unstable tones that seek resolution: scale degrees 2 to 1, 7 to 1, and 4 to 3 (scale degree 5 is common to both chords). When they are combined in a chord, their effect is multiplied. The root of the V7 chord moves down by the interval of a perfect fifth to anchor the resolution. Bass motion by descending perfect fifth is a very satisfying, primal motion.

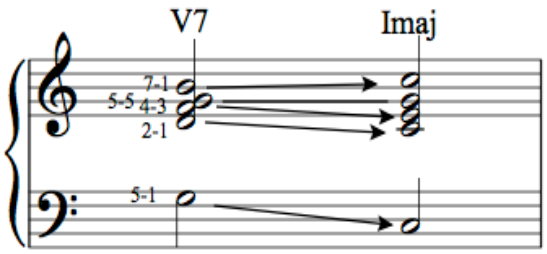



Fig. 1.3. V7 to I: Dominant Resolution

## Dominant Variation: V7sus4

When V7sus4 precedes V7, it sounds subdominant: a suspension before the true dominant.

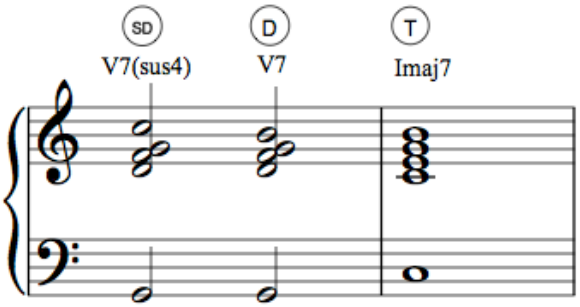



Fig. 1.4. V7sus4 Functioning as Subdominant.

However, when V7sus4 directly precedes a tonic chord, we accept it as a substitute for the V7 chord even though it does not contain the tritone.

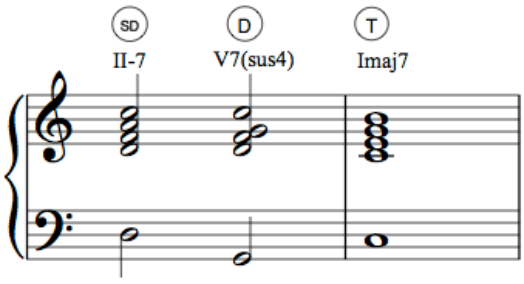



Fig. 1.5. V7sus4 Functioning as Dominant

The root motion by perfect fifths and the dissonant minor seventh interval between its root and seventh provide enough information in this context to create the expectation of resolution to tonic. Therefore, we classify it as a dominant function chord. In this instance, context helps to define the function.

## Functional Groups

What about the other chords: II–7, III–7 and VI–7? These chords can be thought of as alternate versions of the primary functions. Using alternate tonic and subdominant chords adds variety of root motion and chord quality to a progression.

- Chords that have similar sounds and similar effects in a progression belong to the same functional group.

## The Other Members of the Tonic Group

Imaj7 is the primary tonic: nothing can truly replace the chord built on the tonic of the key for its musical stability and finality. However, III–7 and VI–7 are considered to be functional substitutes for Imaj7. This is due to two factors: they each share three common tones with Imaj7 and neither chord includes the unstable 4th scale degree *Fa*.

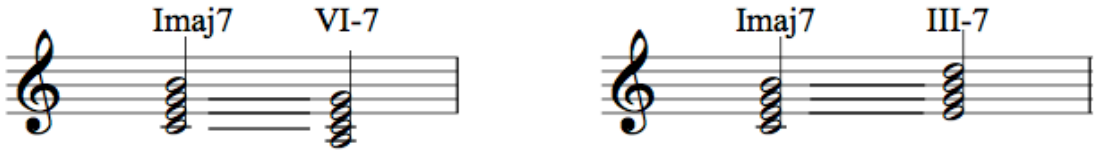



Fig. 1.6. Common Tones between IMaj7 and VI–7 and between IMaj7 and III–7 (Tonics)

VI–7 is slightly more stable than III–7 because III–7 lacks the tonic pitch and it contains the unstable scale degree 7 as a chord tone.

## The Other Member of the Subdominant Group

The fourth scale degree (*Fa)* is the defining tone for subdominant chords in a major key. It is an unstable tone that has a strong tendency to resolve to scale degree 3. Three common tones and the presence of scale degree 4 make II–7 a good functional substitute for IV:

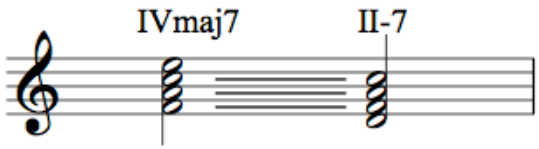



Fig. 1.7. Common Tones between Subdominant Function IVMaj7 and II–7

The II–7 V7 chord pattern is one of the hallmarks of jazz progressions. In this pattern, II-7 replaces IVmaj7 as a preparation for the dominant chord.

## Is there another member of the dominant function group?

The defining characteristic of the dominant seventh chord is the tritone interval that combines scale degrees 4 and 7. It would seem that VII–7♭5 or the VII$^{ø}$ triad would fit the definition of dominant function, but in the last hundred years, it has been so rarely used in this way that it can be excluded from the dominant category. Musicians have consistently preferred the stronger root motion of V7 to I. In major key music, for all practical purposes, dominant function is embodied by V7 and its variant V7sus4.

## Summary of Chord Functions

- *Tonic group:* Imaj7 (tonic), VI–7 and III–7 (alternate tonics)
- *Subdominant group:* IVmaj7 (subdominant) and II–7 (alternate subdominant)
- *Dominant:* V7 or V7sus4, depending on context.
- VII–7♭5 is not an alternate dominant function chord in popular styles.

## Harmonic Rhythm, Metrical Stress Patterns, Phrase and Cadence

*Harmonic rhythm is the rate at which the chords change in a phrase.*

Harmonic rhythm may be expressed by note values: a harmonic rhythm of a whole note means the chords change every four beats, as in Fig 1.8, where the harmonic rhythm is one chord per measure:

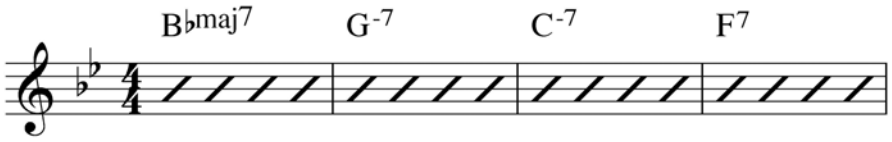



Fig. 1.8. Whole Note Harmonic Rhythm

In Fig. 1.9, the harmonic rhythm is a half note, two chords per measure:

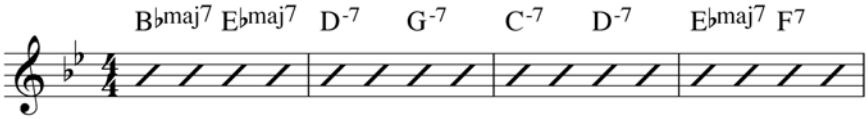



Fig. 1.9. Half Note Harmonic Rhythm

Fig. 1.10 has quarter-note harmonic rhythm, four chords per measure:

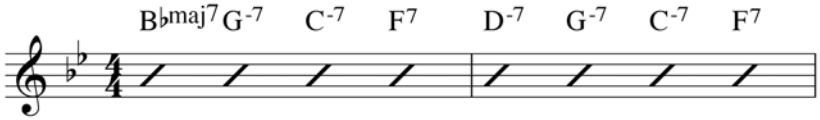



Fig. 1.10. Quarter-Note Harmonic Rhythm

Fig. 1.11 has a mixture of durations:

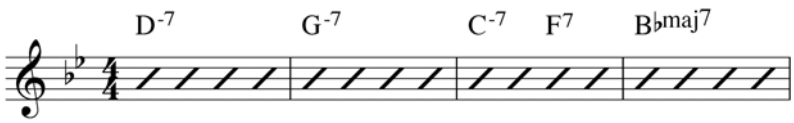



Fig. 1.11. Mixed-Duration Harmonic Rhythm

Change in the harmonic rhythm is an important, sometimes dramatic way of increasing excitement or tension in a progression. For example, in the A section of Thelonious Monk's "Well You Needn't," the chords change once per measure:

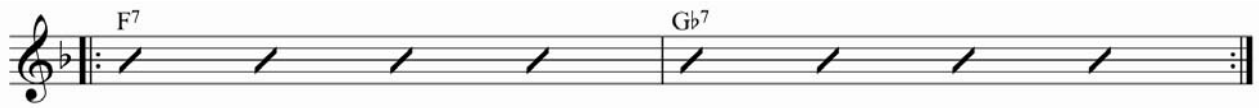



Fig. 1.12. The A Section of "Well You Needn't": Whote-Note Harmonic Rhythm

The bridge starts with one chord every two measures:

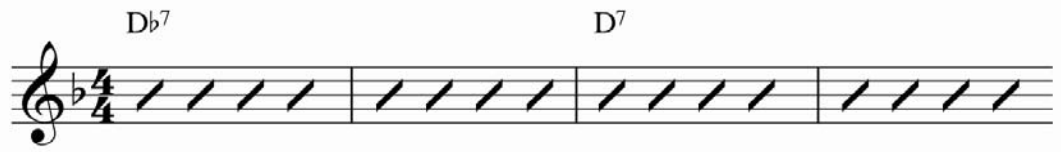



Fig. 1.13. "Well You Needn't" Bridge: Two-Measure Harmonic Rhythm

It changes then to two chords per measure—a dramatic increase in the harmonic rhythm.

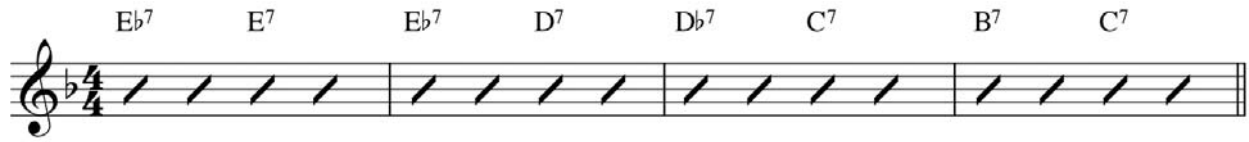



Fig. 1.14. "Well You Needn't" Bridge, continued: Half-Note Harmonic Rhythm

## Metrical Stress Patterns and Their Effect on Chord Progression

Music that is organized with meter exhibits a regular hierarchy of rhythmic stress. In a measure of 4/4 meter, the first beat will have the strongest stress, the second will seem weak by comparison, the third will seem accented (but not so strong as the first) and finally the fourth beat will be the weakest of all.

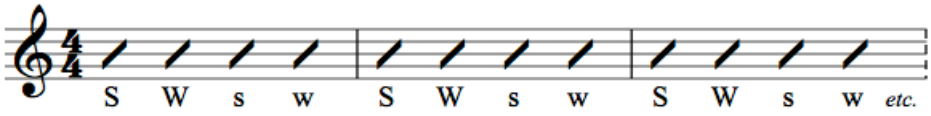



Fig. 1.15. Metrical Stress Patterns: Strong (S) and Weak (W)

When the harmonic rhythm in a tune is four chords per measure, our perception of the progression coincides exactly with the metrical stress pattern. For example, the first chord we hear will be most prominent, the second of lesser importance, the third will seem strong again and the fourth chord will seem the weakest in the measure. This in turn causes us to anticipate a strong stress on the next downbeat and so on, as the pattern recurs repeatedly. This Strong-Weak-less strong-weakest beat pattern conditions us to hear chord progressions in a certain way:

> *The expectation is that relatively stable harmonies will coincide with strong stresses in a pattern, while unstable harmonies usually coincide with the weak.*

## Stress Patterns and Slower Harmonic Rhythm

The same natural stress pattern we feel in a measure is also in operation at a larger rhythmic level: the phrase. When the harmonic rhythm is the same as the meter (that is, one chord per beat), the stress pattern is obvious. However, when the harmonic rhythm is regular but slower than the beat, the listener will still sense an alternation of strong and weak stresses. The perceived stresses shift to align with the harmonic events:

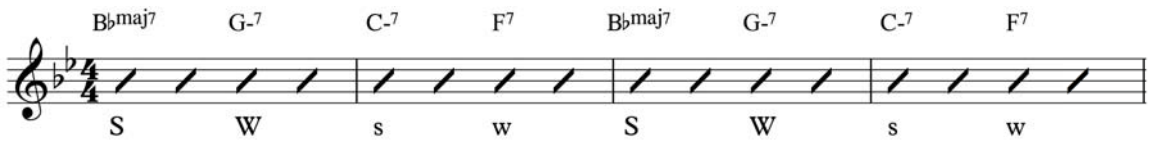



Fig. 1.16. Half Note Harmonic Rhythm and Stress Pattern

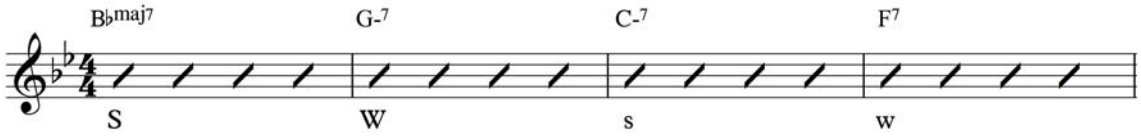



Fig. 1.17. Whole Note Harmonic Rhythm and Stress Pattern

Understanding the expectation of stable chords on strong stresses, unstable on weak stresses gives us the opportunity to play with that expectation. Let's look at the effect of the metrical stress pattern on a series of four chords. To begin, Fig. 1.18 alternates stable and unstable functions that are aligned with the usual strong and weak stresses of the metrical pattern:

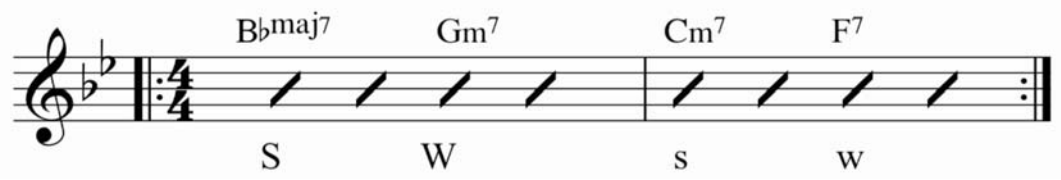



Fig. 1.18. Alternating Stable/Unstable Harmonic and Metric Functions

Imaj7 VI–7 II–7 V7 is an essential progression in jazz and mid-20th century pop repertoire. It has been used in countless tunes up to the present day to establish tonality. Positioning the most *stable* function in the strongest metrical position and the most *unstable* in the weakest creates a feeling of departure from the tonic, and thus, forward harmonic motion:

1. Imaj7 is stable, on a strong stress.
2. VI–7 is a less stable tonic-function chord.
3. II–7, while less stable than the tonic chords that precede it, is more stable than the V7 chord that ends the phrase.
4. V7 creates an expectation of resolution to the stable Imaj7 chord on the next strong downbeat.

Listen to what happens when we shift the sequence metrically. The progression in figure 1.19 is used as a variation in the bridge of a number of tunes:

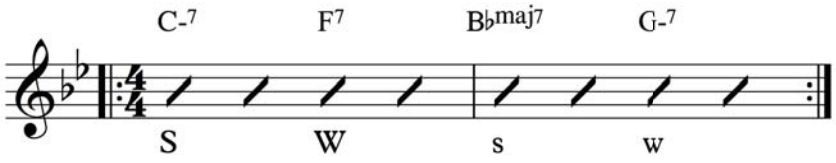



Fig. 1.19. Displacement of I VI- II- V

The displacement puts II–7 in the strongest position; Imaj7 falls on a relatively weaker stress. This diminishes the sense of consistent forward motion because the expectation created by the V7 chord is now resolved prematurely on the less strong 3rd stress point. When repeated, this progression still has a forward-moving quality because the less stable harmonic functions occupy the weakest stresses. The perfect fifth root motion from G–7 down to C–7 contributes to the sense of forward motion.

Let's try another shift. In Fig. 1.20, the relationship of harmonic stability/instability to metrical stresses is reversed. Even though we're employing the same chords, this example seems to stall and then restart with each repeat. The forward motion falters because the stable Imaj7 is now in the *weakest* metrical position. What used to be a *continuing* moment is now a *stopping* point, due to the arrival of the tonic.

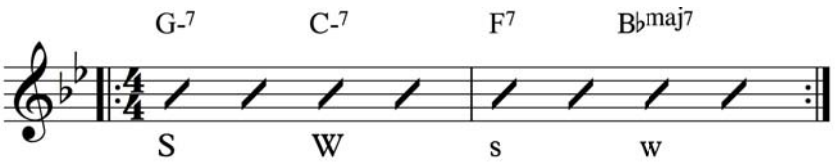



Fig. 1.20. Imaj7 in a Weak Metrical Position

The final displacement in Fig. 1.21, is completely unsatisfactory: it's the musical equivalent of a capsized boat. Most of one's mental energy seems to go toward trying to will the downbeat to a different position. This is because the pattern of harmonic stability/instability is at odds with the expectation of strong and weak stresses created by the meter.

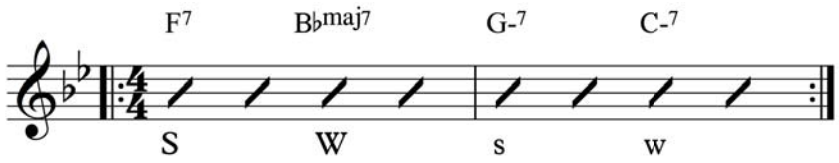



Fig. 1.21. Harmonic functions in inappropriate metrical positions

## Mixed Harmonic Rhythm

When the rate of change in the progression increases, chords that appear on beats 3 or 4 of a "strong" measure will be perceived as *weaker* than those on a following downbeat. Fig. 1.22 has a prevailing harmonic rhythm of one chord per measure. But, in the third measure, the rate of the chord change increases to two chords per bar. The V7 on beat 3 of the measure creates an expectation of resolution to the Imaj7 chord on the "strongest" beat of measure 4. This effectively halts forward motion, bringing the harmonic phrase to a point of rest:

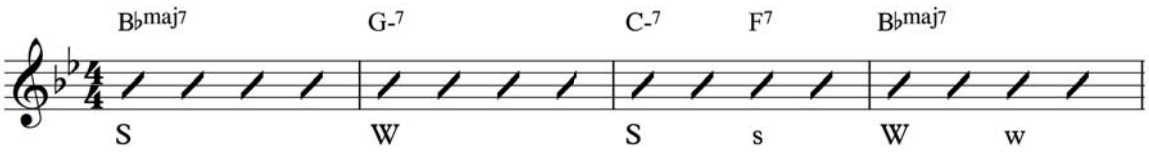



Fig. 1.22. Mixed harmonic rhythm, unstable V7 chord on a "strong" beat

## Summary of Harmonic Rhythm and Stress Patterns

- The rhythmic positions that chords occupy in a phrase have a great effect on a listener's perception.
- Forward harmonic motion is dependent on positioning the unstable function chords on weak stresses and stable functions on strong stresses.

## Harmonic Phrase and Cadences

- A harmonic phrase is a musical idea the length of a breath.
- The length of the harmonic phrase depends on the tempo of the tune.
- The harmonic phrase is often separate from the melodic phrase.
- The harmonic phrase is a potentially independent *accompaniment* to the primary melody.

We have seen how harmonic functions interact with metrical stress patterns to define a tonal center through the alternation of stable and unstable harmonic functions. To begin to understand motion to and away from tonic at the level of the harmonic phrase, we need to understand the concept of *harmonic cadence*.

*A harmonic cadence is a clearly recognizable*
*harmonic event that comes at the end of a phrase.*

A harmonic cadence can be open-ended (unfinished, seeking further resolution) or closed-ended (complete, coming to rest). There are different kinds of cadences, each with its own distinctive character. On the next page, there is a list of the kinds of cadences that occur in major key music.

## The Common Diatonic Cadences in Major Key:

1. A harmonic phrase that ends with V7 resolving to I is a full dominant cadence. It will sound closed-ended, or finished. Subdominant function chords often precede the dominant: ‖ B♭maj7 / / / | G–7 / / / | E♭/ F7 / | B♭6 / / / ‖
   (Jazz tunes show a preference for II–7 as the subdominant preparation. A phrase ending in II–7 V7 I is a full jazz cadence.)

2. A harmonic phrase ending on the dominant seventh chord of the key is called a half cadence. The harmonic instability created by the dominant is left unresolved; we say the phrase feels open-ended. A phrase ending in II–7 V7 is called a jazz half cadence.

3. A phrase ending in IVmaj7 to I is a subdominant or plagal cadence. It is sometimes called the "Amen cadence" because of its use in hymn tunes. While not as strong as the tonic/dominant relationship, motion from subdominant to tonic represents a move from instability to stability as well.

4. A phrase ending on IVmaj7 or II–7 can be called a subdominant half cadence. Phrases that end on a subdominant function chord will become especially important in later chapters, as we explore the varieties of alternative subdominant function represented by modal interchange.

5. The chord combination V7 VI–, or V7 III–7, occurring at the end of a harmonic phrase is called a deceptive cadence.

# Chapter 2. Tensions: Extending the Chord to the 13th

The ability to imagine and use extended chords is a fundamental skill essential for any contemporary musician, regardless of instrument. We will start with diatonic tensions in major key. Here are two facts to remember:

1. Tensions are named for their intervallic distance from the root of a chord in close position.
2. Diatonic tensions in a voicing reinforce the identity of the key.

Imagine a Imaj7 chord in C, extended by thirds and using only notes from the C major scale. Here is the result of this *tertian* extension:

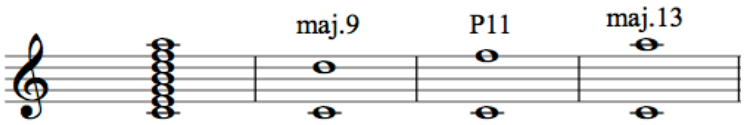



Fig. 2.1. Diatonic Tensions of CMaj7

The chord symbol for a Imaj7 chord with all of the diatonic tensions from the C major scale would be:

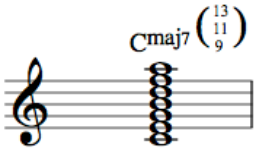



Fig. 2.2. Chord Symbol for CMaj7 with All Diatonic Tensions: CMaj7(9,11,13)

It might seem that every note in the key could be added to a chord voicing. In fact, there are some extensions that are either too dissonant to sound attractive musically, or that disrupt the chord's harmonic function. If we collapse the chord voicing into a scale and examine the intervals between each chord tone and the tension to its immediate right, it is easy to tell which notes will be too dissonant if left unresolved.

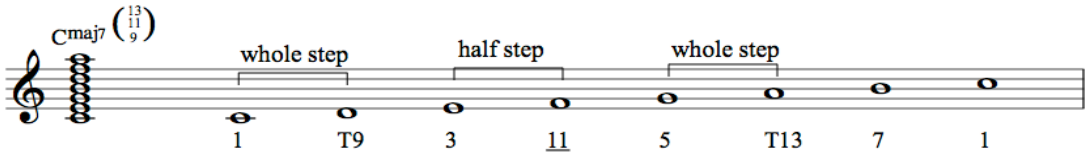



Fig. 2.3. Cmaj7 with Tensions

Our ears tell us that tensions 9 and 13 sound acceptable when added to Imaj7. Notice that T9 and T13 are a *whole step above* the previous note in the scale.[1]

On the other hand, the diatonic 11th is too dissonant to be used in a voicing of a Imaj7 chord. It sounds harsh and out of place, especially when voiced above the basic chord tones. Notice in Fig 2.4 that s4 is only a *half-step above* its chord tone neighbor.

The 11th is also unstable scale degree 4 in the key—the note that defines subdominant function. Using the diatonic 11th in a voicing of Imaj7 will obscure its tonic function. Let's qualify our chord scale for Imaj7:

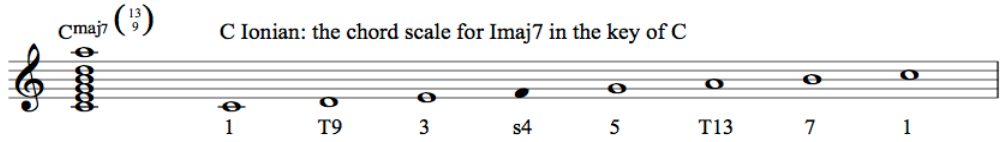



Fig. 2.4. Cmaj7 Chord Scale

The diatonic 11 is now defined as a *harmonic avoid* tone. While it is diatonic, it is too dissonant to be used as a non-resolving vertical sonority. Rather than T11, we identify it as scale tone 4 or "s4." This indicates that it is unavailable for vertical use, but appropriate as a melodic approach tone (i.e. passing tone, neighbor tone, etc.).

*Available tensions are tensions that sound acceptable when added to a chord voicing.*

*Harmonic avoid tones are diatonic tensions that sound overly dissonant when unresolved, or disrupt the harmonic function of a chord.*

[1] Figure 2.3 is a *chord scale*. Chord scale theory is a cornerstone of Berklee Harmony study. We will occasionally use chord scales to illustrate concepts in this book. You will get a full course of chord scale study in Harmony 3.

Another way to visualize the chord tone-to-tension relationship is shown in Fig. 2.5:

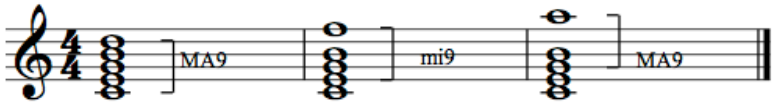



Fig. 2.5. Tensions above chord tones

Instead of whole steps and half steps, the tensions are seen as they might appear in an actual voicing: either a major ninth or a minor ninth above a particular chord tone. We can add another fact about tensions to our list:

*Available tensions for diatonic chords are a major ninth above a chord tone in a root position close voicing.*

There will be exceptions to this later, but for purely diatonic progressions, this is the rule to remember.

The *chord scale* we used in Fig. 2.4 is a theoretical device that allows us to keep track of all of the notes that agree with a chord in a key. A chord scale contains the basic chord tones and available tensions appropriate to the function of the chord; it also identifies other tones that may work melodically but are inappropriate for use in a chord voicing. Chord scale study is a very powerful way of understanding pitch relationships in music.

The following sections reveal the available diatonic tensions and the avoid tones for the rest of the chords in C major. The illustrations below are all in the key of C, but the same relationships exist in all major keys.

## II–7: Dorian

In the chord scale for II–7, all of the tensions are a whole step above their respective chord tones; as a result, they *should* all agree aurally with the chord.

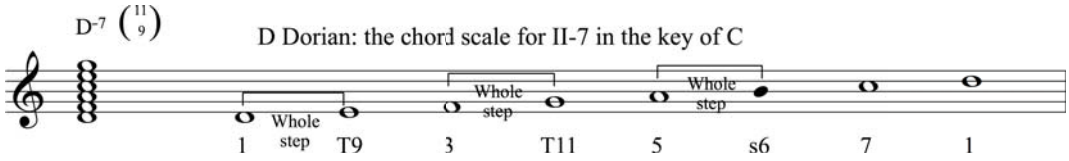



Fig. 2.6. D Dorian: Chord Scale for II–7 in the Key of C Major

However, there is a problem: s6 (B natural in a voicing of D–7) can cause the II–7 chord to sound like the second inversion of V7. This is of special concern in the progression I II–7 V7 I Imaj7 I, because its effect depends on the clear change from subdominant to dominant to tonic sound. Notice the difference in the top voice in these two examples.

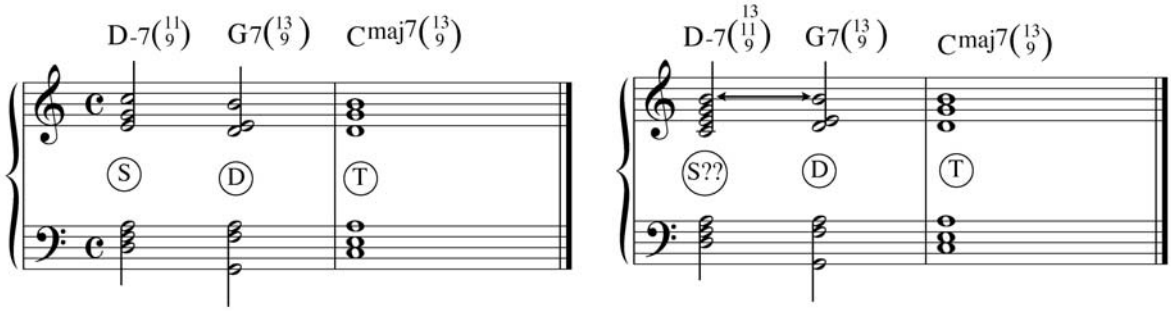



Fig. 2.7. Two Voicings of II–7 V7 Imaj7

The first example is a clear functional progression. In the second example, adding B to the subdominant D–7 chord causes confusion about its function by "stealing" the leading tone from V7, causing it to resemble a poorly-voiced G7/D. In general try to avoid adding 13 to II-7 chords.

### III-7: Phrygian

In the chord scale for III–7 (Fig. 2.8), both the diatonic 9th and 13th are unavailable, as they are a half step above chord tones 1 and 5 respectively:

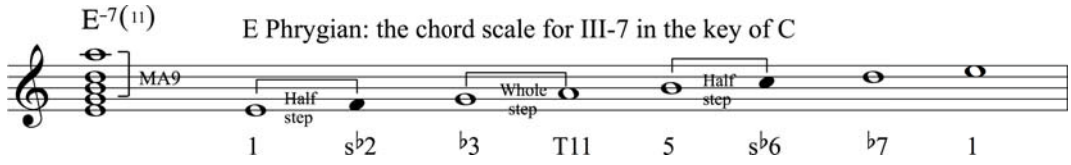



Fig. 2.8. E Phrygian: Chord Scale for III-7 in the Key of C major

Only the 11th sounds pleasingly consonant; s♭2 and s♭6 are unacceptably dissonant in a voicing. The tonic function of III–7 would also be obscured by s♭2, which is *Fa*, the characteristic unstable note of subdominant function. S♭6 is *Do*, the tonic note in the key. Its use in a voicing causes III–7 to sound like an inversion of Imaj7, compromising its identity as an alternate tonic sound.

### IVMaj7: Lydian

The chord scale for IVMaj7 shows three available diatonic tensions and no harmonic avoid tones.

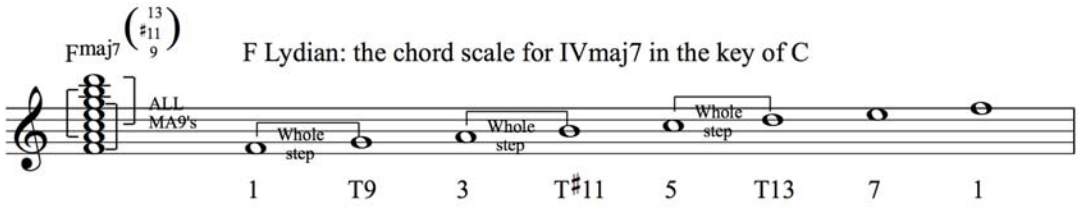



Fig. 2.9. F Lydian: Chord Scale for IVmaj7 in the Key of C Major

### V7: Mixolydian

Diatonic tensions 9 and 13 are available on the V7 chord. The diatonic 11th is a half step above chord tone 3 and therefore unavailable. Note also that it is *Do*, the most stable note in the key, and on that basis alone would clash with the tones of the unstable dominant chord.

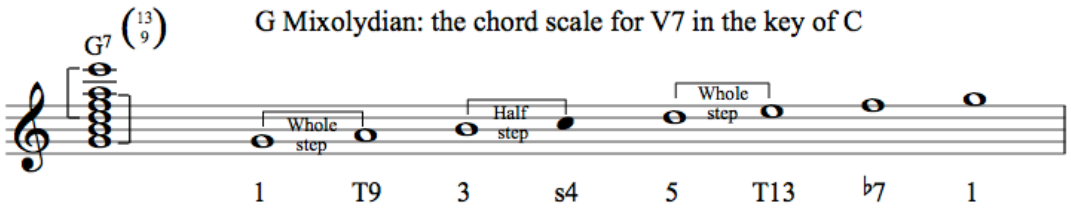



Fig. 2.10. G Mixolydian: Chord Scale for V7 in the Key of C major

For V7sus4, the G Mixolydian chord scale still applies; however, 4 is now the chord tone and 3 the avoid:

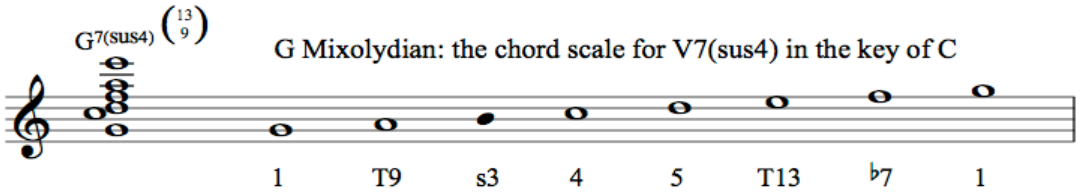



Fig. 2.11. G Mixolydian with G7sus4

### VI–7: Aeolian

Diatonic tensions 9 and 11 are available on the VI–7 chord. The diatonic s♭6 is a half step above chord tone 5 and thus unavailable.

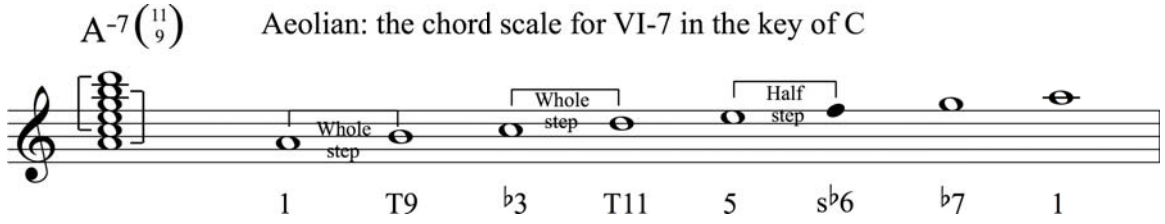



Fig. 2.12. A Aeolian Chord Scale

S♭6 is also *Fa*, the subdominant characteristic note in the key. Using it in a voicing of VI–7 compromises the chord's tonic function, causing it to sound like the first inversion of IVmaj7.

### VII–7♭5: Locrian

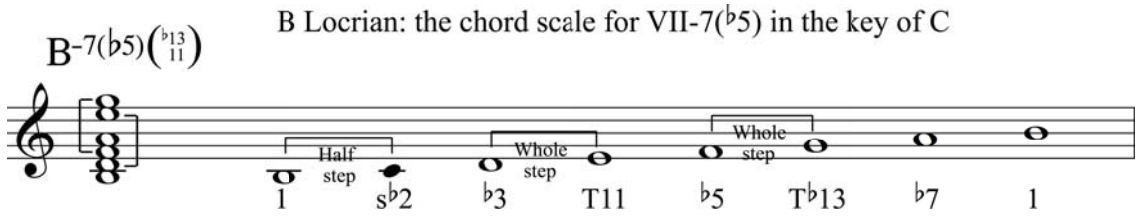



Fig. 2.13. B Locrian Chord Scale

VII–7♭5 plays no meaningful role in exclusively major key chord progressions. (It does have an important role to play in relation to the secondary dominant chord V7/VI discussed in the next chapter.) The chord scale in figure 2.13 shows VII–7♭5 with two available diatonic tensions: 11 and ♭13. S♭2 should not be used in a voicing.

## SUMMARY OF MAJOR KEY DIATONIC TENSIONS

Tensions are extensions of a basic chord.

Tensions add color, richness, and complexity to a chord voicing.

Diatonic tensions reinforce the sound of the key.

Available tensions sound musically acceptable when added to a chord voicing.

Harmonic avoid notes sound harsh, dissonant or confusing when added to a chord voicing.

In a diatonic major key progression, available diatonic tensions are a major ninth above a chord tone:

The available diatonic tensions for Imaj7 are 9 and 13.

The available diatonic tensions for II–7 are 9 and 11.

The available diatonic tension for III–7 is 11.

The available diatonic tensions for IVmaj7 are 9, #11 and 13.

The available diatonic tensions for V7 are 9 and 13.

The available diatonic tensions for VI–7 are 9 and 11.

The available diatonic tensions for VII-7♭5 are 11 and ♭13.

## Increasing the Expectation of Resolution: Adding Chromatic Tensions to V7

In a purely diatonic progression, only diatonic tensions will exist. But music is often more complex than that. The dominant function of V7 is unstable, creating an expectation of resolution. Because of its unstable nature, the concept about available tensions can be modified for dominant chords:

*Any tension is possible on a dominant chord, except 11 (s4).*

This expanded concept will prepare you to understand and use the wider variety of tensions on dominant chords in many styles.

Adding chromatic tones as tensions to a dominant chord increases the instability of the harmony, making the resolution more powerful and satisfying. In a major key progression, chromatic tones are like "super tendency tones": they have a powerful tendency to relax back to the nearest stable major scale degree.

Compare these full jazz cadences:

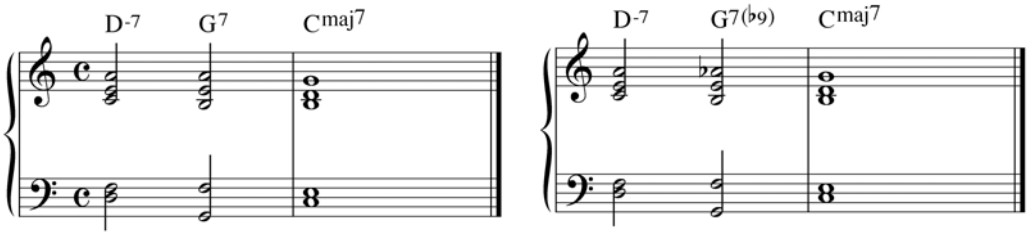



Fig. 2.14. II-7 V7 Imaj7 Cadences with 9 and b9

The first example employs only diatonic tensions. In the second, the ♭9 adds a stronger dissonance to the G7 voicing. Notice the increased sense of release you feel when G7 resolves to Cmaj7 in the second progression. It is the result of A♭ resolving to the stable

scale degree 5.

Adding ♭13 is also possible. Again, the chromatic note increases the amount of restless tension we feel in the V7 chord.

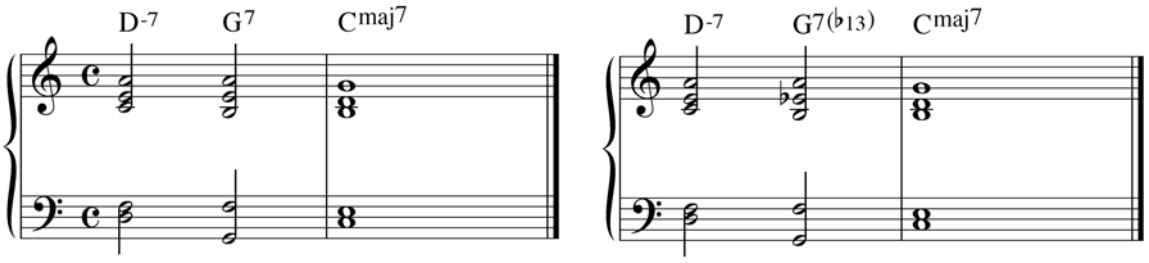



Fig. 2.15. II–7 V7 Cadence with ♭13

The two tensions combined increase the effect. Using ♭9 and ♭13 together creates a momentary "darkening" of the major key sound. It also dramatically increases the pull of V7 to resolve back to the diatonic Imaj7.

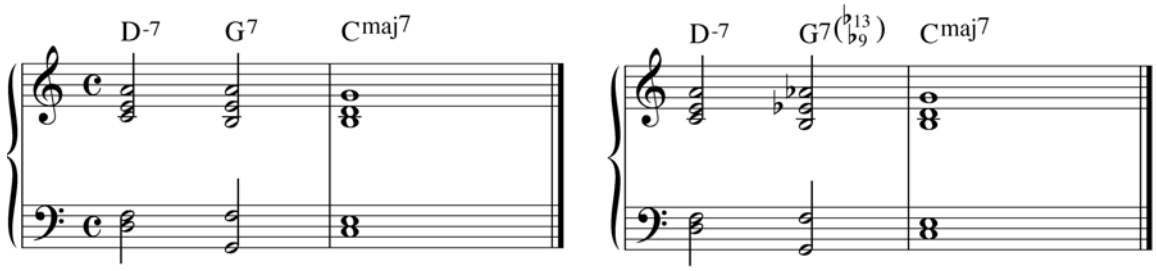



Fig. 2.16. II–7 V7 Cadence with ♭9 and ♭13

This suggests a number of further harmonic options. Each will increase the level of tension that can be applied to the V7 chord. The next section will explore those options.

## More optional tensions for V7

T#9 can be used alone in a V7 voicing.

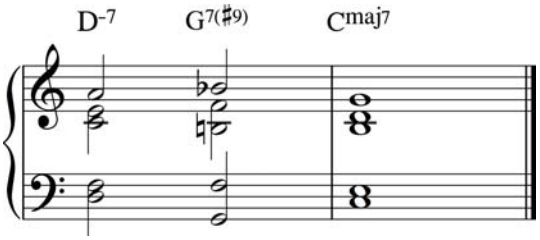



Fig. 2.17. V7 with #9

It can be used sequentially with ♭9.

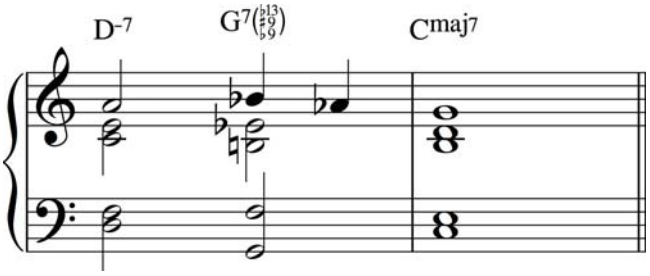



Fig. 2.18. V7 with ♭9, #9 and ♭13

Or all three tensions can be combined vertically:

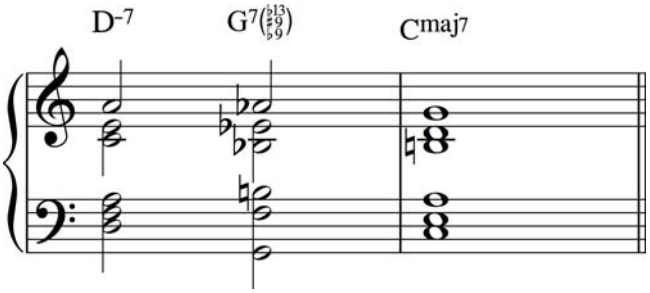



Fig. 2.19. V7 with ♭9, #9, and ♭13

Here is the chord scale that incorporates all three tensions:

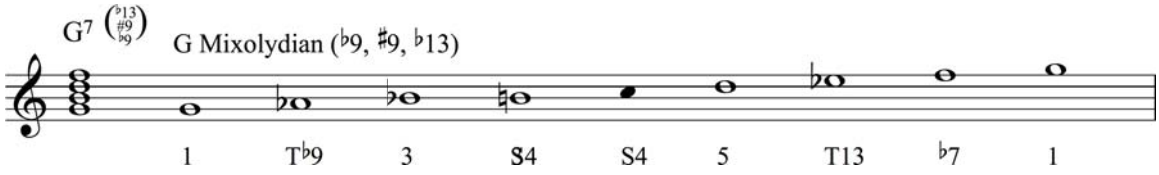



Fig. 2.20. Chord scale for G Mixolydian ♭9, #9, ♭13

The full range of possible tensions, exact choice of tensions, and how they are arranged in a voicing, depend on style and instrumentation. You will study those ideas in Harmony 3 and 4, as well as in Arranging and Ensemble classes.

## Summary of Chromatic Alterations to Dominant Chords

- Non-diatonic ("altered" or "chromatic") tensions may be added to dominant function chords.
- Adding chromatic tensions to a V7 chord increases its expectation of resolution.
- The only avoid note on a dominant chord is s4.
- If 5 is present in the voicing, ♭13 is generally not used.
- Dominants with 13 create an expectation (but not necessity) of resolution to a major chord.
- Dominants with ♭13 create an expectation (but not necessity) of resolution to a minor chord.
- All dominant chord scales will be some form of Mixolydian scale: 1, 3, 5, and ♭7, plus the chosen tensions.

# Chapter 3: Secondary Dominants, Extended Dominants, and the "II V"

In Chapter 2, we saw that chromatic tones have a powerful tendency to resolve to diatonic neighbor tones. In this chapter, we will begin to explore ways in which chromatic notes can be employed to create forward harmonic motion.

Compare these three phrases:

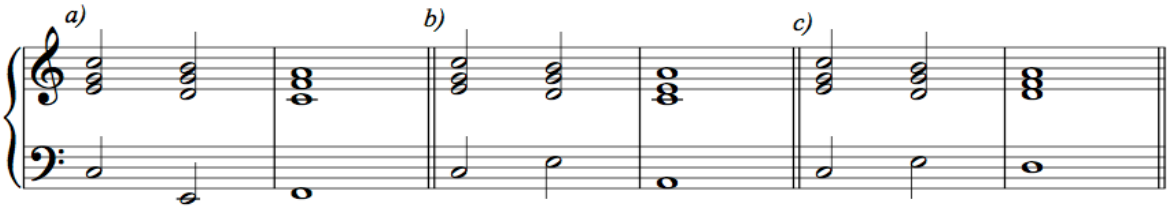



Fig. 3.1. Three Diatonic Patterns

After hearing the first measure of each example, our ears are open to any of the three possibilities. All are equally likely, and the outcomes in measure 2 of each pattern all sound acceptable. However, if we change a single note in the second chord, our expectations change dramatically.

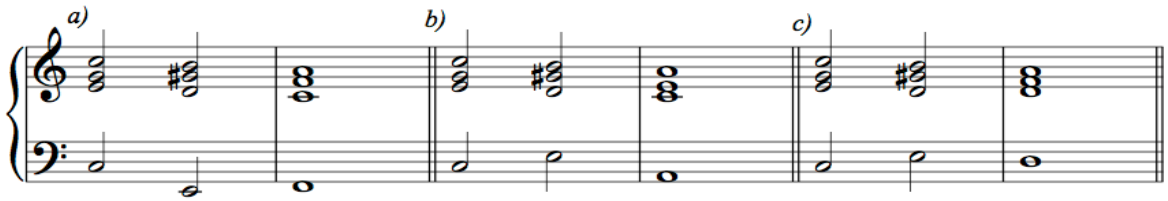



Fig. 3.2. Same Three Patterns Adding G# to Chord 2

They all still sound familiar and musically acceptable, but to a careful listener, example 3.2b sounds the most logical and inevitable. It has a strong sense of *resolution*.

By changing the G to a G#, we've changed the interval structure of the E–7 chord. The interval between D and G# is now a tritone; the chord has changed to dominant quality and function.

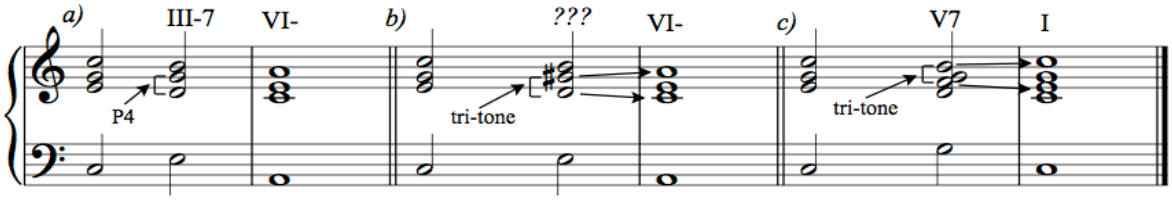



Fig. 3.3. E7 as Secondary Dominant

That dominant quality, with G# as a leading tone, creates not merely progression, but an *expectation of resolution* to A–. E7 functions as a *secondary dominant*, the V7 chord of the VI–7 chord, or "V7 of VI".

> *Secondary dominants are dominant chords that create an expectation of resolution down a fifth to a diatonic chord.*

The diatonic chord of resolution can be called a "target chord". Secondary dominants are an important harmonic function in almost all styles of popular music and jazz. They create a strong expectation of resolution down a perfect fifth; this tendency can be used to create resolution to a diatonic chord *other than the tonic*. The momentary focus they bring to these diatonic target chords gives them a heightened priority in a chord progression.

Secondary dominants are strongly key-related. Their function is to draw the listener's attention to a diatonic chord by advertising its arrival. Their use does *not* mean we have left the key, even temporarily. If anything, the sense of relief associated with the normal resolution of a secondary dominant reaffirms the original key identity.

For this reason, it can be helpful to think of secondary dominants as chromatically altered diatonic chords. This focuses the attention on how the temporary leading tone resolves to the target chord.

Fig. 3.4 is a classic tonic-tonic-subdominant-dominant-tonic phrase. The bracket shows the subdominant II–7 chord progressing down a perfect fifth to the dominant V7; the arrow shows resolution of V7 down a perfect fifth to Imaj7.

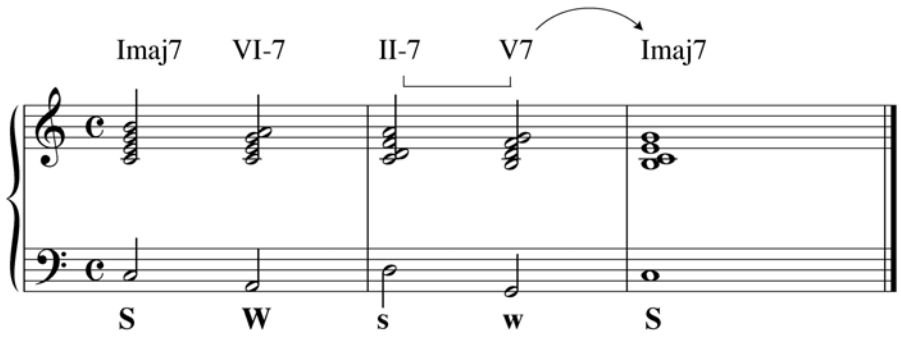



Fig. 3.4. Diatonic Progression

The tonic function VI–7 chord can be altered by changing its minor third into a major third, creating a dominant seventh chord.

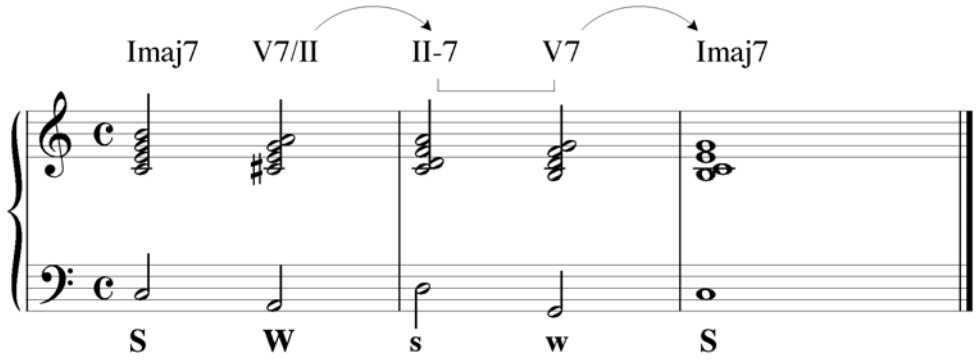



Fig. 3.5. VI–7 Altered to become Dominant Function V7/II

Changing the tonic function VI–7 chord into a dominant A7 chord creates a stronger sense of forward motion to II–7. The new chord functions as V7/II ("V7 of II"): it is the V chord *of* the II–7 chord. As you play Fig. 3.5 above, notice how the secondary and primary dominant chords on the weak metrical stresses create a strong sense of forward motion to the target chords on the strong stresses.

We can make these observations about secondary dominants:

1. Secondary dominants have diatonic roots.
2. Secondary dominants are rooted a perfect fifth *above* their diatonic targets.
3. Secondary dominants come *before* their diatonic targets.

This means that in chord progressions:

Dominant chords do *not* resolve up by fifths:

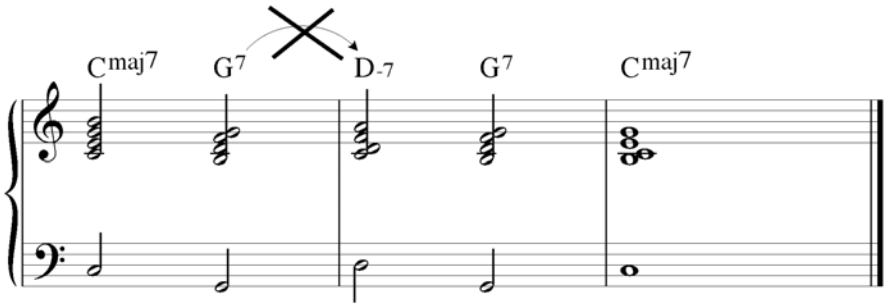



Fig. 3.6a. G7 is *not* V7/II

Dominant chords do *not* resolve backwards in time:

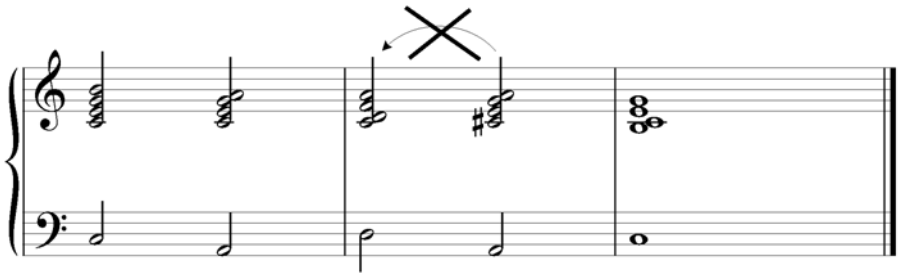


Fig. 3.6b. A7 does *not* resolve back to D–7

# The Major Key Secondary Dominants

## V7/II

The VI–7 chord is altered by raising the minor third. The diatonic target chord is II–7:

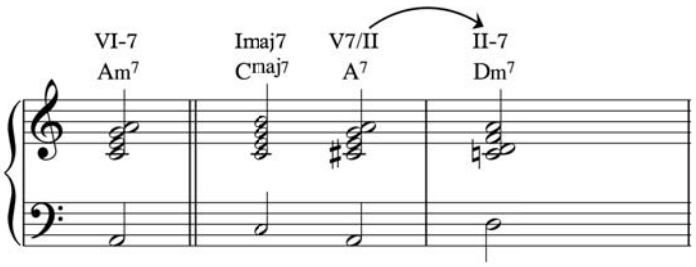



Fig. 3.7. VI–7 Altered to Become V7/II

## V7/III

The VII–7♭5 chord is altered by raising the minor 3rd and diminished 5th. The diatonic target chord is III–7:

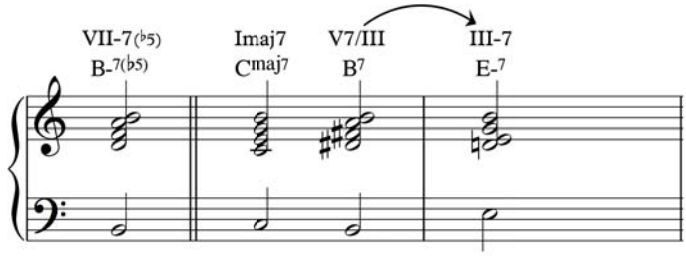



Fig. 3.8. VII–7b5 Altered to Become V7/III

## V7/IV

The Imaj7 chord is altered by lowering its 7th. The diatonic target chord is IVmaj7:

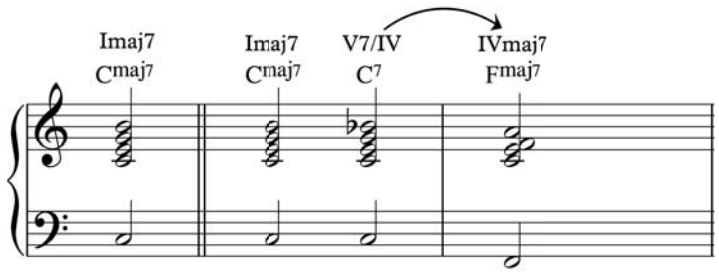



Fig. 3.9. Imaj7 Altered to Become V7/IV

## $V^7/V$

The II–7 chord is altered by raising its minor third. The diatonic target chord is V7:

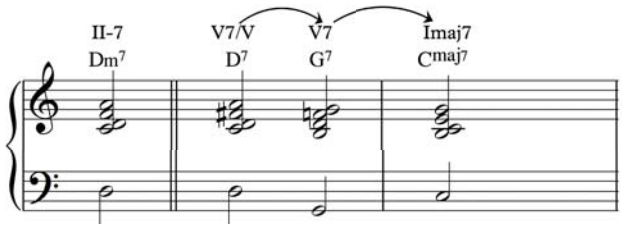



Fig. 3.10. II–7 Altered to Become V7/V

## $V^7/VI$

The III–7 chord is altered by raising its minor third. The diatonic target chord is VI–7:

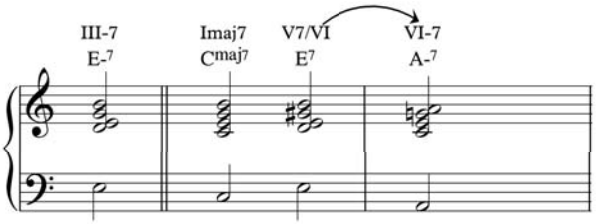



Fig. 3.11. III–7 Altered to Become V7/VI

## V7/♭VII?

In major keys, secondary dominants have diatonic roots **and** diatonic targets. Their purpose in a progression is to strengthen the sound of the key, not to weaken it. If we lower the 7th degree of IVmaj7 to create a dominant seventh chord, the resulting resolution is outside of the key:

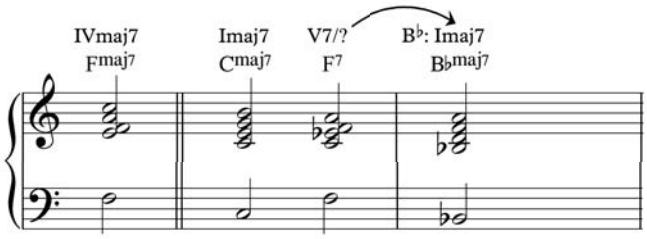



Fig. 3.12. IVmaj7 Altered: V7/??

So despite its diatonic root, this alteration of a diatonic chord does not result in a secondary dominant. In most cases, this chord simply sounds and functions like the subdominant IV with a lowered seventh: it is familiar as the IV chord in a basic blues. We analyze it as IV7; it usually progresses back to Imaj or III–7.

## V7/VII?

In order to create V7/VII, we would have to build the dominant chord on a chromatic root: #4. It doesn't fit our definition: diatonic roots and diatonic targets. In addition, VII–♭5 is too unstable to be a satisfactory goal chord.

Some progressions contain chords that might initially appear to be V7/VII, but they always resolve in other ways. You will see examples of this in the section on extended dominant patterns, and when you study substitute dominants in Harmony 3.

## Available Tensions for Secondary Dominants

*The available tensions for secondary dominants are diatonic extensions of the chord.*

Just as with diatonic chords, tensions for secondary dominants reinforce the tonality by using diatonic tensions. Using altered tensions can be a creative choice, and you will study those in Harmony 3. For now, we will keep it simple: a song in G major will have tensions from the G major scale.

In the illustrations that follow, we will show chord scales alongside the extended chord itself. You should use whichever approach helps you remember the available tensions. An extended chord is just the vertical sounding of a scale; a chord scale is just a horizontal version of an extended chord.

### V7/IV and V7/V

If we extend the chord tones of V7/IV upward in the key of C, the result is a chord consisting of the notes of C major with a lowered 7th; that is, a *Mixolydian* scale.

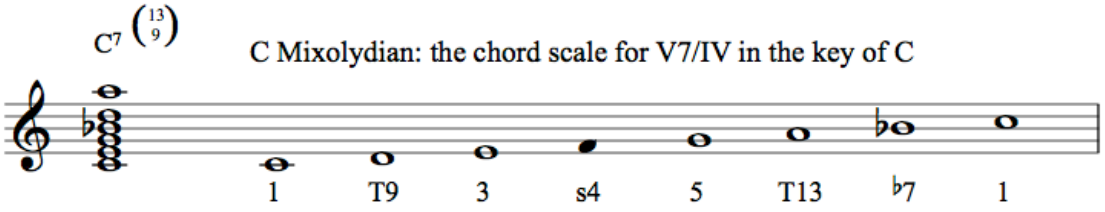



Fig. 3.13. V7/IV and its Mixolydian chord scale

As we learned in chapter 1, diatonic tensions 9 and 13 are available in this chord scale. The diatonic 11th is a half step above chord tone 3, and therefore unavailable for use in chord voicings. As in V7, the vertical use of the 11th represents a premature arrival of the target chord's root, and it sounds unpleasantly dissonant.

T13 in a dominant function chord is a common tone with 3 of the target chord, creating a strong expectation of resolution to a major-quality chord. Fig. 3.14 shows the connection.

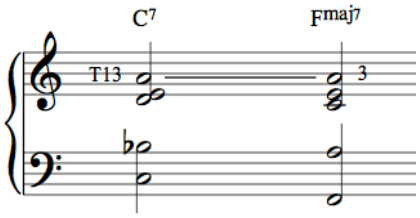



Fig. 3.14. T13 in V7/IV and 3 in IVmaj7

The same facts apply to V7/V: chord tones plus diatonic tensions, scale degree 4 is a harmonic avoid note, and T13 is a common tone with the major 3 of the target chord.

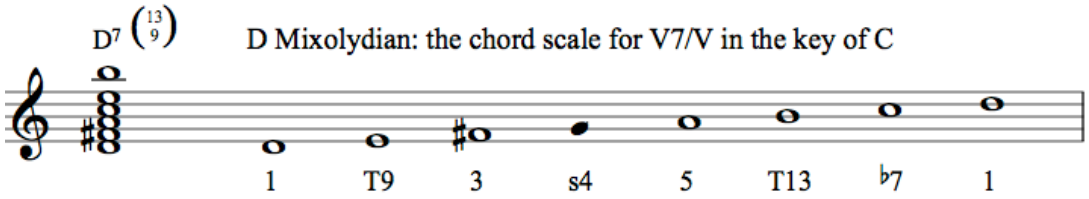



Fig. 3.15. V7/V and its Mixolydian Chord Scale

These chords are consistent with what we found for the primary dominant, V7.

## V7/VI

Here is E7 extended through the key of C, then arranged in scalar form.

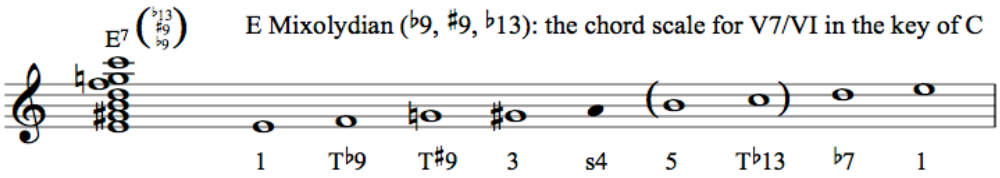



Fig. 3.16. V7/VI and its Chord Scale with Diatonic Tensions

This is the extension of V7/VI in the key of C: chord tones plus diatonic tensions.

The first thing to notice about this scale is the different quality of the tensions: ♭9 and

♭13. Also, the augmented second between F and G# makes it possible to include an additional diatonic tension in the scale. (The G natural is labeled T♯9 to distinguish it from the minor third of E: chords do not have two thirds!)

11 is once again a harmonic avoid note (s4), but the other tensions break the "major ninth above a chord tone" pattern we observed with major-key diatonic chords. This apparent inconsistency—T ♭9 is all right, but s4 is not—introduces a new principle:

*Dominant function chords can support a greater level of dissonance.*

In fact, the added dissonance increases the expectation of resolution, and the tensions prepare the listener's ear for the resolution to follow. In figure 3.17, the augmented 9th and minor 13 of E7 are common tones with ♭3 and ♭7 in the A–7 to which it resolves.

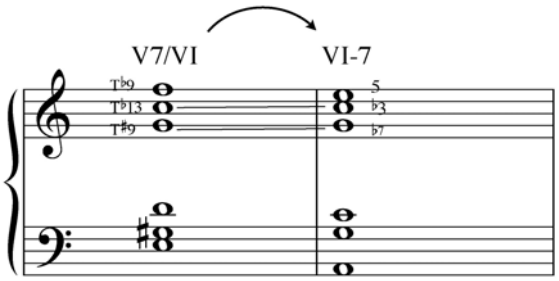



Fig. 3.17. V7/VI to VI–7 in the key of C. T♭13 anticipates ♭3, T♯9 anticipates ♭7

We can divide the tensions on secondary dominants into two categories:

- 9 and 13 when resolving to a target with a major 3rd
- ♭ 9/#9 and ♭ 13 when resolving to a target with a minor 3rd.

## V7/III

This scale is a transposition of the V7/VI chord scale, Mixolydian ♭ 9, #9, ♭ 13:

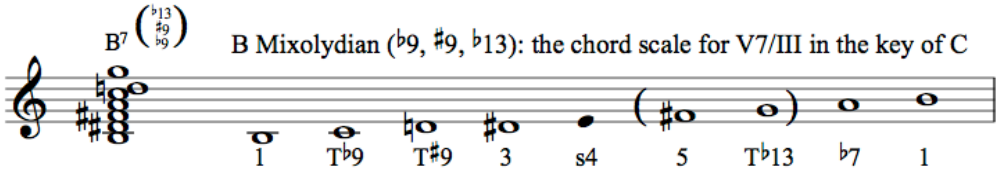



Fig. 3.18. V7/III and its Chord Scale with Diatonic Tensions

## V/II

This chord has a new combination of tensions, 9 and ♭13:

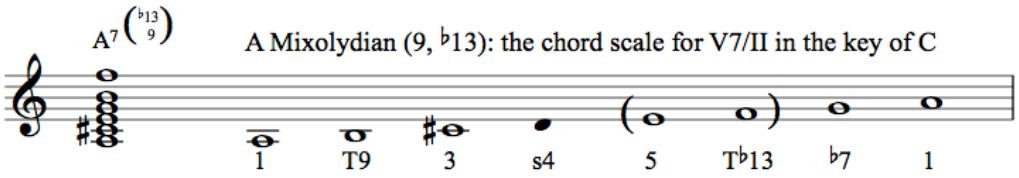



Fig. 3.19. V7/II and its diatonic tensions in the key of C.

In its most basic diatonic form, V7/II has issues:

1. The mixture of major and minor tensions (major 9 vs. minor 13) sends confusing signals about the quality of the target chord.
2. The combination of T9 and T♭13 produces a second tritone in the chord. The upper-structure tritone can sound harsh and possibly create some confusion about the direction of the progression, as in Fig. 3.20.

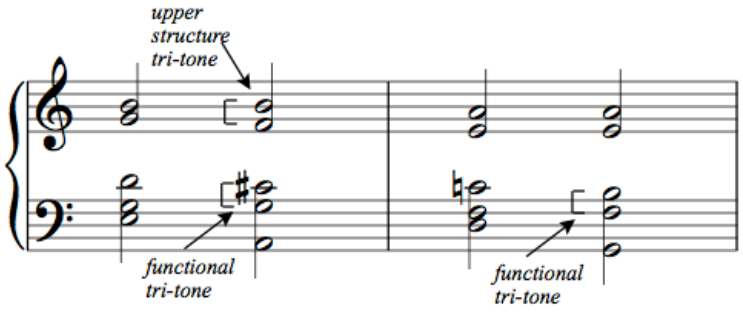



Fig. 3.20. Extra Tritone in V7/II

A better, and more widely-used option, is to use the diatonic #9 as the partner for ♭13. The #9/♭13 combination has several advantages:

1. Since T#9 is the tonic note in the key, it doesn't have the same urgent upward linear tendency as T9.

2. T#9 is a common tone with ♭7 of the target chord.

3. It leaves space in the scale for including an optional tension ♭9. This gives it a structure consistent with V7/III and V7/VI, as we can see in figure 3.21.

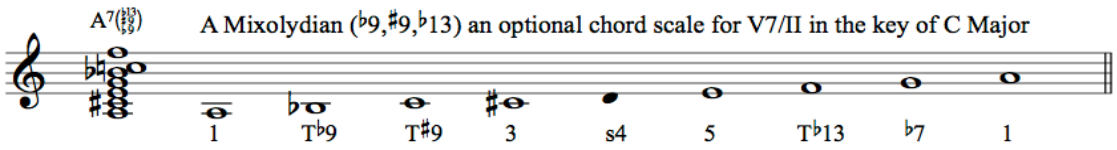



Fig. 3.21 A Mixolydian (♭9, #9, ♭13). More common chord scale for V7/II in the key of C major.

## Summary of Available Tensions for Secondary Dominants

- Chord tones + diatonic tensions = available tensions for secondary dominant chords.
- The result is always some variety of Mixolydian scale.
- Scale tone 4 is a harmonic avoid note: it should not be used in voicings.
- Major tensions (9 and 13) suggest a major quality target chord.
- Minor and augmented tensions (♭9, #9, ♭13) suggest a minor quality target chord.
- Substituting or altering tensions is a common creative option.

## Secondary Dominants in Progressions

The diatonic progression below consists of two phrases. The first phrase states the tonic and prolongs it by moving to VI–7. The second moves to the subdominant IV chord, prolongs the subdominant function by moving to II–7, and ends in a jazz half cadence on V7. The harmonic rhythm doubles at the end of the second phrase.

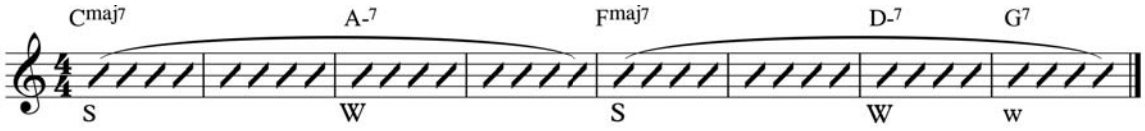



Fig. 3.22. Two Diatonic Phrases

If we speed up the harmonic rhythm of the entire phrase by inserting secondary dominants in the empty bars, the feeling of forward harmonic motion increases dramatically. With secondary dominant chords on the weak stresses in the phrase the diatonic chords that follow become *targets*, as well as structural members. In a harmonic analysis of the new progression, the arrows show not just progression, but *resolution* to the expected target:

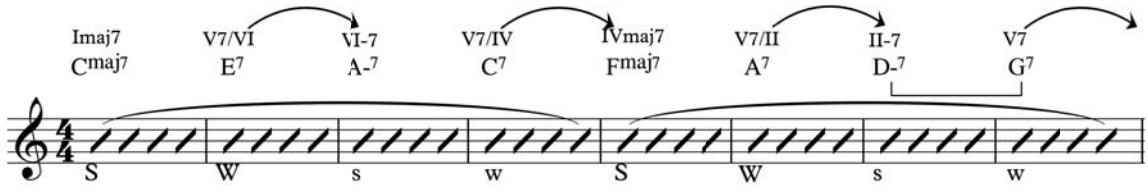



Fig. 3.23. Increasing Forward Momentum with Secondary Dominants

Jazz, American Songbook, classic R&B, gospel pop and rock songs all make use of secondary dominants in this way: to add forward motion and richer chord sounds to a progression.

## Deceptive Resolution of Secondary Dominants

Secondary dominant chords generally resolve directly to their target chords, but *deceptive resolution* is also possible.

In Fig. 3.24, V7/II projects a resolution to II–7, but the chord of resolution does not exactly fulfill that expectation. Instead of the subdominant II-7, the progression continues with V7/V, a secondary dominant. The analysis for this situation includes the graphic arrow because resolution down a perfect fifth did occur; we also add parentheses around V7/II to indicate that the function and/or the quality of the chord of resolution will be *something other* than the expected diatonic chord. The function of the expected target has changed: in this case, it is a secondary dominant rather than subdominant.

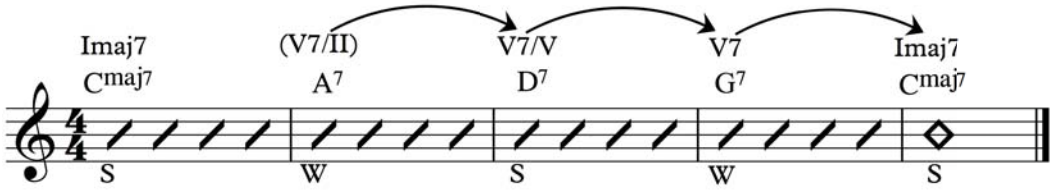



Fig. 3.24 V7/II Resolving Deceptively to V7/V

## Secondary Dominants on Strong Metrical Stresses

Although secondary dominants typically occur on weak stresses, they do not always do so. For example, because the V7 chord most often appears at the end of a phrase or section—on the weakest possible stress point—it's secondary dominant, V7/V, will usually appear on a relatively stronger stress, as in measure 7 in this example:

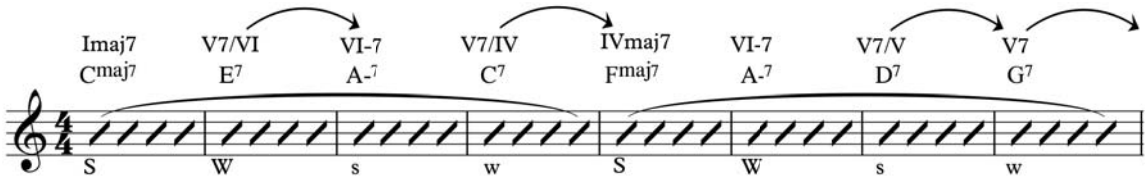



Fig. 3.25. Secondary Dominant on a Strong Stress

This strong stress placement can occur in other points in the phrase or form. In some tunes, V7/V is in the strongest position possible: the very first chord of the song. In these songs, the secondary dominant/primary dominant pair serves as a very bright and powerful way of drawing our attention to the tonic chord, thereby establishing the key.

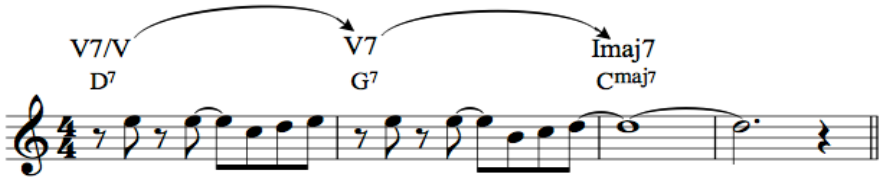



Fig. 3.26. Secondary Dominant V7/V as the First Chord

## Summary

- Secondary dominants usually appear on *weak* harmonic stresses.
- Secondary dominants usually resolve as expected, but deceptive resolutions are also possible.
- If a secondary dominant other than the V7/V appears on a *strong* harmonic stress, it usually resolves to its target chord.

## Extended Dominants

Positioning a dominant chord on the primary stress point in a progression can set the stage for even longer patterns of dominant resolution. Tunes such as "Nice Work If You Can Get It," "Prelude To A Kiss," and "I Got Rhythm" contain *extended dominant series*:

*A string of three or more dominant chords that start on a strong harmonic stress point, and resolve, one to the next, by descending perfect-fifth root motion.*

The parallel chromatic scales in the essential voice leading create a very strong progressive pattern that continually delays resolution and a sense of rest. Our sense of normal diatonic function is temporarily suspended while we are carried along by the pattern of dominant resolution.

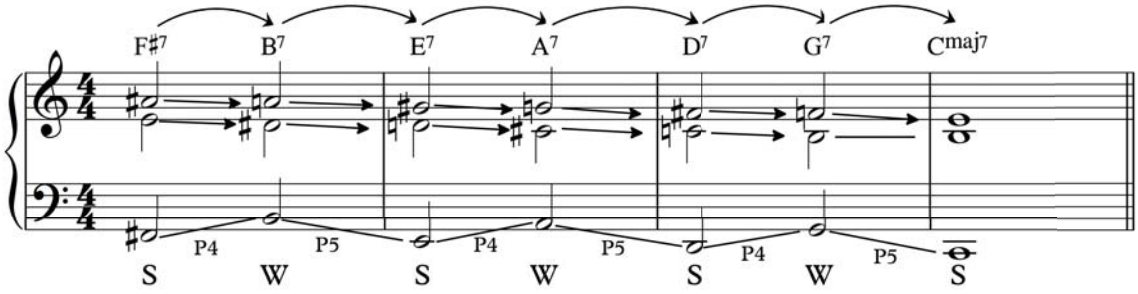



Fig. 3.27. Extended Dominant Series

The extended dominant string is, in effect, a backward extension of the sound of V7/V to V7 to I. Each chord that precedes the secondary dominant is another level removed from the key:

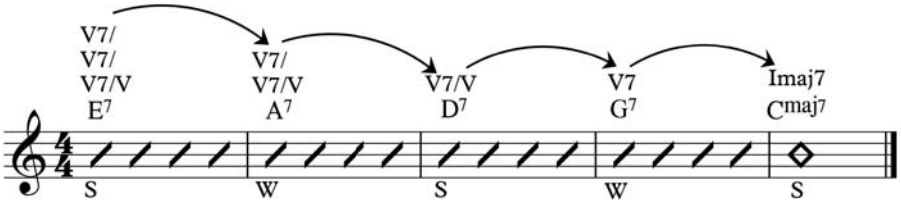



Fig. 3.28. Extended Dominant Series Resolving to I

Since the ever-increasing stack of Roman numerals quickly reaches the point of absurdity, we use a different approach for analysis of extended dominant series:

1. The arrows show the pattern of dominant progression.
2. The chord root that starts the series is labeled as a reference to the tonal center.

This is the classic extended dominant string found in the bridge of George Gershwin's "I Got Rhythm", in the key of B♭ :

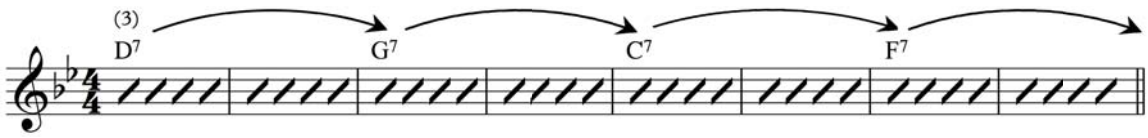



Fig. 3.29. Extended Dominant Series in "I Got Rhythm"

An extended dominant string can lead to diatonic goal chords other than Imaj, as in measures 2 and 4 of figure 3.31. Duke Ellington used this technique effectively in "Prelude to a Kiss."

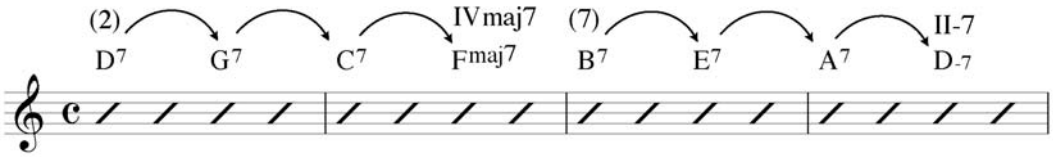



Fig. 3.30. Extended Dominant Strings Resolving to Different Diatonic Chords

In some cases, they may not resolve at all. This unusual progression in the key of G is from Gershwin's "Nice Work If You Can Get It":

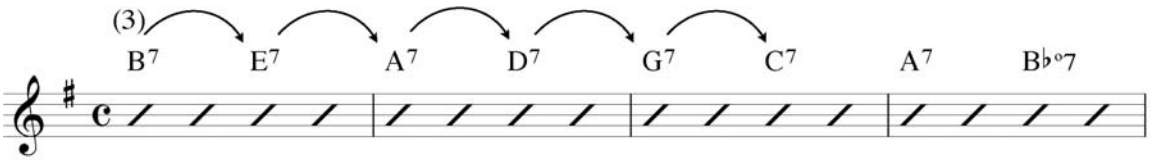



Fig. 3.31. Extended Dominant String: Indefinite Ending

## Related II–7 chords

*The II–7 V7 unit is a minor7 - dominant 7 pair with root motion by descending fifth that creates a strong expectation of resolution.*

The "II V" is one of the most important defining features of jazz harmony, but its importance is felt in many other styles as well. In many styles, the II–7 and V7 work together to help define the tonality of a piece of music. This pattern of II–7 setting up the V7 chord can be copied and applied to other situations. In the next section, we will examine the patterns created when secondary or extended dominants are preceded by their subdominant partners: *related II–7 chords*.

## Related II of V7/IV: *Ti* becomes *Te*

In figure 3.32, G–7 and C7 form a II V pair in measures 3 and 4. The G–7 in measure 3 introduces the chromatic tone B♭, preparing the ear for the secondary dominant C7 that follows. The introduction of "Te," the lowered 7th degree of the key, in the G–7 chord starts a chromatic process of downward movement in the top voice; the tendency to resolve is intensified by the diminished fifth in V7/IV itself, and resolution occurs at the arrival of the IV chord.

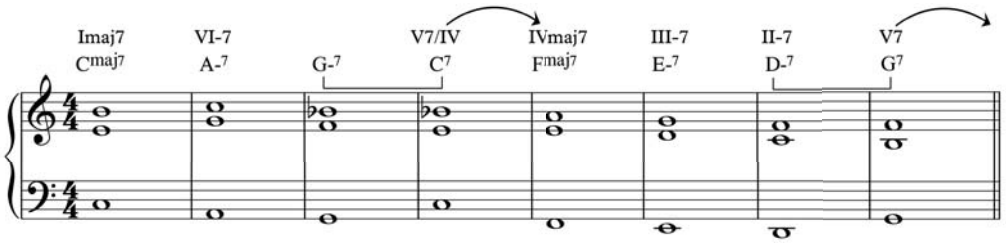



Fig. 3.32. G-7 in Measures 3 Introduces Te

In figure 3.32, the G–7 is non-diatonic, and as such receives no Roman numeral analysis. Instead, we will use a *bracket* as a graphic symbol to indicate its relationship to V7/IV.

The bracket symbolizes two things:

4. the subdominant/dominant functional connection between the two chords

5. the descending perfect fifth root movement

The bracket identifies the chords as a functional pair, just as it does with the actual diatonic II–7 and V7. The arrow shows resolution to the expected target, IVMaj7.

If the duration of the IMaj7 chord were extended and the II V compressed into a single measure, the changes in harmonic rhythm would intensify the forward motion.

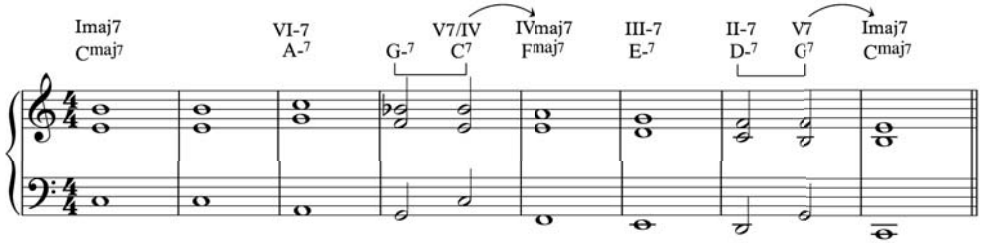



Fig. 3.33. Compressed II V Intensifies Forward Motion

II V pairs in this accelerated harmonic rhythm are typical in jazz progressions. The main structural chords are often given a longer duration in order to emphasize their function; the II V acts like a kind of switching mechanism to the next target.

Another layer of analysis reveals how the progression created movement from tonic to subdominant and back, then through the dominant to the tonic again:

1. Measures 1 to 3 establish the tonic and prolong it with an alternate tonic VI–7 chord.

2. Measure 4 contains a jazz half cadence that catapults us to the IV chord in the first measure of the second phrase (measure 5).

3. A measure of subdominant (Fmaj7), one of alternate tonic (III–7), and then the primary II–7 V7 brings us back to the tonic in a full jazz cadence.

## Related II of V7/VI: the Diatonic Function of VII–7♭5

Let's take the previous progression and *interpolate* a II V between Imaj7 and VI–7:

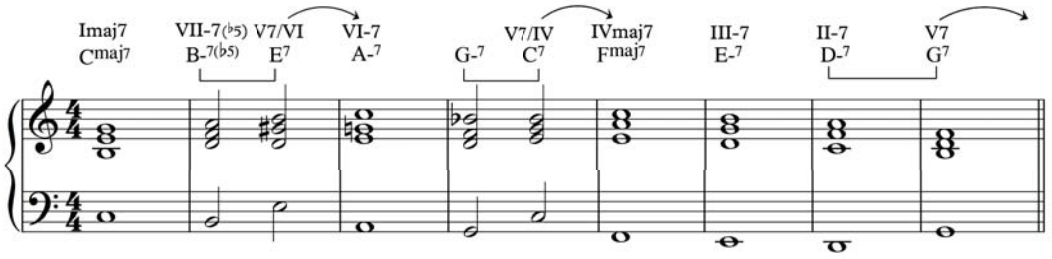



Fig. 3.34. VII–7♭5 As the Related II of V7/VI

In this example, the related II chord in measure 2 has a different quality than we saw above: it is not –7, but –7♭5. This is a darker sound that prepares the ear for the minor chord that is the ultimate target.[4] Because it is a diatonic chord, VII–7♭5 helps maintain the original tonality, while suggesting that a minor chord will follow.

In practice, musicians have come to freely substitute –7 and –7♭5 when employing related "II" chords. Compare the sound of figures 3.34 and 3.35: the B–7 chord in measure 2 of 3.35 is significantly brighter in sound than the analogous chord in 3.35. The F# creates a momentary distortion of the tonality of C major. But the strength of the root motion and essential voice leading still allow us to accept the chord as a brighter variation of VII–7♭5.

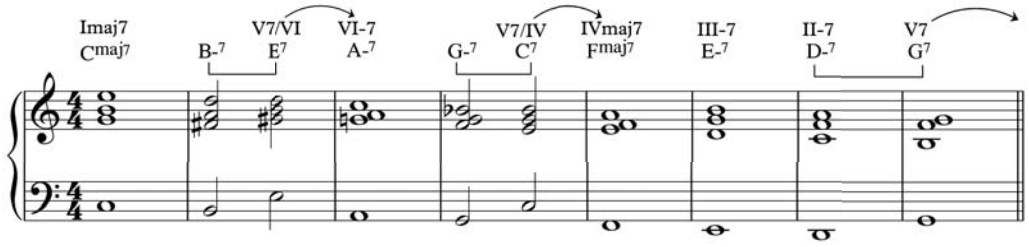



Fig. 3.35. B–7 as a Related II of V7/VI

[4] We will see in the minor key chapter that II–7♭5 is in fact the most common subdominant chord in minor key progressions.

## Related II of V7/II: Dual Function

To continue elaborating the progression we started, we will noe put a II V in measure 6 as well, targeting the actual diatonic II–7 chord.

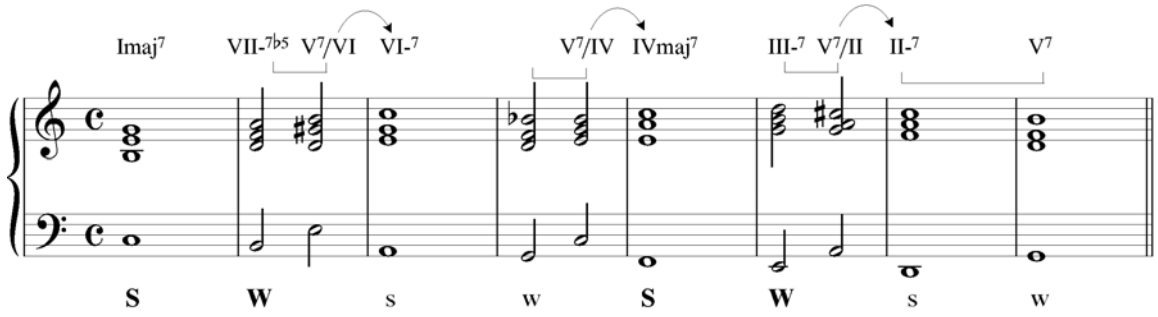



Fig. 3.36. II V in Measure 6 targeting II-7

Now there is a regular pattern of harmonic rhythm: whole note-half note-half note, whole-half-half, etc. The secondary dominant A7 is on a very weak stress point, at the end of measure 6, typical of the V7/II.

Notice that E–7, the related II of A7, is diatonic to the key. We say that this chord has *dual function*: normally it has tonic function, but now it is paired with a secondary dominant, giving it a secondary-*subdominant* relationship to its target chord. The relationship is emphasized by the faster harmonic rhythm that causes the chords to be linked in a functional pair.

How can a single chord have two functions at once? In fact, this kind of harmonic ambiguity is essential to diatonic music. Music exists in time: we can hear and feel a chord operating one way when it first arrives, but our interpretation of it can adjust *retrospectively*—after the fact. The energy of a dominant chord coming after III–7 *overtakes* our initial experience of that chord's tonic function; it takes on secondary-subdominant character in hindsight.

## Related II of V7/III: –7♭5 or –7?

The related II of V7/III is different than its counterparts in an important respect: it has a non-diatonic root, #4. It adds a dramatic degree of tension when it is used in a progression. Because a minor 7 chord is the target, it is typical to use a –7♭5 chord as the related II. The♭5 of the chord, being the tonic note of the key, reinforces the diatonic resolution that is coming.

Here is our progression with V7/III and its related II. (The III–7 chord is displaced to measure 6.) There is now a pleasing sequential pattern due to the cycle 5 root motion in the last three bars. The II V's create a rolling forward motion through the half cadence:

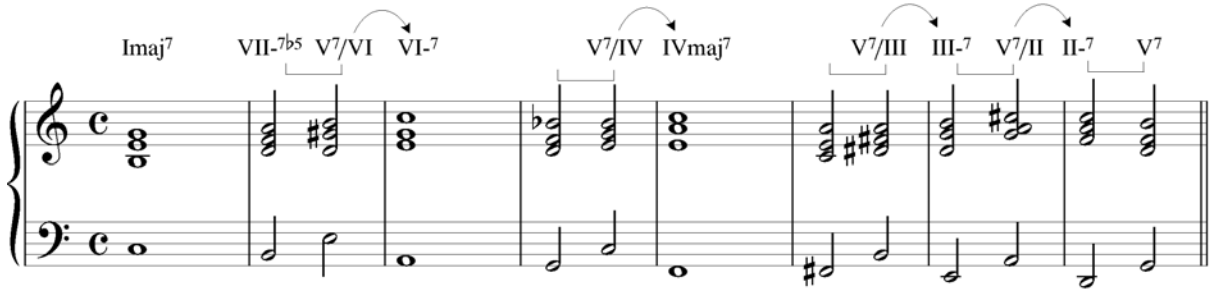



Fig. 3.37. Secondary Dominants with Related II's

As a creative choice, a minor 7 chord could be used in place of the –7♭5 in measure 6. The use of minor 7 as a related II is distinctive:

- It has a brighter sound because its 5th is now one half step higher than the tonic note.
- The increased chromaticism adds an element of surprise and tonal ambiguity to the progression.

## Related II of V7/V

The related II of V7/V is the diatonic VI–7. When used in this way, it is a dual function chord, similar to III–7: tonic function is perceived first, and then the secondary-subdominant function follows. In figure 3.39, V7/V and its related II occur in measure 7.

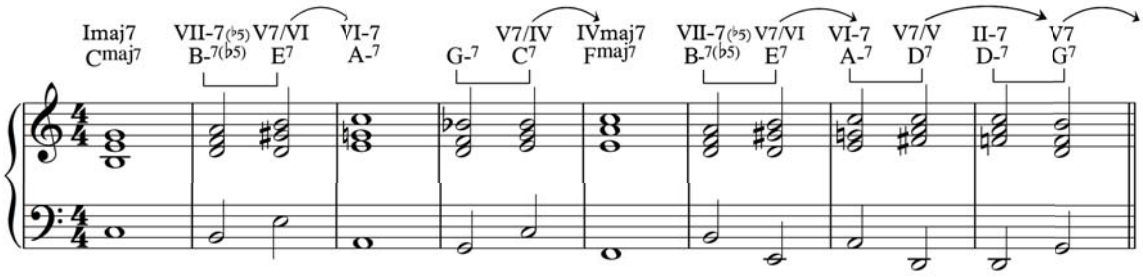



Fig. 3.38. VI-7 as the Related II of V7/V

Compared to the progression that began this section (Fig. 3.32), this final version is a lot more colorful and dynamic. Although in this example the roots are all diatonic, the increased root motion activity in the bass adds to the forward momentum of the progression. The additional chromatic notes in the upper voices create a complex ebb and flow of common tones and moving voices that engages the ear.

You probably noticed that the pattern of dominant resolution changed in measure 7 and 8 of figure 3.38. Instead of resolving immediately over the bar line, like all the other secondary dominants, the resolution of V7/V is delayed by two beats because II–7 is *interpolated*—placed between—the two dominant seventh chords.

An extended dominant string such as the one we encountered in the bridge of "Rhythm Changes" may be elaborated with related II chords as well. Figs. 3.39 and 3.40 on the next page shows this technique.

Original changes, compressed into four measures:

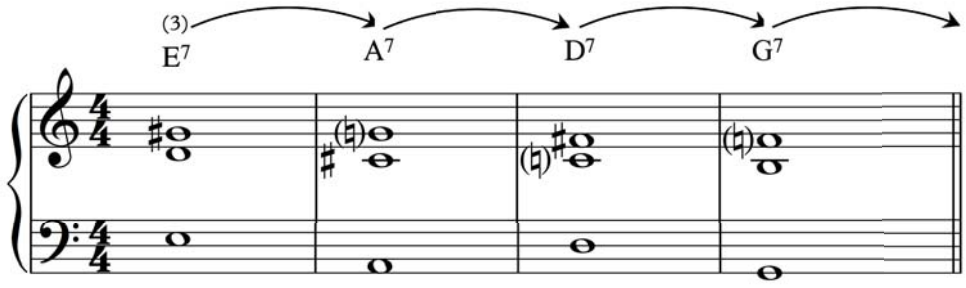



Fig. 3.39. Original "Rhythm Changes"

With interpolated II's:

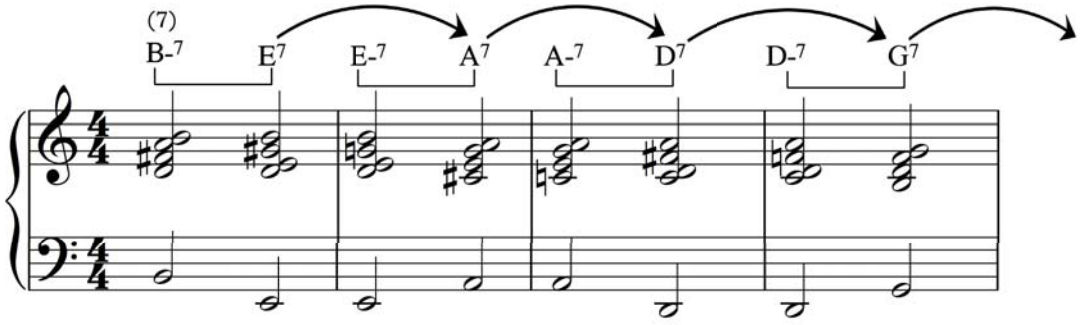



Fig. 3.40. "Rhythm Changes" with Interpolated II's

In Fig. 3.40, delayed resolution is the pattern. A related II begins the progression and then a related II is interpolated between each dominant seventh chord in the extended series.

Although many variations are possible, the standard available tensions for extended dominants are 9 and 13: this reflects their identity as a string of Mixolydian-sounding V7/V's. Similarly, the related II-7's of extended dominants have a default Dorian identity: tensions 9 and 11.

## Available Tensions for Related II's of Secondary Dominants

Related II chords prepare the arrival of a secondary dominant chord.

Some related II chords are diatonic:

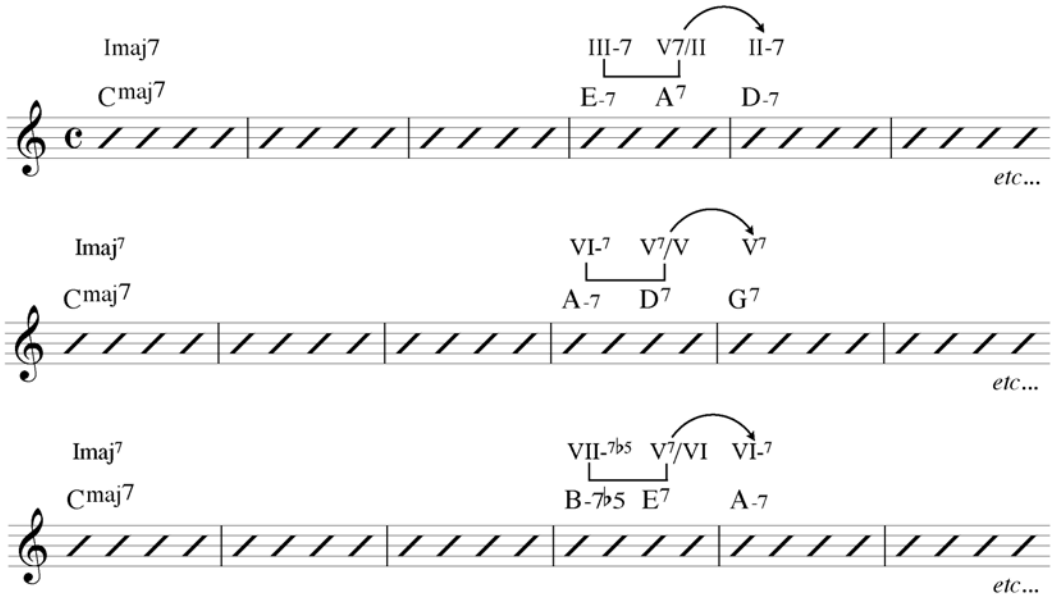



Fig 3.41. Diatonic Related II Chords

The standard approach for diatonic chords is to use diatonic tensions. This reinforces the tonal center and supports diatonic melodies. This does not change when the chords are used as related II's. Here are the available tensions for these chords:

For III-7: T11 only (♭2 and ♭6 are avoided)

For VI-7: T9 and T11 (♭6 is avoided)

For VII-7♭5: T11 and Tb13 (♭2 is avoided)

On the related II of V7/IV, musicians will usually choose a *Dorian* sound: a minor 7 chord with 9 and 11:

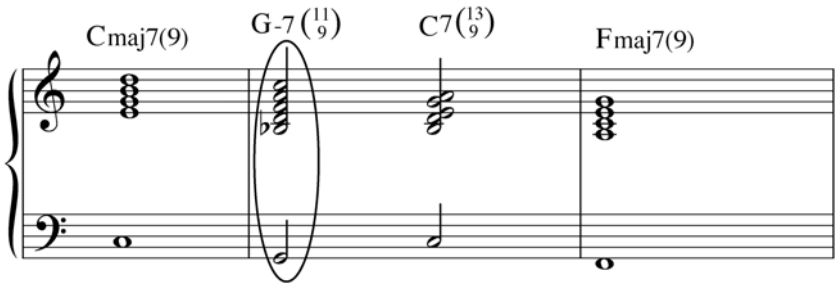



Fig 3.42. G-7 and Available Tensions as the Related II of V7/IV

E natural, T13, is *implied* in this chord, but it is avoided in a vertical, sustained chord voicing.

The related II's of minor chords are typically –7♭5 in quality. We saw above that VII–7♭5 is the basic reference for that sound. The related II for V7/III will have the same available tensions: 11 and ♭13.

Fig. 3.43 shows those tensions at work in measures 2 and 4. Also notice in measure 5 that the non-diatonic 9 (F#) on E-7 confirms its secondary subdominant function as the related II of V7/II.

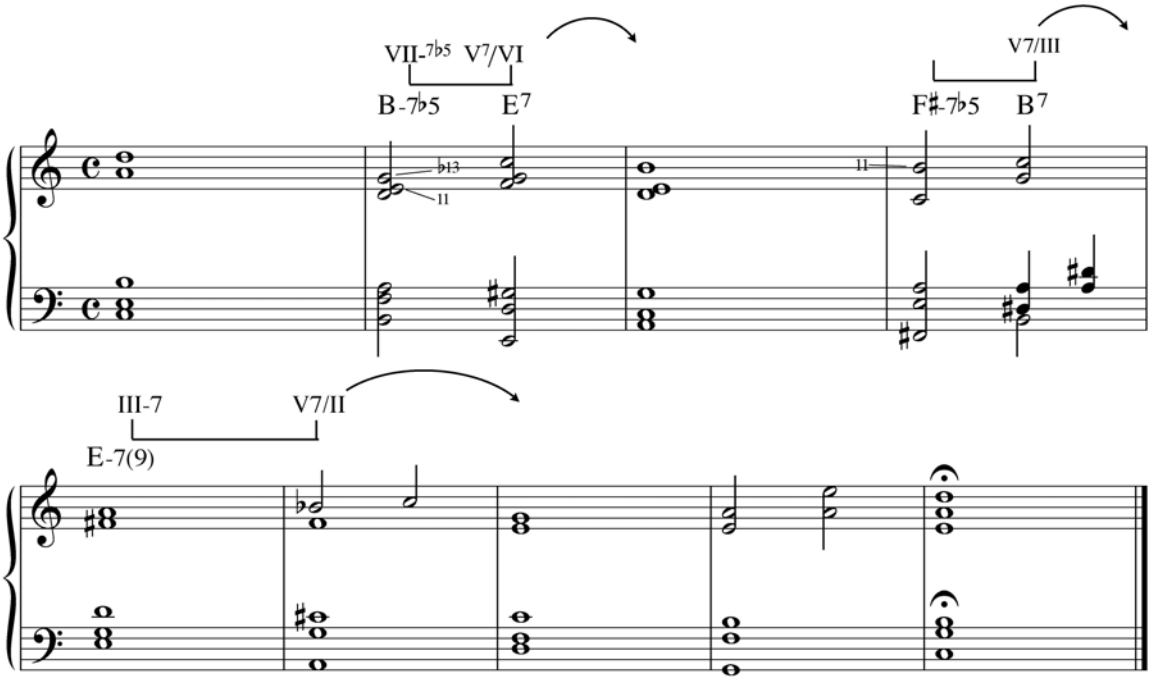
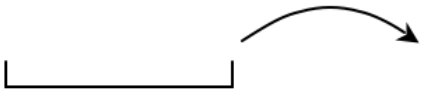



Fig 3.43. Available Tensions on Related II's of Minor Target Chords

## Related II–7 Summary and Practical Considerations

- Any dominant function chord can be preceded by its related II–7 or II–7♭5
- The related II always sounds on a stronger harmonic stress point than the secondary dominant.
- VII–7♭5, III–7, and VI–7 are potential dual function chords: they are diatonic to the key and can also function as related II's.
- –7 and –7♭5 qualities are interchangeable, with these factors to consider:
    - Diatonic related II's sound more "inside," conservative; they imply a predictable diatonic result.
    - Alternate versions of related II's sound more colorful, whether brighter or darker. They call the expected resolution into question.
- The related II's of extended dominants have tensions 9 and 11

## Secondary Dominants and The Most Common Related II's in the Key of C



| | | |
|---|---|---|
| III-7<br>E-7 (Dual function) | V7/II<br>A7 | II-7<br>D-7 |
| F♯-7♭5 | V7/III<br>B7 | III-7<br>E-7 |
| G-7 | V7/IV<br>C7 | IVmaj7<br>Fmaj7 |
| VI-7<br>A-7 (Dual function) | V7/V<br>D7 | V7<br>G7 |
| VII-7♭5<br>B-7♭5 (Dual function) | V7/VI<br>E7 | VI-7<br>A-7 |

# Chapter 4: Minor Key Harmony

Minor key harmony developed out of Aeolian modal harmony; it shares many of the characteristics of modal harmony. The Aeolian progressions you studied in PW-111 had cadential patterns that were quite different from the dominant to tonic resolution that is essential to major key. Most importantly, Aeolian harmony does not have a V7 chord, the most powerful means to establish and maintain a key center. In fact, the only dominant chord in Aeolian, ♭VII7, tonicizes *away* from the modal tonic, toward the relative major.

The fundamental set of minor key tonic and subdominant chords still come from the Aeolian scale, but the V–7 chord is altered to create a dominant V7. The addition of V7 to the diatonic Aeolian chord set allows for a clear and positive resolution to the tonal center.

*Minor key harmony combines Aeolian modal practices*

*with the addition of a dominant function V7 chord.*

Beyond the addition of the V7 chord, the minor key repertoire has much greater harmonic variety than that of major key or modal music: besides the seven chords that are diatonic to the key signature, there are other important chords that complete the minor key functional system. The melodic material is similarly diverse; it often goes beyond the seven-note major key model.

*Minor key harmony often includes chords and*

*melodic figures from outside the key signature.*

This chapter will present the most common minor key chords and their available tensions, explain harmonic function in minor key tunes, and demonstrate fundamental minor key practices in harmonic progressions.

## Tonic Minor Function

*A modal source, or source scale, is the scale from which a chord is derived.*

In major key music, the major (Ionian) scale is the *modal source* for all seven diatonic chords.

In minor key progressions, the tonic chords can come from Aeolian, melodic minor, or Dorian scales. In triadic music with very few tensions, the difference between these is not important: the tonic triad is I–. But seventh chords and tensions bring many more possibilities for color.

The wide variety of modal source scales in a minor key gives the musician considerable freedom in voicing chords with tensions. There are no hard and fast rules about which tensions work best in a given situation. Knowledge of style and consideration of the instrumentation will help you decide when to add tensions, and which ones to use.

### Tonic Source 1: Aeolian

The natural minor, or Aeolian scale is at the heart of the minor key experience. It expresses the basic sound of the minor key signature.

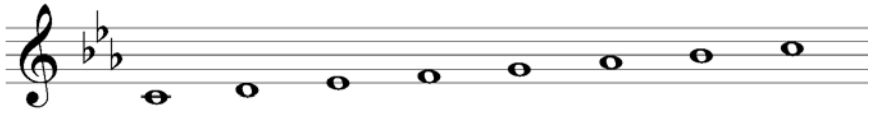


Fig. 4.1. Natural Minor Scale, relative minor of E♭ major

These are the seventh chords from the Aeolian source. They should be familiar from the introduction to minor keys in your PW-111 class or other studies.

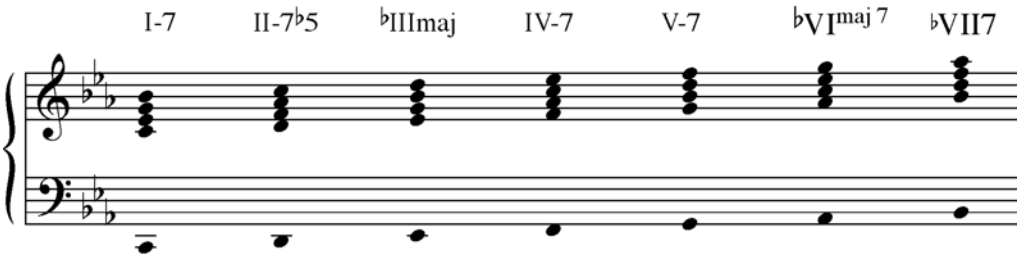



Fig. 4.2. Chords Diatonic to C Natural Minor Scale

I–7 is the tonic seventh chord from the natural minor source. It is familiar from a wide range of pop, rock and jazz music. Voicing possibilities for I–7 are limited only slightly by the avoid note s♭6.

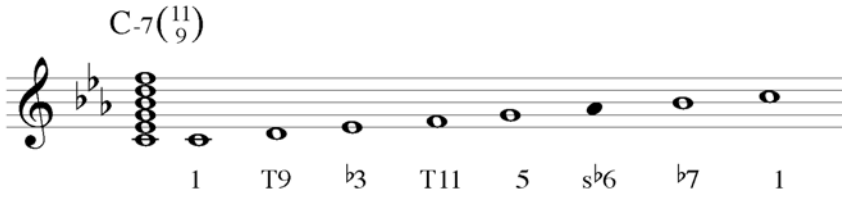



Fig. 4.3. I-7 in C minor with Available Tensions.

♭IIImaj7 is also part of the tonic group in minor key. Its Ionian chord scale is a displacement of the natural minor source; it is the same as the relative major scale.

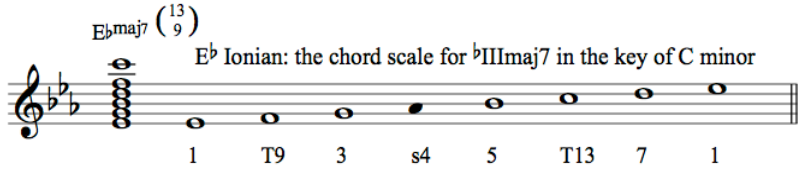



Fig. 4.4. ♭IIImaj7 in C minor with Available Tensions.

The avoid notes in these two chords (♭6 scale degree of the minor key) are important in defining a classic, dark minor sound. Although not appropriate in a voicing, using scale degree ♭6 as a passing tone in a melodic phrase reinforces the sound of the minor key signature.

## Tonic Source 2: Dorian

Although Aeolian is the starting point for thinking about minor key harmony, most minor key music contains chords from other sources as well.

The Dorian scale is another important source for tonic function chords in minor key.

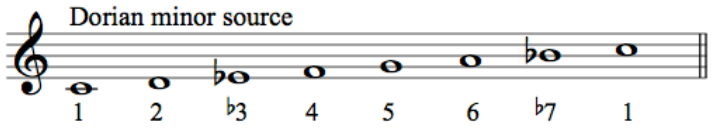



Fig. 4.6. C Dorian Tonic Source

Like Aeolian, it produces I–7, but Dorian provides a slightly different set of tensions than Aeolian: it creates a brighter sound when those tensions are used in a voicing or a melody.

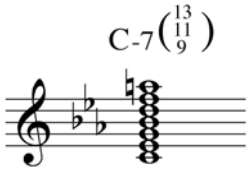



Fig. 4.7. I–7 in C minor with Dorian tensions.

I–6 is a variation of I–7. ♭7 is an avoid note when voicing I–6.

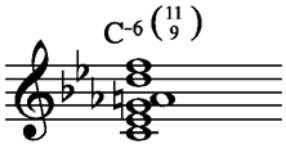



Fig. 4.8. I–6 in C minor with Dorian tensions.

VI-7♭5 and ♭IIImaj7 are the other Dorian tonic function chords. The standard available tension rule applies: notes that are a major ninth above a chord tone are available.

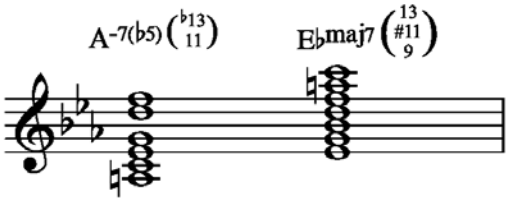



Fig. 4.9. VI—7♭5 and ♭IIImaj7 in C minor with Dorian tensions.

## Tonic Source 3: Melodic Minor

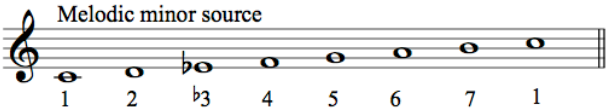



Fig. 4.10. Melodic Minor Source

The melodic minor scale is not a mode of any major scale. Historically, it is a theoretical scale that describes certain types of melodic activity in a minor key. Nevertheless, it can still be considered a modal source for minor key chords.

The melodic minor scale gives us two primary tonic chords: I–(maj7) and I–6. They contain no harmonic avoid tones, since each of the tensions is a whole step (or major ninth) above its respective chord tone. This allows a great deal of freedom in voicing chords.

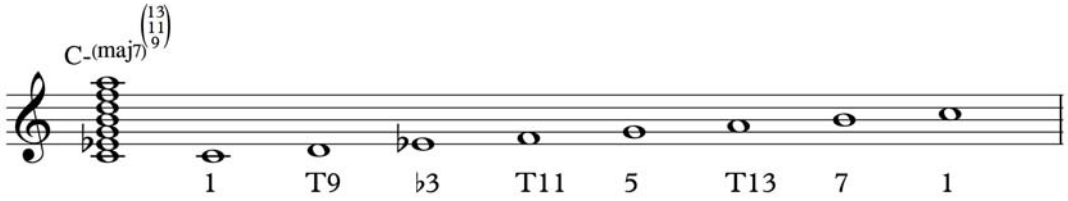



Fig. 4.11. C Melodic Minor source and tensions for I–(maj7) in the key of C minor.

Although 9, 11, and 13 are all theoretically available, T11 is not usually included in voicing a –(maj7) chord, since it creates a tritone with the 7th of the chord. The result would be a voicing that contains a contradiction: both a tonic and dominant chord simultaneously.

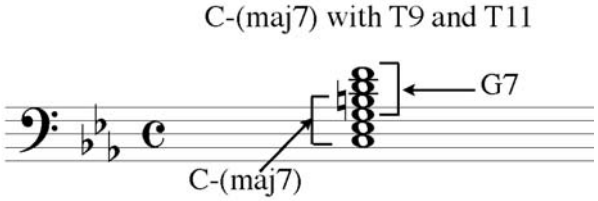



Fig. 4.12. C Melodic Minor source and tensions for I–(maj7) in the key of C minor

Melodic minor source also produces the tonic minor VI–7b5. All tensions from the melodic minor source scale are available.

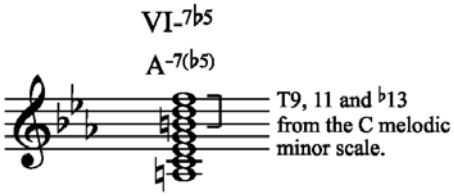



Fig. 4.13. A–7♭5 with Available Tensions from C Melodic Minor

Although it appears very infrequently in tunes, ♭III+(maj7) is another tonic chord from the melodic minor source.

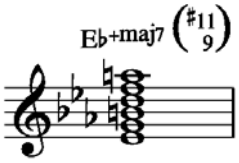



Fig. 4.14. E♭+(maj7) with T9 and #11

Scale tone 6 (C natural in Fig. 4.11) is a minor ninth above the augmented 5th, so it is not available: it creates a harsh dissonance with the B natural in the chord.

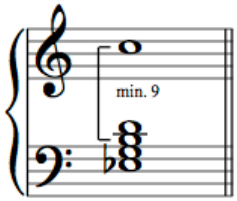



Fig. 4.15. S6 is an Avoid Note on ♭III+(maj7)

## Summary of minor key tonic chords

- The I minor triad is the basic minor key tonic chord.
- I–7 and diatonic tensions from the key signature express a natural minor tonic color. ♭6 is avoided in voicings.
- I–7 with tensions 9, 11, and 13 create a brighter, Dorian tonic sound.
- I–(maj7) expresses a melodic minor tonic sound. Available tensions are 9 and 13.
- I–6 is an alternate voicing of I–(maj7) from melodic minor and I–7 from Dorian.
- ♭IIImaj7 and VI-7♭5 are alternate tonic chords.
- Depending on context, ♭IIImaj7 can be heard as a shift to the relative major.

## Subdominant Minor Function and Scale Degree ♭6

In *major* key harmony, the fourth scale degree defines subdominant function. The half step dissonance above the 3rd of the tonic triad creates the contrast that defines the subdominant sound as distinct from tonic and dominant. In *minor* keys, the half step is between scale degrees 5 and ♭6 of the Aeolian scale. This provides the contrast that defines the subdominant minor sound. The most common minor subdominant chords come from the Aeolian scale because the presence of scale degree ♭6 as a chord tone distinguishes them from stable tonic chords.

*In minor key harmony, the natural minor scale is*
*the primary source for subdominant chords.*

Chords that contain scale degree ♭6 as a *primary chord tone* (root, 3rd, or 5th) and do *not* include the leading tone are the strongest examples of the subdominant minor sound.

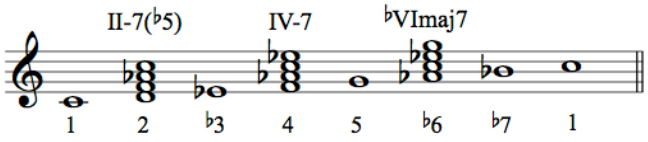



Fig. 4.16. Minor Key Subdominant Chords From an Aeolian Source

All three chords can be used interchangeably in the pre-dominant position, or alternating with the tonic. The examples on the next page show three different versions of a closed phrase with tonic-subdominant-dominant-tonic progression and resolution. Available diatonic tensions have been used in each voicing.

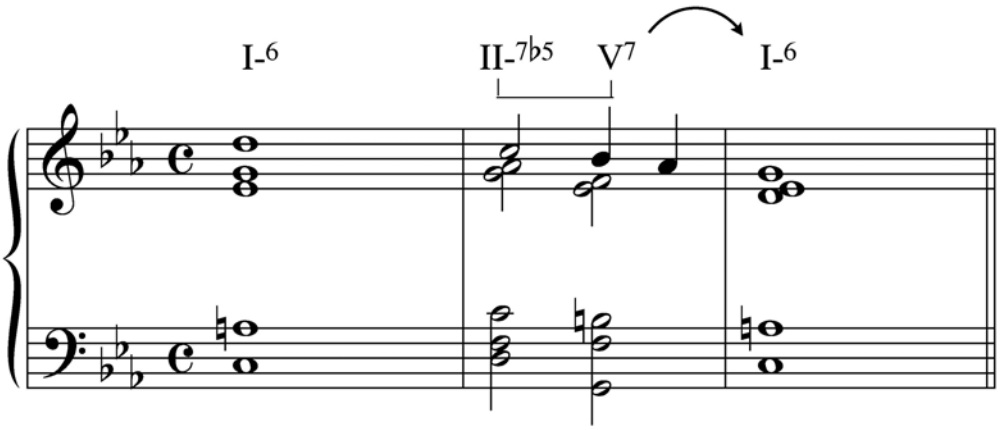



Fig. 4.17. II–7♭5 V7 I–6

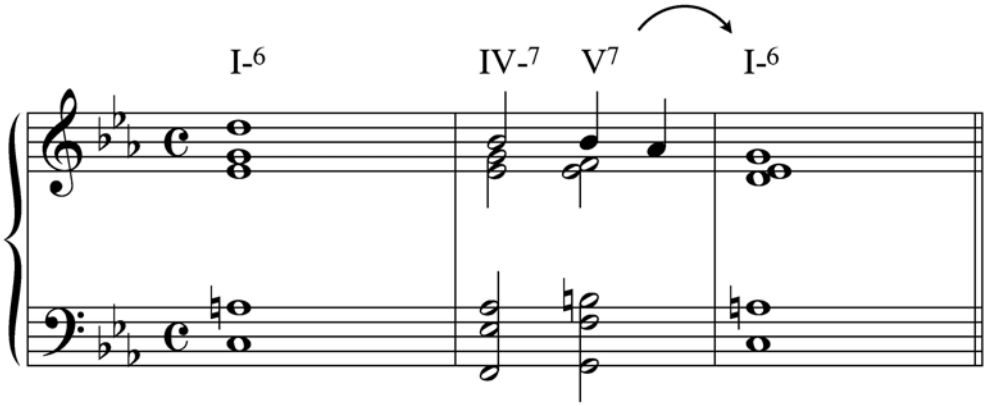



Fig. 4.18. IV–7 V7 I–6

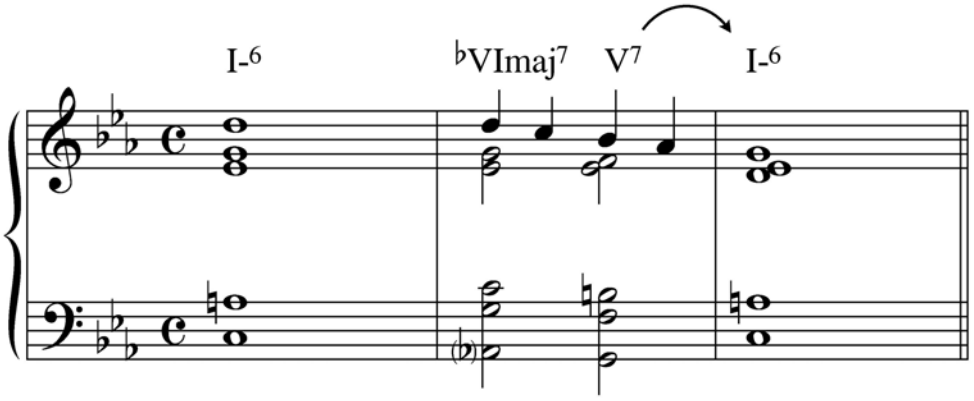



Fig. 4.19. ♭VImaj7 V7 I–6

## The Phrygian Source: A Darker Subdominant Chord

The Phrygian mode is the source of another, less common subdominant function chord:

♭IImaj7.

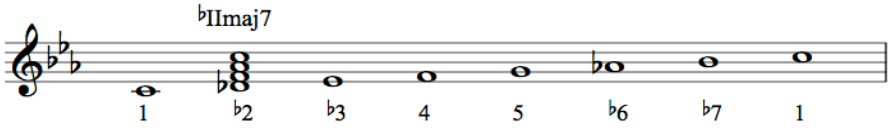



Fig. 4.20. ♭IImaj7 from Phrygian Source

♭IImaj7 is similar to II–7♭5: both chords share three notes with the most common minor key subdominant chord: the IV– triad.

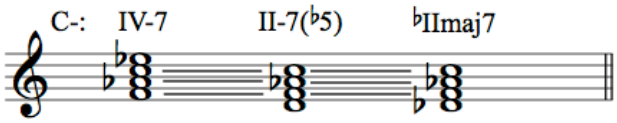



Fig. 4.21. Common Tones in Subdominant Minor Chords

♭IImaj7 is an exotic-sounding subdominant chord that evokes the sound of Spanish Flamenco music. It is *not* typically used as a pre-dominant chord: it is never to be confused with II–7♭5 as part of a II V pattern.

## Dorian and Melodic Minor Source: A Brighter Minor Subdominant

The Dorian mode is the source of two colorful minor-key subdominant chords: II–7 and IV7.

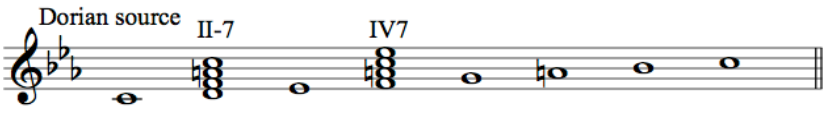



Fig. 4.22. Minor-Key Subdominant Chords from Dorian Source

Because of the lack of scale degree ♭6, II–7 and IV7 do not function perfectly as minor key subdominants. In the American Songbook repertoire, they are far less common than the Aeolian subdominant chords. Nevertheless, subdominant chords derived from Dorian are still viable in minor key harmony, because of the roots they share with major key subdominant chords. Chords rooted on scale degree 2 and 4 have subdominant function in major key, so in the right context, these chords can act as subdominant chords in minor: they bring a hint of major key brightness into a minor key progression.

The Dorian source scale provides only tension 11 for II–7. ♭2 and ♭6 are avoid notes.

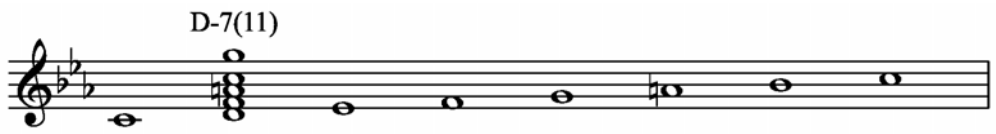



Fig. 4.23. Tension 11 on II–7 from a Dorian Source

The Dorian source scale produces tensions 9 and 13 on IV7. S4 is avoided in chord voicings.

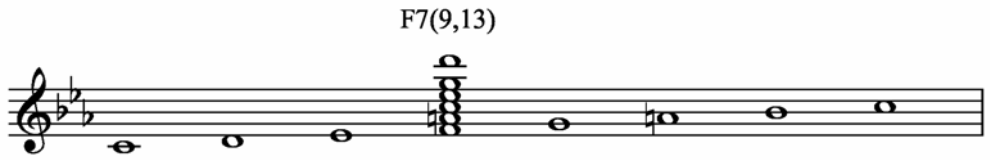



Fig. 4.24. Tensions 9 and 13 on IV7 from a Dorian Source

The melodic minor scale also produces II–7 and IV7. The tensions are slightly different than the same chords from a Dorian source.

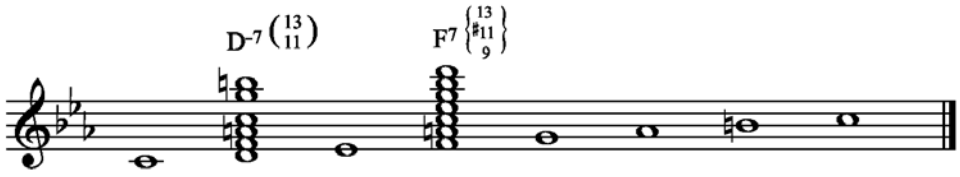



Fig. 4.25. Tensions for II–7 and IV7 from Melodic Minor Source

## Summary of subdominant minor

- Aeolian is the primary source of minor key subdominant chords
- The ♭6 scale degree is the defining pitch for minor subdominant function
- IV–7 is the primary subdominant; it's tensions are 9, 11, and 13
- II-7♭5 (tensions 11 and ♭13) and ♭VImaj7 (tensions 9, #11 and 13) also have minor subdominant function
- Melodic minor and Dorian produce brighter subdominant chords: II–7 and IV7.
- Phrygian produces the darker subdominant ♭II and ♭IImaj7.

## Minor Key Dominant Functions

The Aeolian scale defines the basic sound of minor key. However, to create a complete minor key equivalent of major key tonal progressions, we need dominant resolution. The Aeolian scale has no leading tone: its V–7 chord does not have dominant function.

The presence of dominant resolution in progressions brings us to the next source of harmony in minor key music: the so-called harmonic minor scale. With its unusual augmented 2nd between scale degrees ♭6 and ♭7, this scale is not diatonic to any key; it is best thought of as an altered Aeolian scale with a raised seventh degree.

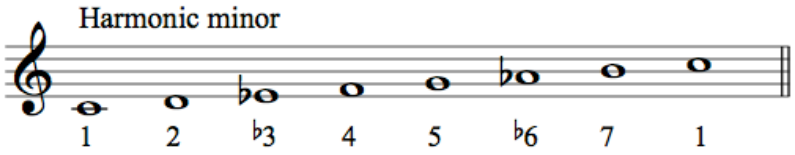



Fig. 4.26. C Harmonic Minor Scale

The harmonic minor scale does produces a V7 chord with minor key tensions, but it does not create a unified model of musical experience. Instead of a separate scale, it is more useful to think of the source of minor key dominant function as a *combination* of both the natural minor and harmonic minor scales. Instead of an artificially limited seven-note scale, this *composite minor scale* is a more accurate reflection of musical reality:

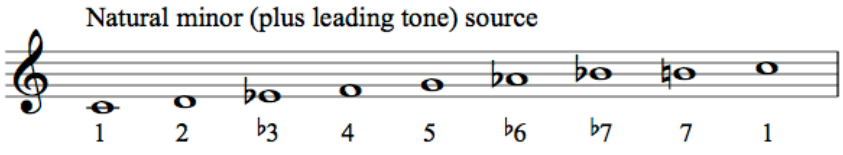



Fig. 4.27. Natural Minor Scale with Leading Tone

This composite scale accounts for altering the diatonic V–7 chord to create a dominant sound. By raising the seventh (still retaining the ♭7 for other uses), it create a half-step

leading tone to tonic, and the tritone necessary for dominant function. We now have a scale that neatly accounts for the primary tonic, subdominant, and dominant chords in minor.

Reordering the composite minor source scale from the fifth degree produces the complete sound of V7 diatonic to a minor key: G7(♭9,#9,♭13).

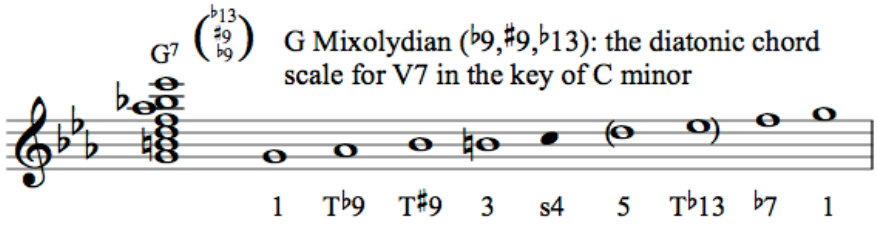



Fig. 4.28. G7 (♭9, #9, ♭13) from Composite Minor Source

There are several things to notice about this chord and its tensions:

- There are *two* tensions between the root and third: T♭9 and T#9. Both are diatonic to the key.
- In some keys (like the C minor example above), T#9 is spelled enharmonically, to reflect its status as a diatonic note in the key. It is never called "♭10", even though it is sometimes spelled that way.
- The parentheses around 5 and T♭13 indicate that these two notes are *provisional avoid tones*: if T♭13 appears in a voicing, the 5th of the chord is usually omitted and vice versa. Either note is possible, but not both at the same time.
- Tensions ♭9, #9 and ♭13 all heighten the instability of the V7 chord creating an even stronger expectation of resolution.
- T♭13 foreshadows the minor quality of its target, since it is a common tone with the 3rd of the I– chord.
- VII$^{o7}$ is the other dominant function harmony that is derived from this source.

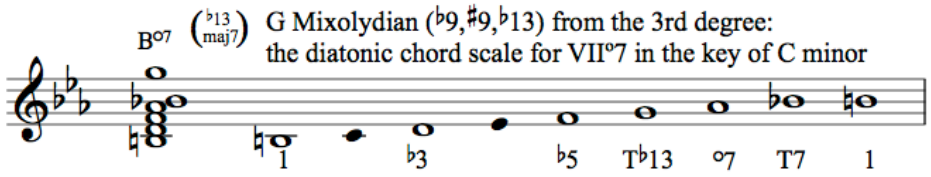



Fig. 4.29. Chord Scale for VII°7

With two tritones, VII°7 is clearly a dominant function chord. Although it is not commonly found in pop and rock progressions, it can be used to depart from tonic in arrangements where a chromatic bass line is desired.

## Summary of Minor Key Source Scales and Chords

The expanded Aeolian scale provides the most common minor key chords.

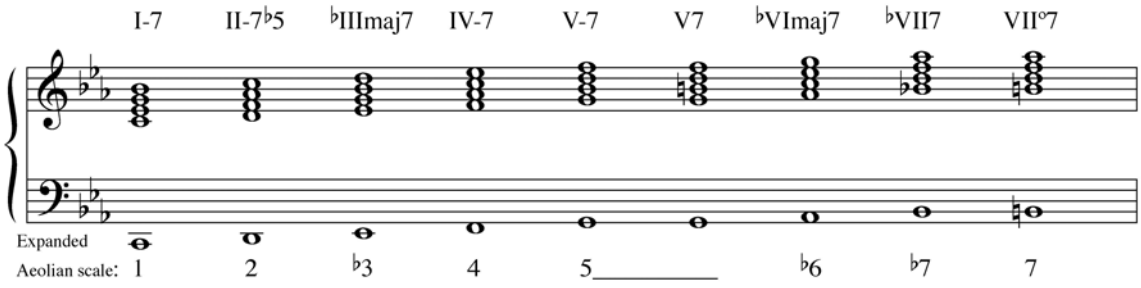



Fig. 4.30. Minor Key Chords from Expanded Aeolian Scale

Dorian, melodic minor and Phrygian produce alternate functional colors. The illustrations on the next page show those possibilities.

The parallel Dorian scale gives us two brighter subdominant chords and an alternate tonic. VI–7♭5 can be used to create a parallel minor key version of Imaj7 VI–7 II–7 V7.

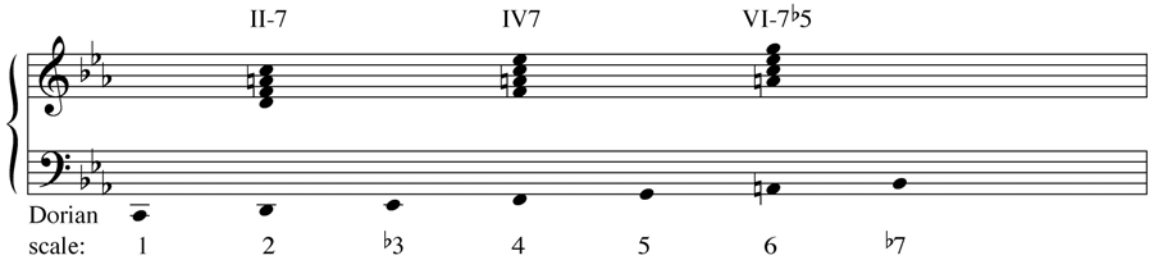



Fig. 4.31. Minor Key Chords from Dorian Source

Phrygian produces a dark ♭IImaj7. It is not used as a pre-dominant chord.

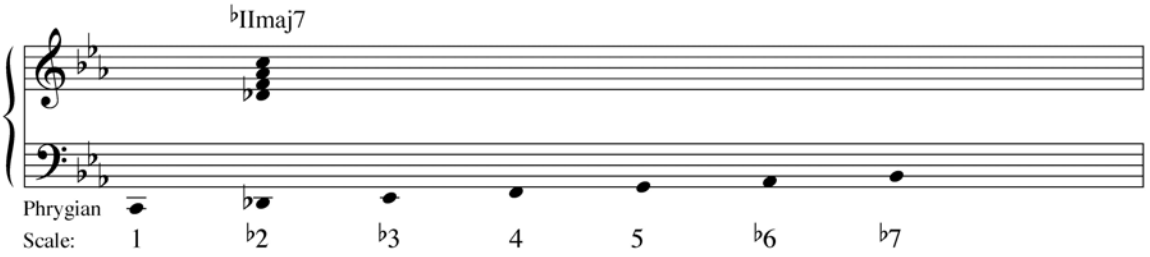



Fig. 4.32 ♭II from Phrygian Source

The ascending form of melodic minor gives us two important tonic variations.

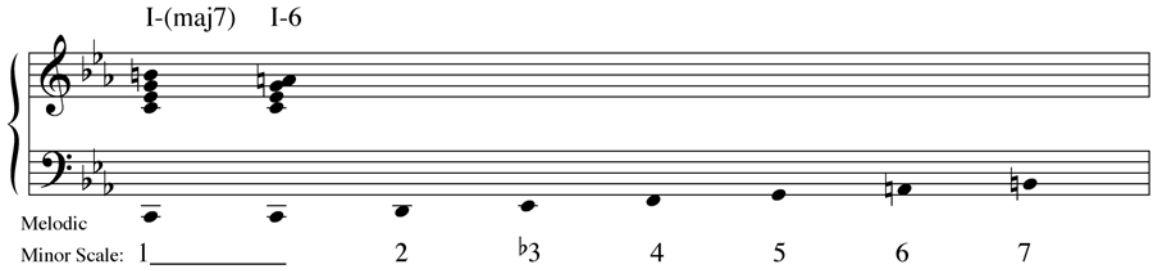



Fig. 4.33. I–(maj7) and I–6 from Melodic Minor Source

## Minor Key Progressions

We now have satisfactory tonic and subdominant chords with a distinctive minor character, as well as a V7 chord with a leading tone which will create an expectation of resolution back to the I– chord. The tensions for all these chords reflect their minor key environment. Functional tonal progression is now possible in minor key with a clarity that is similar to major key practices.

We analyze and compose minor key chord progressions using the same concepts as in major:

- Roman numeral analysis
- awareness of harmonic function
- harmonic rhythm
- repetition and variation
- form

This section will show the principles of minor progressions, and show some common minor key phrases.

### Establishing and Extending Tonic

Just as in major key, establishing the tonic is essential to creating a meaningful musical environment.

- The primary tonic I–, I–7, I–(maj7), or I–6 chord often begins and ends the progression;
- The primary tonic can move through alternate tonic chords to arrive at a subdominant chord;
- A resolution from V7 to I– commonly ends a phrase or section;
- Subdominant – dominant pairs usually have a faster harmonic rhythm than the rest of the progression

Once the tonic chord has been stated, it can be *prolonged*, or extended. ♭IIImaj7 and VI-7♭5 are often used to prolong tonic in minor. They both share important common tones with the I–7 chord, and they do *not* contain subdominant scale degree ♭6.

♭IIImaj7 is the more basic tonic substitute: it is the relative major of the tonic I–7. If we include tensions, ♭IIImaj7 shares five common tones with I–7.

VI-7♭5 is a brighter tonic color, and allows for a minor key equivalent to I VI–7 II–7 V7. The root of the tonic triad is extended downward by a minor third to the Dorian scale degree 6; the progression then returns to a more typical minor cadential pattern.

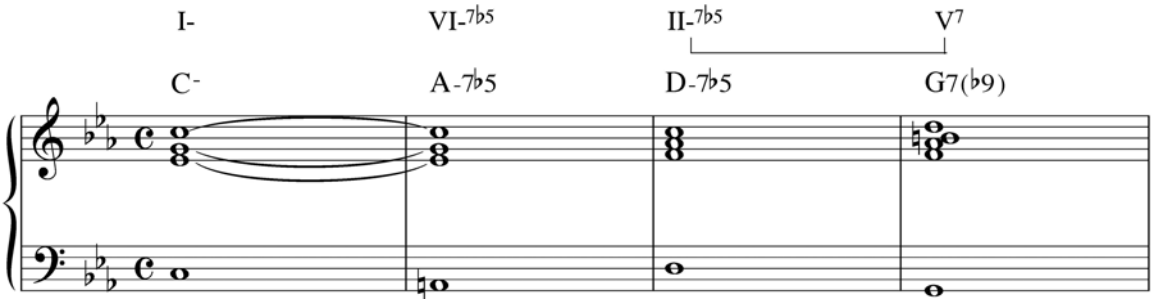



Fig. 4.34. VI–7♭5 in C minor

**Moving from Tonic to Subdominant; Dominant Resolution**

Functional progression is the use of harmony to create motion, excitement, and a feeling of unity in a tune. The classic version of that progression is as follows:

*Movement from the stable tonic chord to a less stable subdominant chord,*
*on to the very unstable dominant, and resolving back to the tonic.*

This should sound very familiar: it is identical to major key practices. There are many possible ways of creating this functional shift; example 4.35a, b and c shows three of the most basic. All three phrases are functionally identical, but they use different subdominant chords:

- The tonic is prolonged by moving from I–7 to ♭IIImaj7.
- Each phrase ends with a subdominant-dominant-tonic cadence.
- Phrase *a* shows the primary subdominant IV–7 preparing the dominant chord
- Phrase *b* uses a II V, with ♭9 on the V7, and I–6 as the final tonic chord
- Phrase *c* shows chromatic approach from ♭VImaj7 to the V7 chord
- Each phrase ends with dominant to tonic resolution

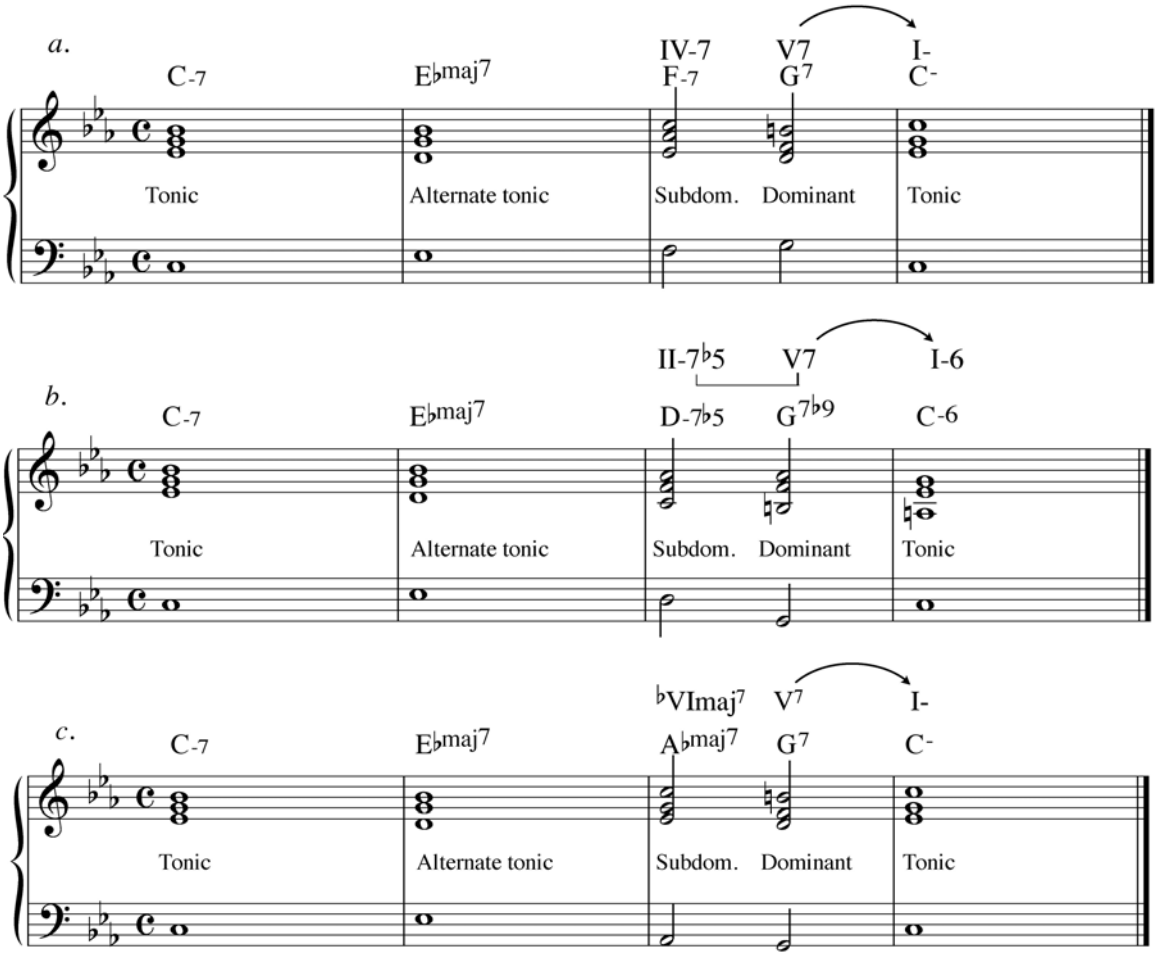



Fig. 4.35 Functional Progression to a Cadence

Although they are less common than those from the Aeolian scale, subdominant chords from the Dorian source allow for significant subdominant color variations. Repeating Dorian patterns like I– to IVmaj or I–7 to IV7 sometimes appear as modal phrases in minor-key tunes. I–7 IV7 and I–7 II–7 can be used as a vamp introduction or ending, as part of the progression in a verse, or as an interlude between choruses.[5] These chord patterns function as tonic and a bright subdominant; they provide a pleasing contrast to the darker diatonic Aeolian functions.

II–7 and IV7 almost never appear as the pre-dominant in a minor key cadential pattern: they are more often used as part of a modal vamp that helps establish the tonality. When a dominant cadence is created, it is more typical to use an Aeolian subdominant chord, as in Fig. 4.36.

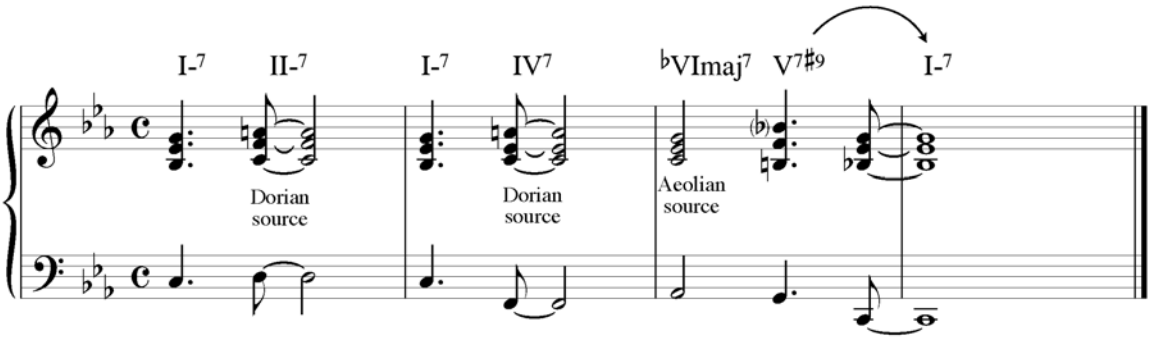



Fig. 4.36 Dorian Subdominant Chords Alternating with Tonic; Aeolian Subdominant Chord in Cadence.

♭II from the Phrygian source is another alternative subdominant chord. Its non-diatonic root makes it especially distinctive. It can be used as part of a tonic vamp to establish a very dark tonal center. It can also be used as chromatic extension of II–7♭5 in a minor subdominant cadence to make the feeling of cadential release more intense.

[5] See Van Morrison's "Moondance" and Carol King's "I Feel the Earth Move" as examples of classic rock songs that employ II-7 or IV in a minor key. Use of these Dorian modal patterns in a minor key tonal environment was very popular in chord progressions in the 1960's and 70's. Aeolian modal patterns have become the norm in more recent pop songwriting.

In Fig. 4.37, notice the three common tones between II–7♭5 and ♭IImaj7. These tones sound F minor, the primary subdominant of the key; the shifting bass notes elaborate on that basic statement as they approach the tonic in a stepwise manner.

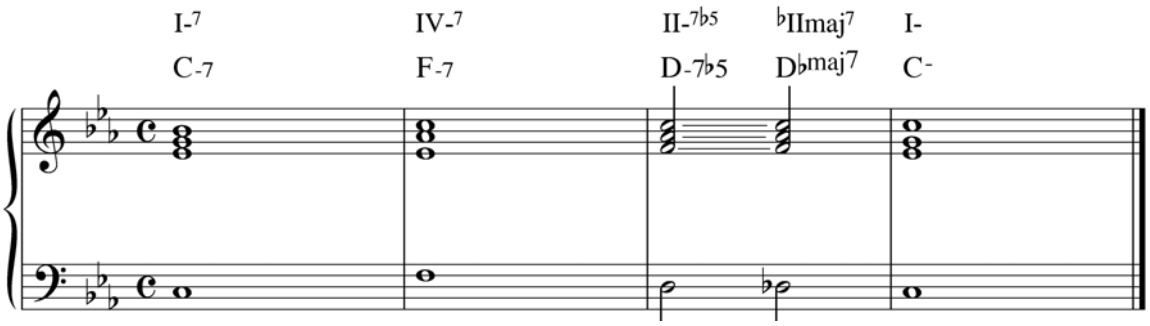



Fig. 4.37 ♭IImaj7 in a Subdominant Minor Cadence

♭IImaj7 is almost never used as a true pre-dominant chord. That function is usually reserved for the Aeolian subdominant chords.

## Dominant Resolution and ♭VII7

Dominant to tonic resolution is one of the most important parts of minor key music. The resolution from V7 to I– is crucial in establishing and maintaining the key center.

Minor key harmony contains *two* dominant chords: ♭VII7 and V7. Because of our natural tendency to hear stable major chords as tonic, it is very easy (and common) for minor progressions to shift to the relative major key: ♭VII7 can act as V7 in the relative major. Listen to the progression in Fig. 4.38 on the next page.

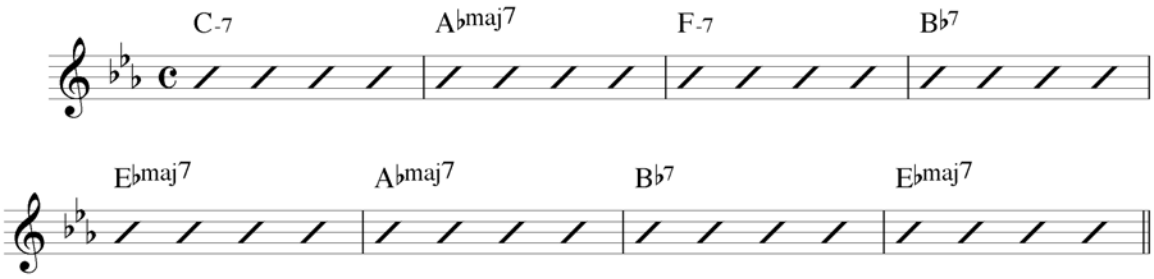



Fig. 4.38. Ambiguous Tonality: C minor or E♭ major?

The resolution of B♭7 to E♭maj7 creates a clear shift away from C minor to the relative major, E♭. The fact that it happens twice, and the progression cadences on a final E♭maj7, strongly confirms that shift.

This is not necessarily a problem: many minor key tunes make use of this relationship, tonic minor to relative major and back again, to create contrast. But in music that is clearly in a minor key, relative major phrases are at a minimum, and V7 to I– resolutions re-tonicize the minor key. Example 4.39 shows one way to keep the overall progression in C minor, despite the momentary feeling of E♭ major in measure 5.

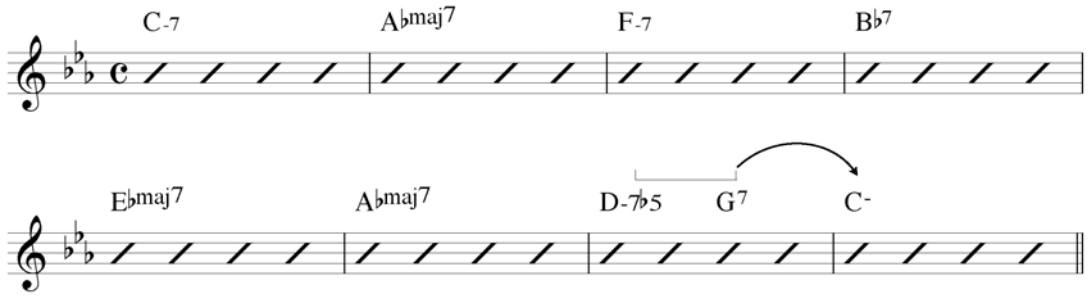



Fig. 4.39. C Minor Progression with an Area of E♭ Major

In Fig. 4.39, the C minor tonality was maintained through several means:

- D–7♭5 to G7 in a faster harmonic rhythm creates a strong expectation of resolution down a fifth to C.
- the appearance of C–7 re-establishes the original tonic at the end of the progression.
- B♭7 to E♭maj7 is simply part of a diatonic pattern.

Fig 4.40 shows another expression of this issue. ♭VII7 is just a diatonic chord. Its dominant function is muted by its position in the phrase, and the equal weight given to all the chords.

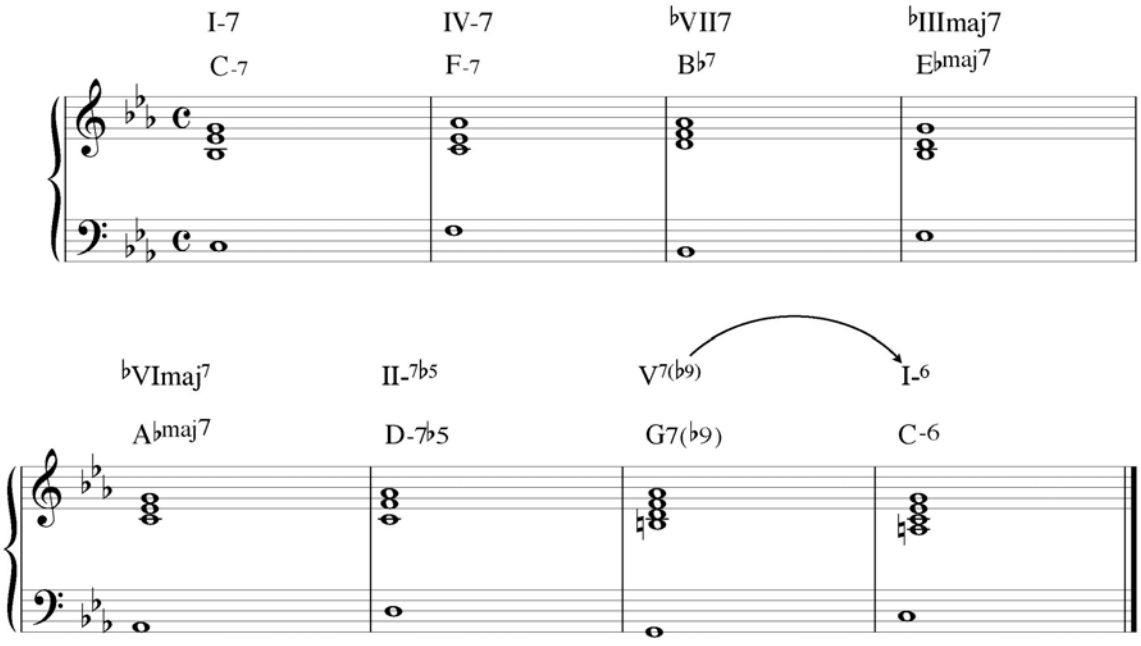



Fig. 4.40. C Minor Progression with Root Motion by Fifths

The progression has a number of classic minor key characteristics:

- the progression begins and ends with the minor tonic chord
- it contains all the diatonic chords from the key, with V–7 altered to create the dominant V7
- a pattern of root motion by descending diatonic fifths (cycle 5 root motion)
- a brief feeling of shift to relative major on a weak harmonic stress
- a return to clear minor key tonality through use of V7
- a full cadence resulting in a closed phrase in measure 8

Of course, not all of these qualities exist in every minor key progression. For example, the absolutely regular harmonic rhythm and cycle 5 root motion across all eight measures is not typical of many songs. Nevertheless, these are important things to look and listen for as you analyze or compose minor key progressions.

**V–7**

V–7 is clearly a part of the minor key chord vocabulary, but its function is ambiguous. It can appear as a passing chord, providing stepwise motion and contrast between IV–7 and ♭VImaj7.

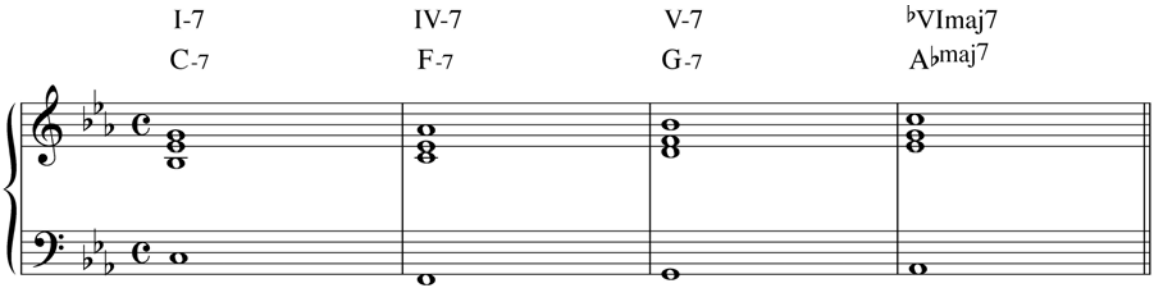



Fig. 4.41. V–7 Stepwise from IV–7 to ♭VImaj7

Or it can stand in *syntactically* (in a similar position, with a similar result) for a true V7 chord. Even though V–7 lacks the leading tone, it can be used effectively mid-phrase because of the strength of the cycle 5 root motion. In Fig 4.42, V–7 presents a weaker "dominant" sound that helps make the true V7 chord even more dramatic at the end of the phrase.

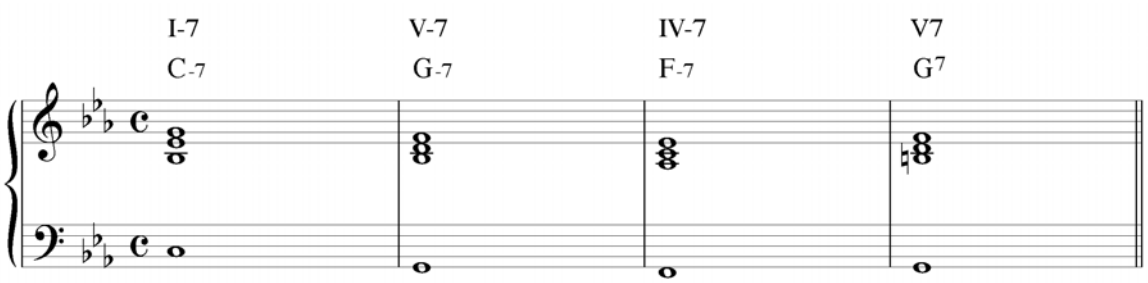



Fig. 4.42. V–7 in a Harmonic Phrase

Ultimately, V–7 is simply a diatonic chord in minor key with a flexible role in creating progressions. Observing how it behaves in many progressions will help you understand its connections with the other chords in the minor key system.

## Secondary Dominants in Minor Keys

Secondary dominants in minor key tunes operate on the same principles as in major key:

- Secondary dominants create the expectation of resolution down a perfect fifth to a diatonic target.
- Available tensions for secondary dominants are diatonic to the key.
- 11 is always avoided in voicings.

The target chord qualities are obviously different than in major, e.g., IV–7 instead of IVmaj7. We will start by looking at the most common minor-key secondary dominants: V7/IV and V7/V.

### V7/V

V7/V is one of the most common secondary dominants in minor key. It plays an important role in increasing the forward momentum to final resolutions.

Fig. 4.43 shows the available tensions for V7/V: ♭9, #9 and ♭13. They are diatonic to the natural minor scale—the scale of the key signature.

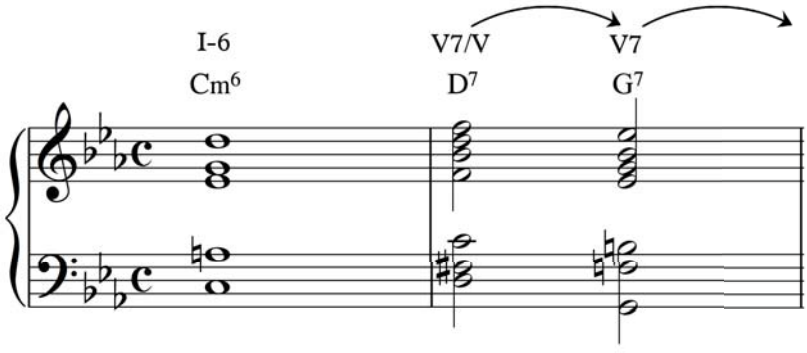



Fig. 4.43. V7/V in C Minor with Diatonic Tensions

Fig. 4.44 shows V7/V and its available tensions vertically in a close voicing, and horizontally as a chord scale.

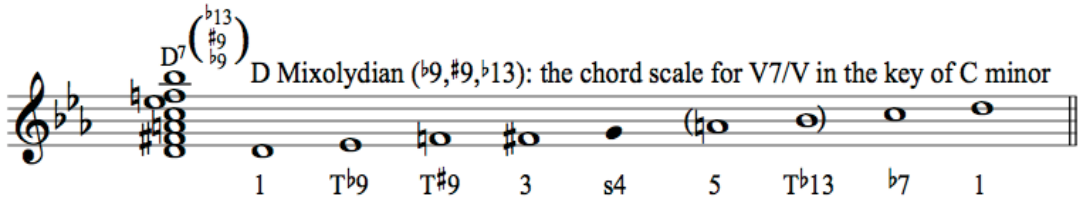



Fig. 4.44. Mixolydian ♭9, #9,♭13: Chord scale for V7/V in Minor

Notice that T♭9 and T♭13 *are* available. Just as major key, secondary dominant tensions a half step above a chord tone in the chord scale are acceptable. Only 11 (s4) is an avoid note.

The related II of V7/V is VI–7♭5, a member of the large minor key diatonic family. Because of its similarity to I–6, it requires a root position voicing and appropriate placement in the harmonic stress pattern to function clearly as a related II.

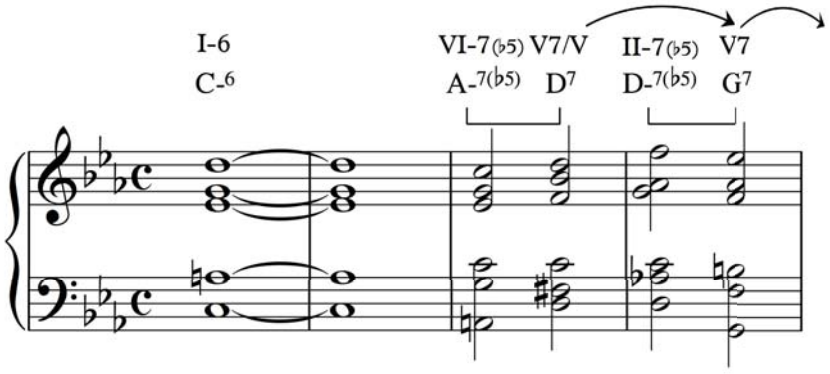



Fig. 4.45. V7/V with VI–7♭5 as Related II

**V7/IV**

V7/IV is also widely found in minor-key tunes. It transforms the tonic I–7 chord into a dominant chord. Any alteration of the tonic chord's quality constitutes a dramatic change, and adds urgency to the departure from the tonic area.

Using the notes of the natural minor scale as the default diatonic tensions, the diatonic tensions for V/IV would be 9 and ♭13. However, the target of V7/IV is a minor chord. In common practice, it shares the same set of tensions as V7 and V7/V: ♭9, #9, ♭13.

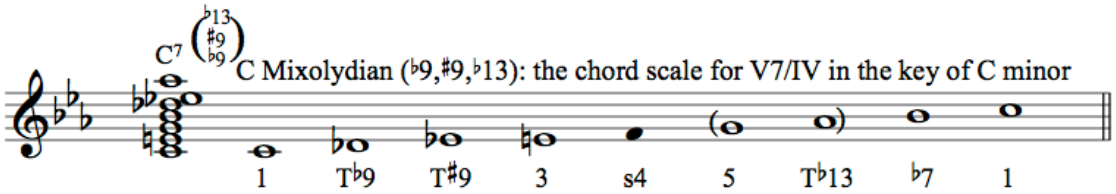


Fig. 4.46. Mixolydian b9#9b13, More Common Chord Scale for V7/IV in Minor

Using a natural minor source would produce V–7 as a related II chord. In reality, the related II is often –7♭5, in keeping with the minor quality of the target chord. Either one is possible, but a –7♭5 related II chord more clearly signals the intention to resolve to a minor quality target. The choice can depend on what degree of brightness is desired: V–7 is brighter, especially if non-diatonic tension 9 is added.

# Other Minor Key Secondary Dominants

## V7/II

The tensions for V7/II are again ♭9, #9, and ♭13.

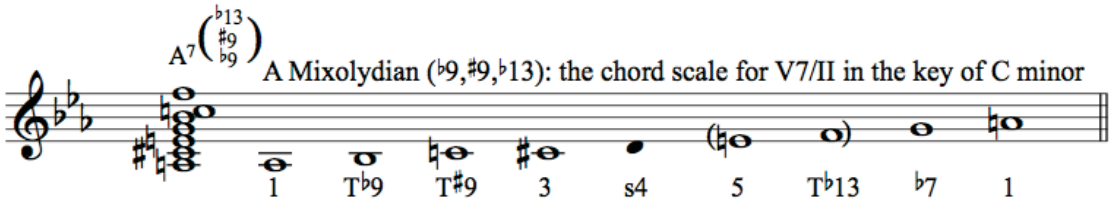



Fig. 4.47. Mixolydian ♭9 #9 ♭13, Chord scale for V7/II in Minor

V7/II almost never appears in the standard jazz and popular music repertoire, for three reasons:

6. It has a root that is not diatonic to the key signature.
7. The 5 of the chord is the major 3 of the key.
8. Minor 7♭5 chords are highly unstable; they are unsatisfactory target chords.

Nevertheless, V7/II is theoretically a viable function; it can be used as a brighter variant of VI–7♭5 to further alter a minor I VI II V pattern.

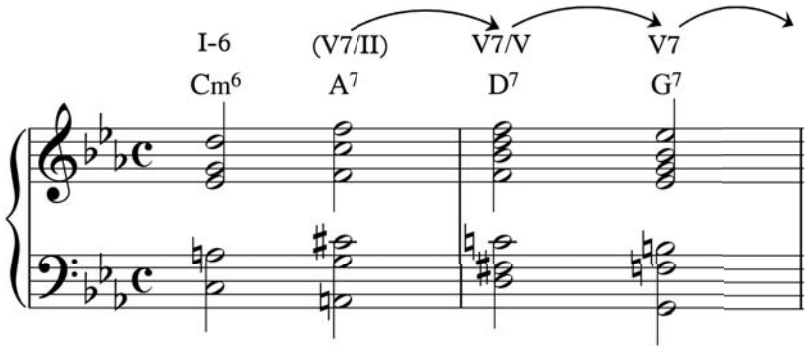



Fig. 4.48. Deceptive Resolution of V7/II in Minor. I VI II V Root Pattern Harmonized with Dominant Chords

**V7/♭VI**

The subdominant ♭VI can be a target chord for a secondary dominant in minor key. The diatonic root and major tensions of V7/♭VI agree perfectly with the definition of a secondary dominant with a major-quality target. The diatonic tensions for V7/♭VI are 9 and 13. 11 is avoided in chord voicings.

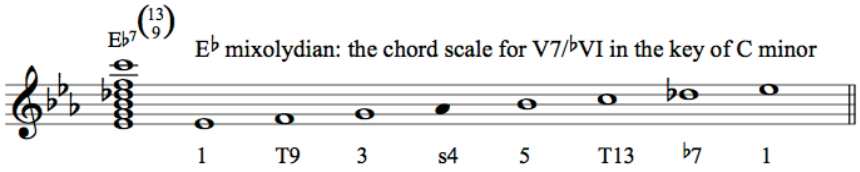



Fig. 4.49. V7/♭VI with Available Tensions in a Voicing and in a Mixolydian Chord Scale

♭VI has a maj7 quality, so the non-diatonic related II is usually –7 in quality.

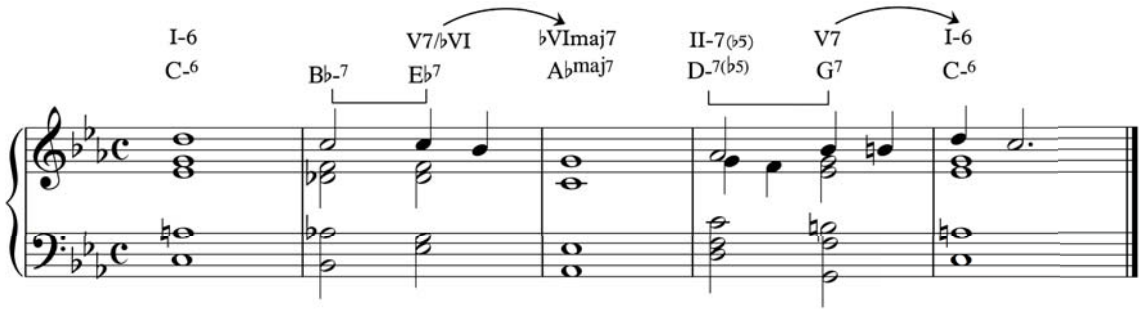



Fig. 4.50. V7/♭VI with Related II in Measure 2

## V7/♭III?

The chord that would be V7/♭III is identical to the diatonic chord ♭VII7. As a pure diatonic chord, it lacks one of the most basic characteristics of a secondary dominant: an altered pitch. The related II of V7/♭III is also diatonic: IV–7. Pairing these two purely diatonic chords creates merely the *appearance* of a secondary dominant pattern, with none of the chromatic surprise or drive. Progressions containing IV–7 ♭VII7 ♭IIImaj7 are heard as *diatonic* minor key activity, with no *secondary* dominant effect. The tendency toward the relative major is purely coincidental, a result of the "displaced" dominant quality ♭VII7.

If the intention is to dramatize the arrival of ♭IIImaj7, adding T♭9 to the chord will help to clarify its role as a dominant function chord. This creates a stronger expectation of resolution that differentiates it from a simple diatonic chord that could just as easily return to I–.

A further way to strengthen the V7/♭III function is to precede it with a related II–7♭5. This is a signal that a tonicization of ♭III is specifically intended. Without these two alterations, ♭VII7 is just that: a diatonic chord that could progress equally well to ♭III or to I–.

### Summary of Secondary Dominant Tensions in Minor Keys

| Secondary Dominant | Tensions |
|---|---|
| V7/IV | ♭9, #9, ♭13 are more typical; 9 and ♭13 are diatonic |
| V7/V | ♭9, #9, ♭13 |
| V7/II | ♭9, #9, ♭13 |
| V7/♭VI | 9 and 13 (Mixolydian) |
| V7/♭III | ♭9 and 13 (♭9 differentiates V7/III from ♭VII7) |

## Line Cliché

*A line cliché is a single-note line that embellishes a single triad.*

*It is a chromatic line that descends from the root*
*or ascends from the fifth of a major or minor triad.*

Line clichés are most common in minor key progressions, but are also found in major key music. They serve to embellish or decorate relatively simple harmonies, and are useful in a wide variety of styles.

The moving line creates a series of variations in the color of the original chord. Here is a C minor chord with a line cliché in the tenor voice:

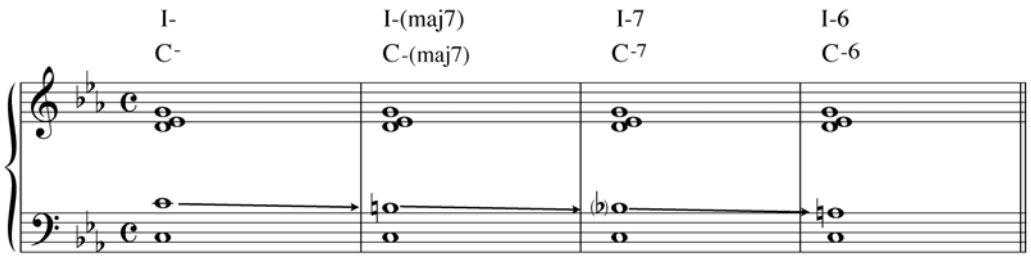



Fig. 4.51. Descending Line Cliché on a Minor Chord

A line cliché like the one in Fig. 4.51 can cause our perception of the tonic C- chord to change over time. While the function of the I chord does not actually change, the chromatic pitches that are introduced subtly suggest the following harmonic progression:

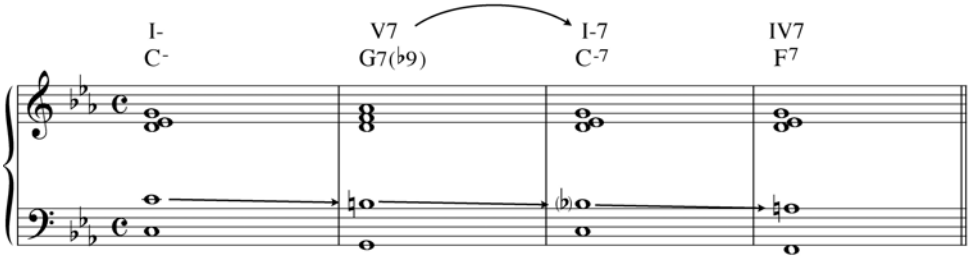



Fig. 4.52. Line Cliché and Implied Harmony

A line cliché may appear in any voice: lead, alto, tenor or bass. Line clichés are found across the stylistic spectrum. Line cliché is an especially common feature in Brazilian popular songs. The line cliché in Fig. 4.52 above appears in Richard Rodgers' "My Funny Valentine", Stevie Wonder's "I Just Called to Say I Love You" or "For Once In My Life", Led Zeppelin's "Stairway to Heaven and countless other popular songs.

The line cliché ascending from the 5th, |I- I-(♭6) |I-6 I-(♭6) | has been familiar to James Bond audiences for years:

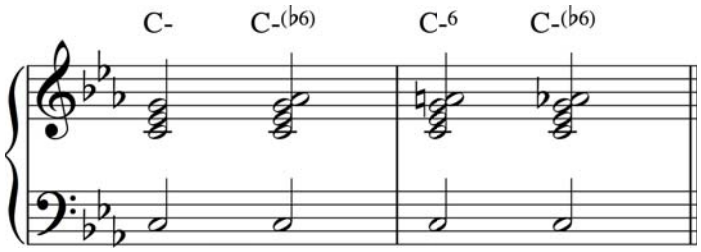



Fig. 4.53. Line Cliché from the 5th (Sol-Si-La-Le) in minor

The C–(♭6) chord quality is **not** a standard chord symbol. If that chord were part of a conventional progression with a mixture of other functions, it would be analyzed as ♭VImaj7/3, ♭VImaj7 in first inversion. In lead sheets, the minor(♭6) chord symbol is simply used to ensure the player will include the moving chromatic line sol-si-la-le-sol, in the absence of actual notation.

This same line may also appear in major key chord progressions, on the I or the IV chord.

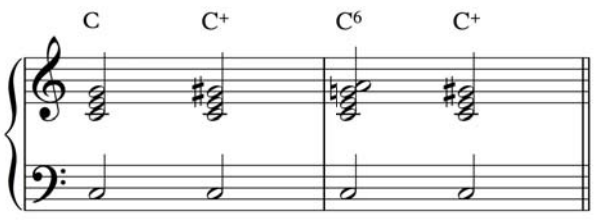



Fig. 4.54. Line Cliché Sol-Si-La-Si in Major

A descending chromatic line from the octave may be used to embellish the II chord in a II V:

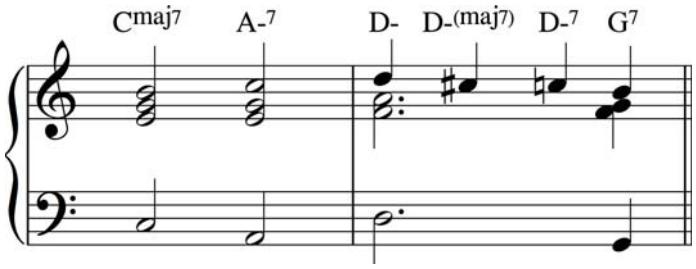



Fig. 4.55. Line Cliché Embellishing the II Chord in a II V

## Line Cliché Summary

A line cliché:

- is a moving line between the 5th and octave of a chord
- embellishes otherwise static harmony.
- creates changes in chord quality that leave the basic triad intact.
- can be employed on major or minor triads of tonic or subdominant function.
- is found in both major and minor key harmony
- can imply a change of harmonic function even though the basic triad remains unchanged.

# Chapter 5: Modal Interchange

As you listen to these three phrases, be aware of the harmonic function of each chord and how the mood changes:

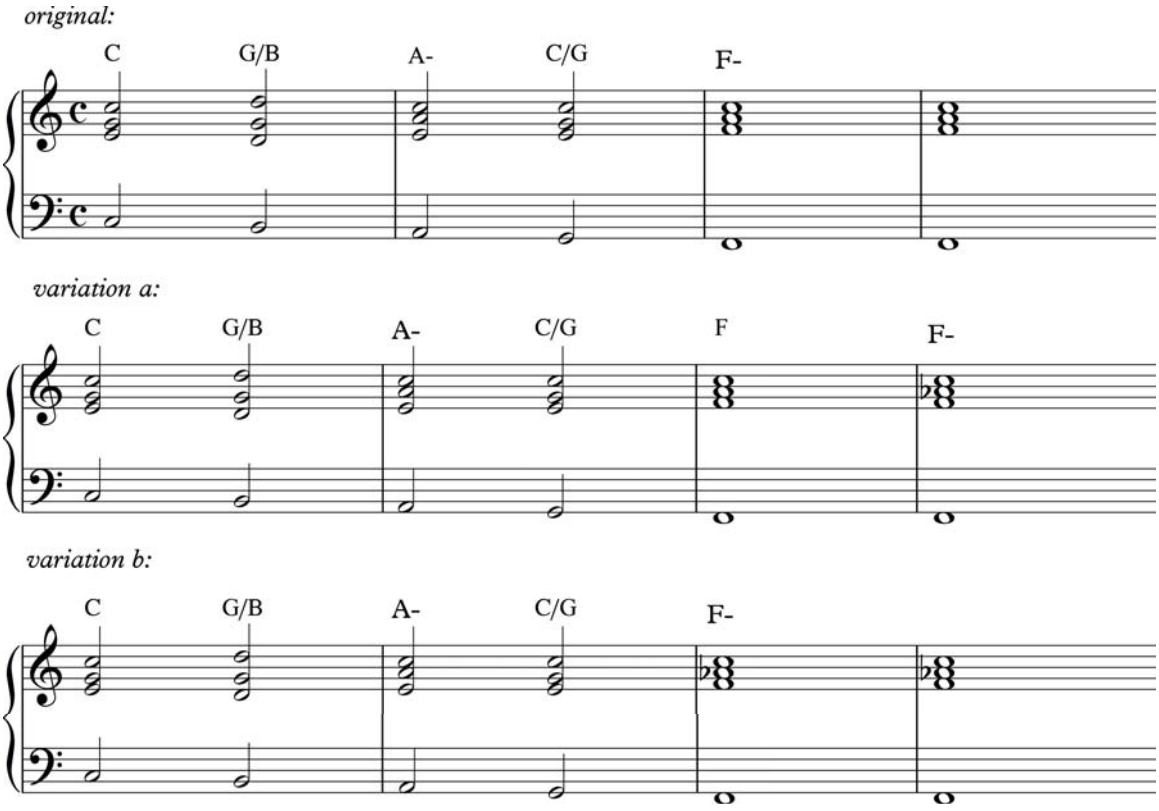



Fig. 5.1. Phrases in C major with variations

The original is a standard diatonic progression used in a wide range of musical styles. In variations *a* and *b* that follow, the IV chord is chromatically altered by lowering its 3rd degree, creating a IV– chord. The descending bass motion, the progression from tonic to subdominant function, and the harmonic rhythm are unaffected, but there is a dramatic difference in color and emotional effect. This difference is heightened in variation *b*, where the darker IV– chord replaces IV major completely. The lowered 6th degree of the key of C that is present in the F– chord creates a darker emotional moment that contrasts with the prevailing brighter C major mood.

Altering the IV chord to create IV– (or IV–7) is one of the most common ways of creating variety in a progression. IV–7 is a familiar chord from C Aeolian, a parallel scale to C major. This substitution and others like it are called ***modal interchange.***

*Modal interchange is the use of chords from a parallel source scale to replace or alter diatonic chords in a progression.*

Modal interchange (sometimes called *modal mixture* or *borrowed chords*) is an important part of the expressive language of music. Its use provides a much wider variety of emotional shading than is possible with just the diatonic chords. Since the prevailing modality of a composition is one of the most important factors in creating its mood, chords from a contrasting mode create moments of emotion which interrupt the basic mood. These moments of emotion are bumps in the road on a musical journey. While they may excite, distract, or cause a detour, they don't change the overall landscape. Like secondary dominants, they do **not** automatically cause key change. Rather, they are effective because they contrast with the clearly established home key.

*Modal interchange chords provide contrast to the predominant modality.*

Modal interchange can occur in major key, minor key, or modal music. Our focus in this chapter will be on modal interchange in major key music.

## Parallel Scales: What's Different – What's the Same?

When thinking about scales and tonal centers, parallel means *sharing the same tonic*. The C major and C Aeolian scales are parallel, because the tonic is the same. Scale degrees 2, 4, and 5 are also identical; the important differences lie in the 3rd, the 6th, and the 7th.

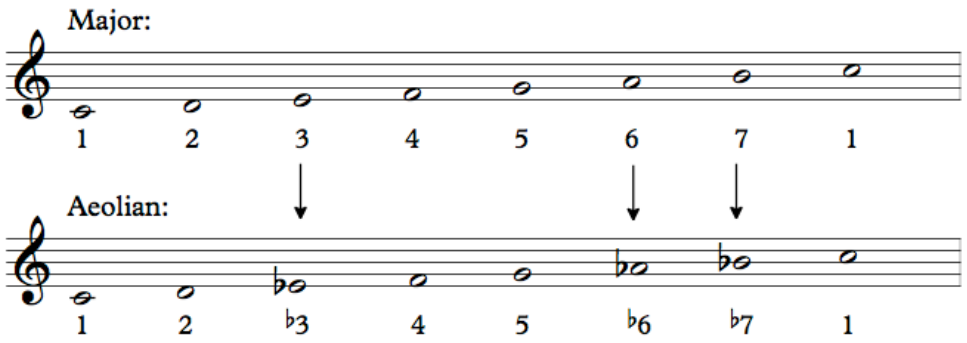



Fig. 5.2. Differences Between Parallel Scales

We start with Aeolian as the parallel mode for the simple reason that the most common examples of modal interchange are related to this source scale. Later in the chapter, we will look at some chords from other sources.

Modal interchange preserves the essential tonal unity of the composition; it does *not* cause a change of key. This is because the *source* of the chords is still related to a single tonic pitch. If we look once again at the parallel scales we can see that scale degrees 1, 4 and 5 are the same in both scales.

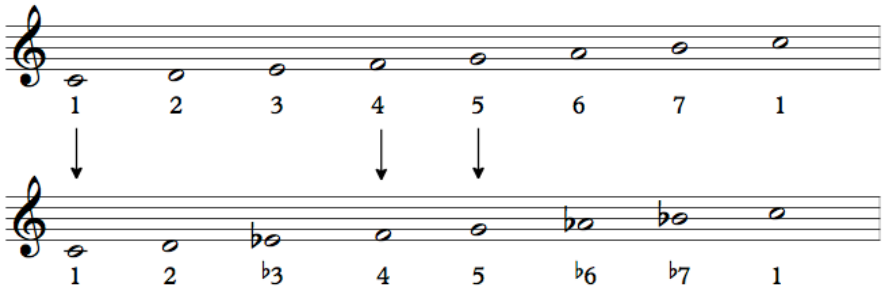



Fig. 5.3. Similarities Between Parallel Scales

The use of a parallel scales source ensures that the foundation of the tonic, subdominant and dominant functions is retained while the modal degrees ♭3, ♭6 and ♭7 allow for different chord qualities. When chords are borrowed from a parallel minor scale, the listener perceives that the expressive range of the music is widened, while the overall major sound is preserved.

## The Importance of Preserving Tonic

If major key music is generally perceived as being "happy," "bright" or "positive," the emotional effect of using a chord from the parallel minor can be described as "pensive," "dark," or "sad." The obvious candidate for pitch alteration in major key progressions would seem to be scale degree 3; after all, it defines the very difference between major and minor. But a search of the song literature shows that this kind of exchange—I minor instead of I major— is very unusual.

The dramatic effect of modal interchange is achieved by injecting material from a parallel minor scale into a major key passage. But without a stable sense of the prevailing major modality, modal interchange is meaningless. There are two principles that set the stage for its effective use:

9. Do not change the primary tonic chord. Altering the I chord can confuse the listener's perception of the modality of the music.

10. Do not completely eliminate V7 from the progression. Dominant resolution is crucial to functional harmony. If there is no V7 chord, the progression takes on a purely modal character.

These considerations make chords with *subdominant function* uniquely suited for creating variety. For now, we will stay away from using anything that would alter the I or the V chord in the major key. We will touch on tonic modal interchange and cadential substitutes for the dominant chord later in the chapter.

## Subdominant Minor: SDM

The sixth degree of the parallel Aeolian scale (♭6, *Le*) is fundamental to modal interchange.

- It is the *defining pitch* of subdominant function in minor key.
- It has a *darker, more somber* sound than a major 6.
- It is an *unstable pitch*, with a strong tendency to return by half-step to scale degree 5.

With this in mind, consider the difference between chords that are diatonic to C major when scale degree 6 appears as the root, 3rd, 5th or 7th.

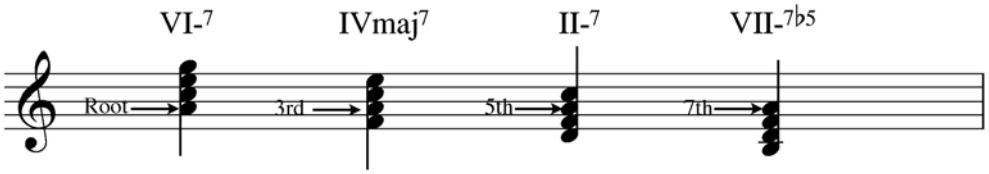



Fig. 5.4. Major Key Chords That Contain Scale Degree 6

Now compare the chords that contain the ♭6th degree of C Aeolian as the root, 3rd, 5th or 7th:

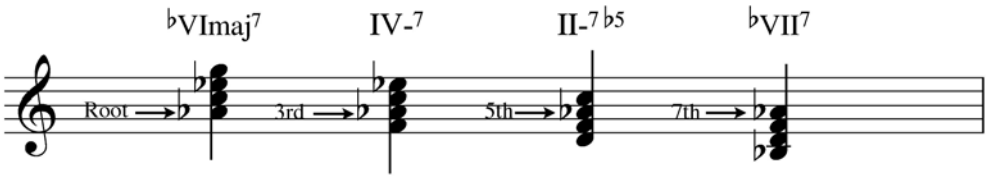



Fig. 5.5 Minor key Chords That Contain ♭ 6

…and listen to the contrast in each pair:

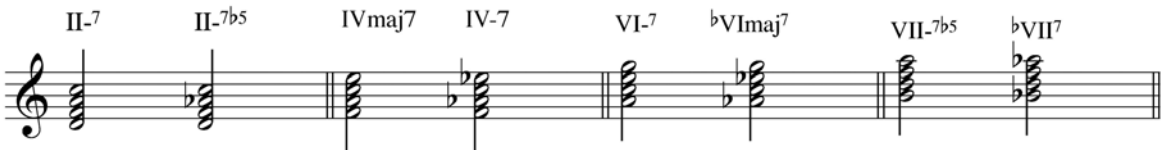



Fig. 5.6. Comparison of Chords with 6 and ♭6

The borrowed Aeolian chords are grouped together as subdominant function chords from the parallel minor. We call them *subdominant minor* chords (**SDM**). These four chords, especially IV–, are the most common modal interchange chords. We analyze them with a Roman numeral and chord quality (e.g, IV–7).

If we include these Aeolian-derived chords as a harmonic resource, we now have a bigger vocabulary of chords for harmonizing melodies and creating progressions. Here is what our ever-expanding harmonic palette looks like.

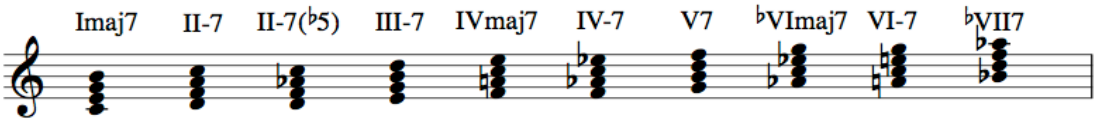



Fig. 5.7. Major Key Diatonic Sevenths and Chords that Contain Scale Degreee ♭6

The C major tonal resources have multiplied: instead of six usable chords (remember that VII–7 ♭5 is not part of the essential major key vocabulary), we now have ten. In the next section we will explore ways in which these chords work in progressions.

## Modal Interchange Chords in Progressions

Subdominant minor chords can *replace* major key subdominant chords or serve as *variations* of them. Whether in major or minor key, subdominant chords have several possible roles:

- to embellish a tonic-oriented phrase
- to function as an alternative stable area within the key
- to serve as a dominant preparation–a chord to precede the V7 chord at a harmonic cadence
- to serve as an alternative cadential chord, in place of V7.

Let's look at how modal interchange affects each of these musical processes.

## Tonic embellishment

In the first phrase of Fig. 5.8, the I chord occupies the primary position in the phrase and reoccurs always on strong metrical stresses. The I chord is embellished by the alternation with the IV chord. The IV chord occurs on the weak stresses established by the meter.

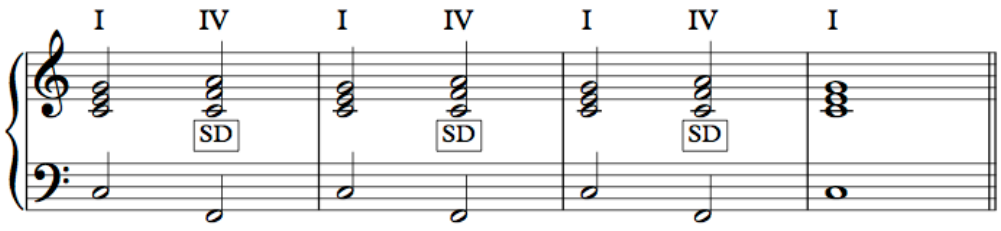



Fig. 5.8. Major Subdominant Embellishes the Tonic

In the variations that follow on the next page, *subdominant minor* chords alternate with the tonic. Each phrase still starts and ends on the major tonic, so the key of C major is not in question. However, a slightly "darker" quality or mood now colors each phrase. There is a greater variety of possible root motion as well.

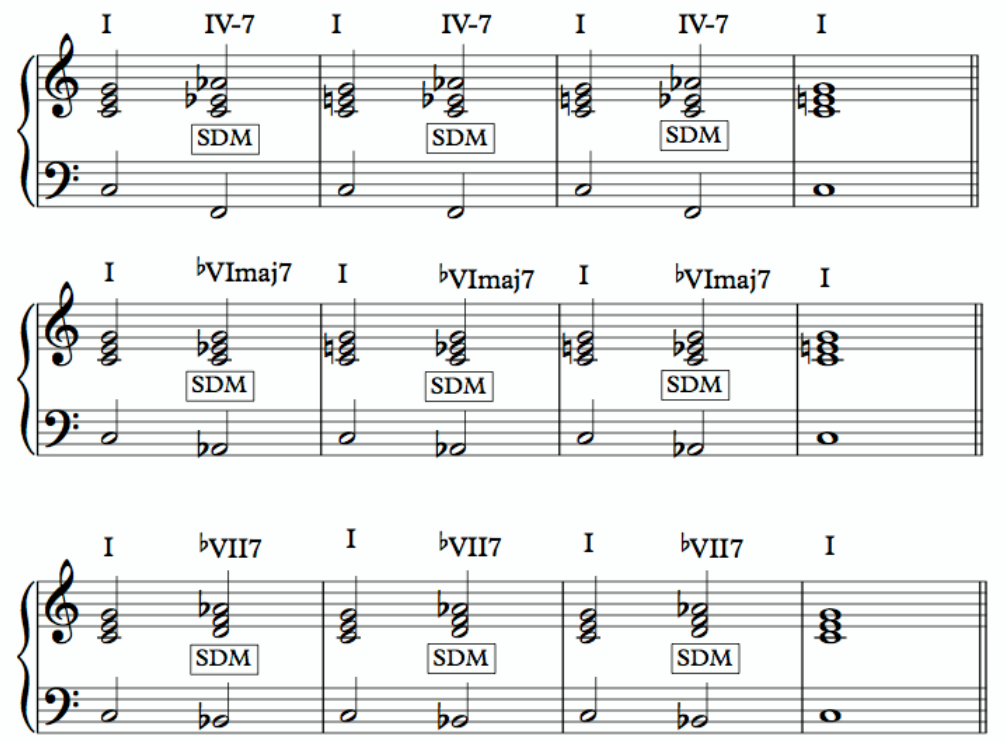



Fig. 5.9. Subdominant Minor Embellishments

Actual progressions may of course have different harmonic rhythm, and use more than one of the SDM chords, but the principle is the same. Notice that II-7 ♭5 is not included as a tonic embellishment; it is almost exlusively used as a dominant preparation, part of a II V pattern.

**The Subdominant as a Point of Arrival**

In Figs. 5.8. and 5.9, the subdominant chord always appeared on a weak metrical stress. When the subdominant occurs on a strong stress or is preceded by its secondary dominant, it is not just an embellishing chord as in the examples above. Rather, it takes on the characteristic of an alternative stable area within the key, as in Fig. 5.10a on the next page.

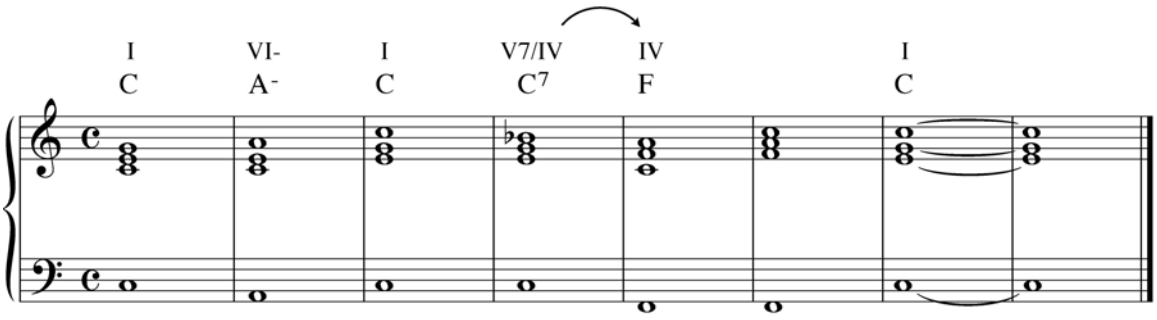



Fig. 5.10a Subdominant as a Diatonic Point of Arrival

In these situations, a subdominant minor chord can *replace* the primary subdominant:

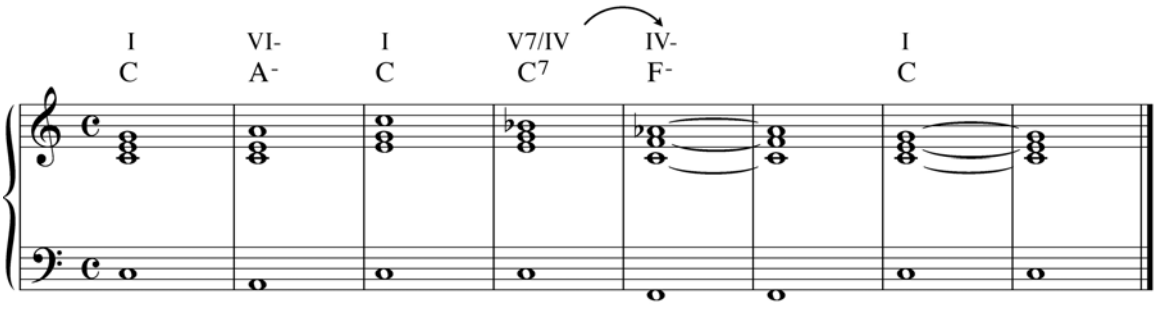



Fig. 5.10b SDM Substitution

Or an SDM chord can act as a *variation* following the diatonic chord:

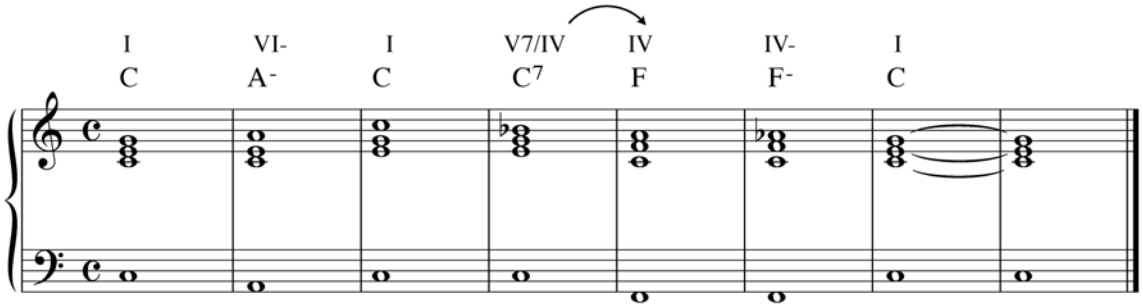



Fig. 5.10c SDM Variation

## Dominant Preparation

A subdominant minor chord will inject a darker color into a subdominant-dominant cadence. Any of the SDM chords from Aeolian can be paired with V7 to create a cadential pattern. Play this diatonic phrase:

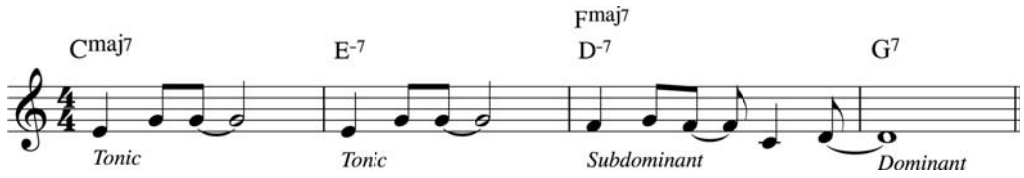



Fig. 5.11. Diatonic Phrase in C major

Both IV and II– are common subdominant preparations for V7. We can take that choice between subdominant chords a step farther and replace them with SDM chords. Any of these three choices works well with the given melody:

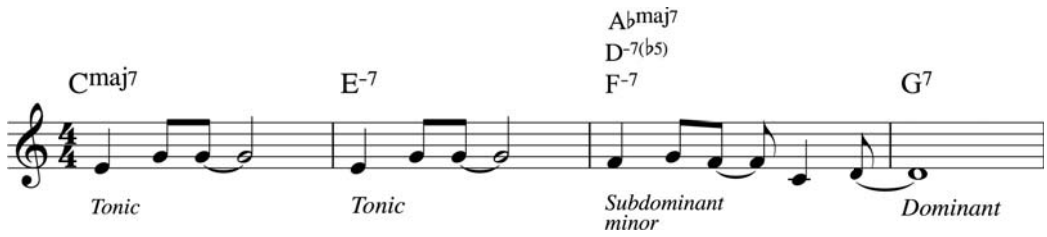



Fig. 5.12. Same Phrase with Subdominant Minor Options

♭VII7 **does not** function well as a subdominant preparation for V7:

- It has a parallel quality to the V chord, weakening its dramatic effect.
- It has neither chromatic (♭VI V), stepwise (IV V), nor cycle 5 (II V) root relationship to the V chord:

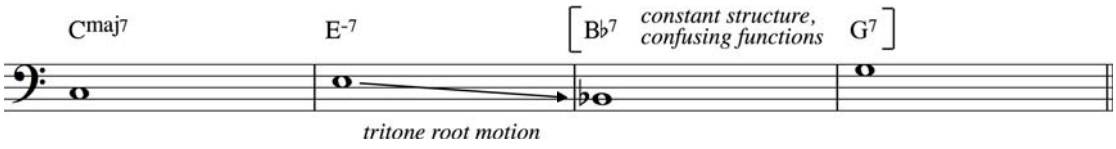



Fig. 5.13. ♭VII7 is a Poor Choice for Pre-dominant Chord

When II–7♭5 takes the place of II–7 in a II V pattern, the ♭5 is usually carried over to V7 resulting in a V7(♭9) chord.

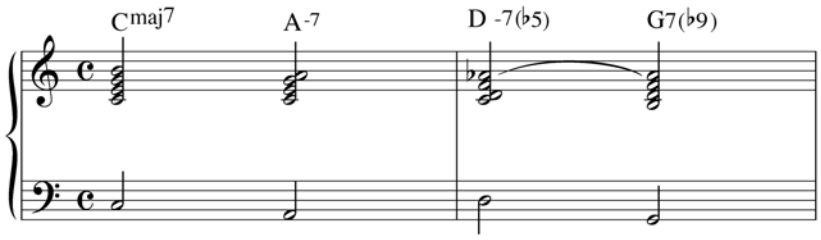



Fig. 5.14. ♭5 becomes ♭9 in a II V

## SDM Chords as Alternative Cadential Possibilities

In contemporary American popular music, the subdominant often plays a large part in harmonic cadential activity. Here are typical phrases ending in a subdominant half cadence. In either case, the expectation is that the next chord in the progression will be I.

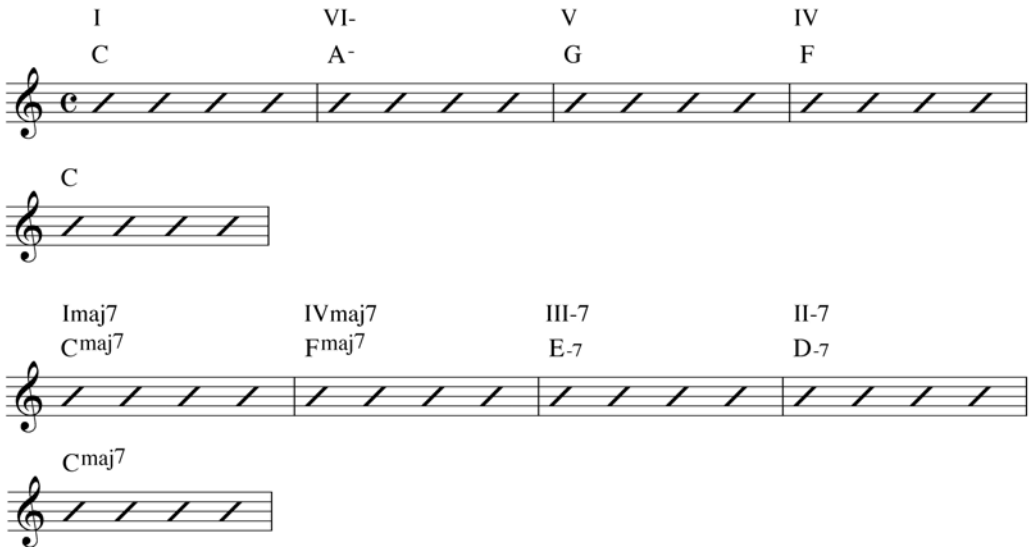



Fig. 5.15. Subdominant Half-cadences

SDM chords can perform the same role in a half- or complete subdominant cadence. As a result, a great number of colorful alternate cadence chords are available for use in major key music. Fig. 5.16 shows some SDM variations on the patterns in Fig 5.15.

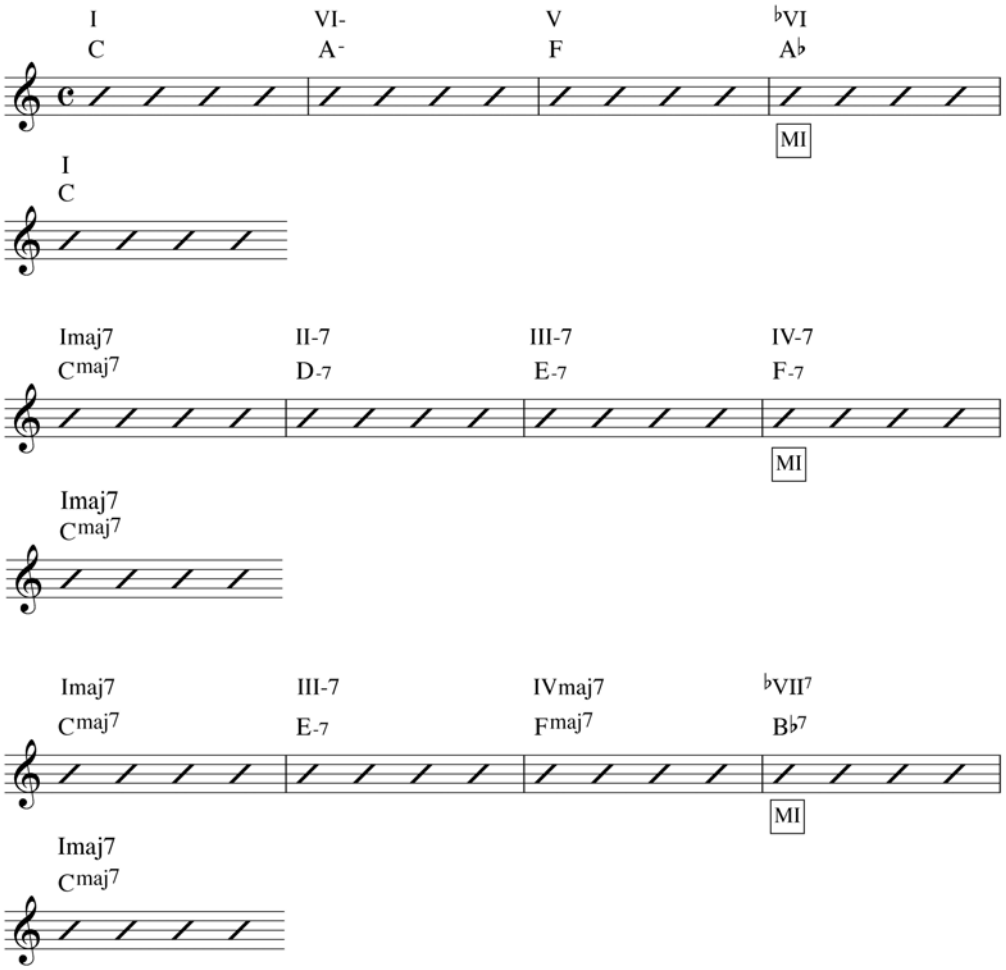



Fig. 5.16. Subdominant Minor Half Cadences From mm. 4-5

♭VII is perhaps the most common MI cadence chord. It can appear as either a triad or a 7th chord. The root motion by ascending major 2nd creates a strong sense of functional contrast when ♭VII moves to I.

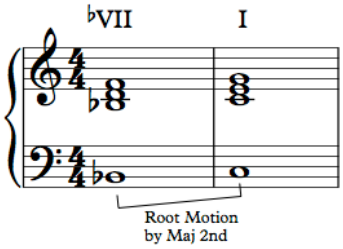



Fig. 5.17. ♭VII to I

At the end of a harmonic phrase, it is common to encounter a sequence of two modal interchange chords. In film and video, rock, pop, and electronic dance music, the ♭VII chord is often preceded by ♭VI.

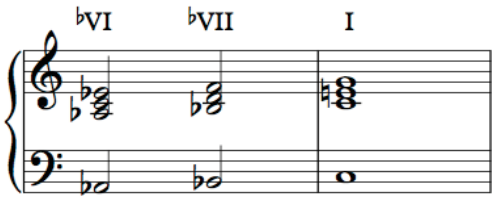



Fig. 5.18. Common Pop/Rock Cadential Pattern: ♭VI ♭VII to I

In jazz, American songbook standards and popular music influenced by these styles, the ♭VII7 chord is often preceded by IV–7.

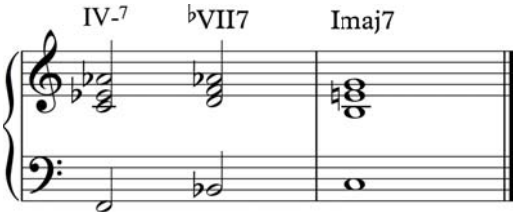



Fig. 5.19. IV–7 ♭VII7 to I

The IV–7 ♭VII7 cadential pattern is sometimes referred to by musicians as the "backdoor cadence". Instead of coming through the "front door" via II–7 V7 to get home to the I chord, one goes around the "back door" via IV–7 ♭VII7. When ♭VII7 is used in a cadential pattern, the sense of resolution is intensified by the Le – Sol tendency tone motion. Although identical to the II V of E♭ major, IV-7 ♭VII7 is **not** a II V. If C major is clearly established, F–7 and B♭7 will sound as subdominant function chords and will not create an expectation of resolution to E♭. The listener's perception of the function of a given chord is not dependent on just its quality, but rather on the interplay of chord quality, duration, metrical stress and rhythmic placement within the phrase.

♭VII7 is a chord with ambiguous identity: it has dominant quality, but is neither a primary nor secondary dominant in the key. ♭VII7 does occasionally progress to ♭III or ♭IIImaj7, but in a major key progression this is only a brief hint of the parallel minor key. You should explore all the possible outcomes of this unusual harmonic function in tunes you encounter, both major and minor. You will study ♭VII7 and other unsual dominant chords in Harmony 4.

Another cadential pattern that involves ♭VII is a common feature in rock progressions. In this pattern, ♭VII comes on a strong metrical stress and **precedes** the IV chord.

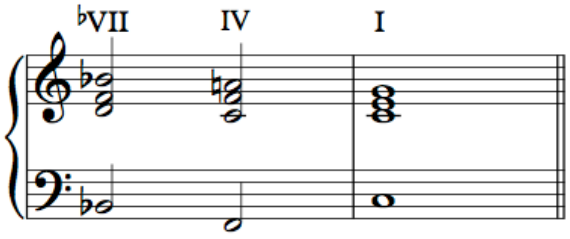



Fig. 5.20 ♭VII IV I

♭VII is functioning here as the IV of IV, creating an extended plagal cadence. This relationship can be developed in a manner similar to an extended dominant string: instead of *resolution* by descending fifths, there is *gradual release* of harmonic tension by moving in descending fourths. These patterns almost always appear as triads.

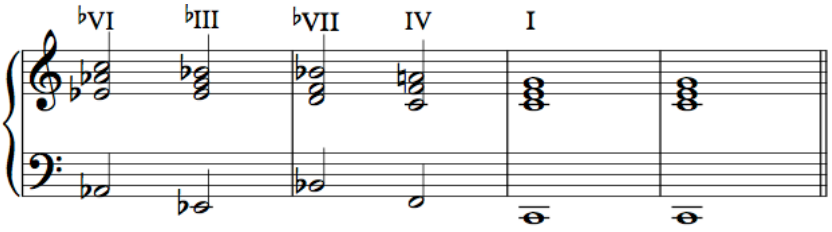



Fig. 5.21. Extended Subdominants

For the classic example of an extended subdominant string, see Jimi Hendrix's "Hey Joe".

## Other Subdominant Modal Interchange Chords: IV7, ♭IImaj7

IV7 is sometimes seen in a major key context in place of the typical IV or IVmaj7. While it does have dominant 7 quality (1, 3, 5, ♭7), it registers on the listener as a subdominant function chord, because its triad is the primary subdominant of the key. The ♭7 chord tone simply gives the chord a bluesy quality. The language of blues is found throughout American popular music, so it is no surprise that blues-inflected melodies and harmonies are often found in standard song forms other than the 12-bar blues.

IV7 does not contain the characteristic ♭6 of Aeolian chords, so it is not a standard Aeolian subdominant minor function. Instead, it can be thought of as the IV chord of a Dorian or melodic minor source scale.

## ♭II from Parallel Phrygian

♭II is the darkest of all the common modal interchange chords. Its modal source is parallel Phrygian, lowering degrees 2, 3, 6, and 7 of the major scale. Scale degrees ♭2 and ♭6 are especially dissonant in relation to the parallel major scale. Their strong downward scale tone tendencies seem to beg resolution back to Do and Sol of the major key. Like the other chords which contain ♭6 as a chord tone, ♭II is subdominant in function belonging to the SDM collection. Of the four uses of subdominant that we have been exploring, ♭II is most often seen in only two. It can embellish the tonic in a vamp:

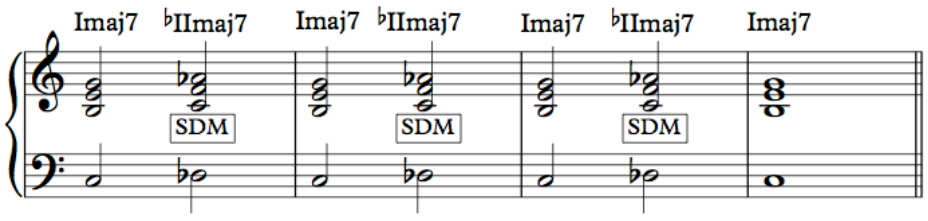



Fig. 5.22 ♭II as Embellishing Chord

…or it can act as a cadence chord.

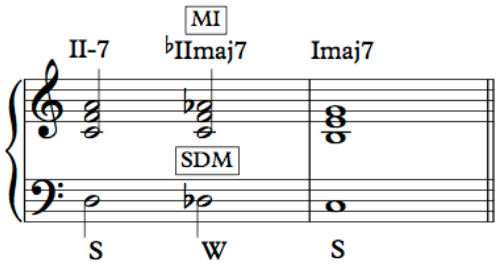



Fig. 5.23 Phrygian Cadential Pattern: II-7 ♭II Imaj7

Tritone root motion makes ♭II unsatisfactory as a dominant preparation: it is rarely, if ever, used as a preparation for V7. When used as a point of arrival at the beginning of a phrase, ♭II can give the impression of a key change. Because ♭II or ♭IImaj7 is a strong modal interchange chord with such a distinctive color, it is usually used sparingly.

## V–7

V–7 is obviously different from V7, because it lacks the leading tone and tritone necessary to create an expectation of resolution to the I chord. As we saw in our study of secondary dominants, it can function as the related II of V7/IV. In that capacity, it is merely an auxiliary chord preparing the ear for the arrival of the more important secondary dominant.

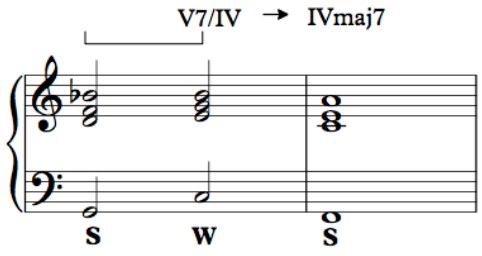



Fig. 5.24 V–7 Functioning in a II V of IV

However, when V–7 is found on a **weak** metrical stress it can function as yet another alternative cadence chord. Although not dominant in quality, it can stand in as a modal substitute for the V7 chord. Its root so strongly suggests the dominant area that it can fill in for V7, providing an oscillation from light to dark to light, as in this example:

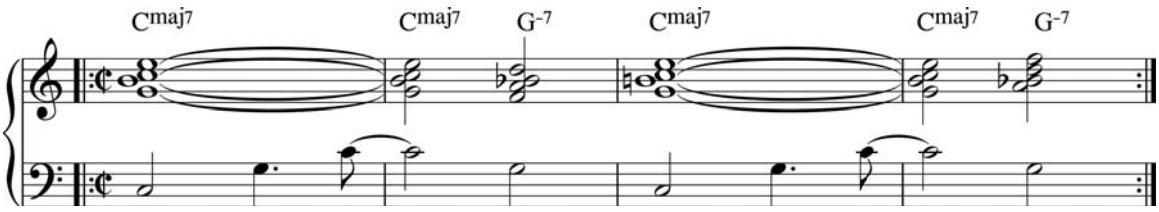



Fig. 5.25. V–7 is a Darker Replacement for V7

The chromatic ♭7 scale degree adds tension to the phrase; the tension is released with the return to tonic. The melodic resolution *Te–Do*, instead of *Ti–Do*, gives it a unique color.

## Tonic Modal Interchange

Subdominant minor modal interchange is certainly the most common use of the device, but there are instances of tonic modal interchange in the repertoire. Bronislav Kaper's "Green Dolphin Street", a perennial favorite of jazz musicians, moves to tonic minor in the third and fourth bars. Lennon/McCartney's "Penny Lane" (bar 4 of the verse), and Difford/Tilbrook's "Tempted" (verse-bar 5) recorded by the British band Squeeze both have instances of tonic minor modal interchange–TM MI.

Unlike subdominant minor, which has its source mostly in the parallel Aeolian scale, the Dorian scale serves as the most common tonic modal source, giving us two chords to add to the expanding list of possibilities: I– and ♭III. They can appear as triads, seventh or sixth chords. In the case of I–(maj7) and I–6, this implies a melodic minor source, but in

any case, the minor triad is the most prominent feature; it creates an unexpected emotional shift. The last phrase of jazz trumpeter Tom Harrell's "Sail Away" is a powerful example. It is a long composition that modulates a number of times, but the home tonality is C major. And yet, listen to what happens in the coda:

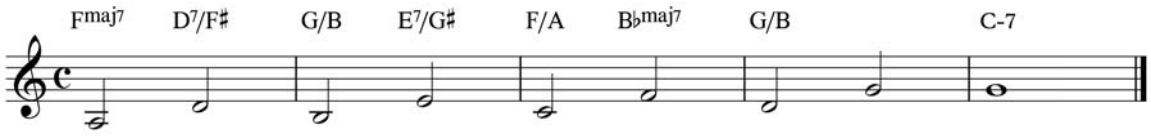



Fig. 5.26. Final Harmonic Phrase of "Sail Away"

The final C–7 chord casts a shadow over everything that has come before.

While related to the tonic minor triad and 7th chord by thirds, the effect of ♭III is not as profound, since it does not contain the primary tonic note. It will almost never be the last chord in a song, but it will often appear after the IMaj7 chord, providing strong upward root motion away from tonic:

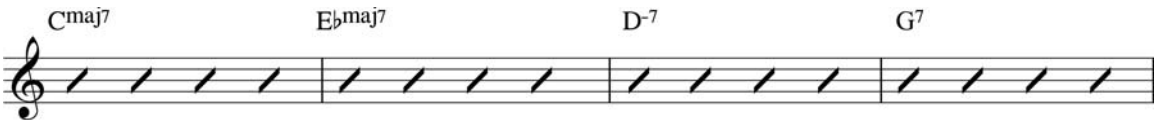



Fig. 5.27. ♭IIImaj7 as a Modal Interchange Prolongation of Tonic

…or as a chromatic intermediary between III–7 and II–7, as in fig. 5.28:

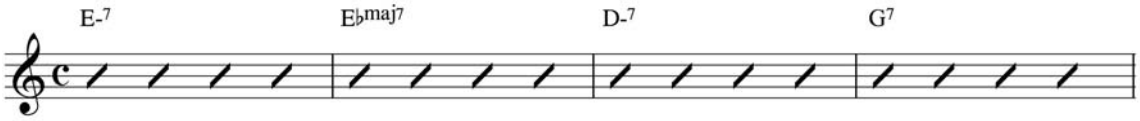



Fig. 5.28. ♭IIImaj7 as a Chromatic Link from III-7 to II-7

…or as part of a turnaround pattern:

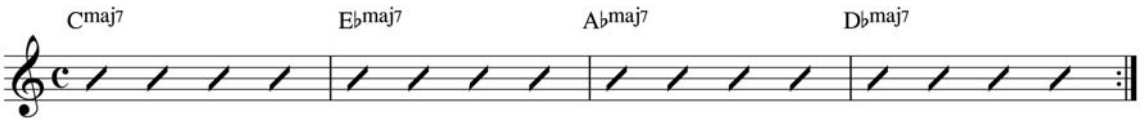



Fig. 5.29. ♭IIImaj7 Starting a Cycle 5 MI Turnaround Pattern

## Tensions for Modal Interchange Chords

*Tensions for modal interchange chords are taken from their parallel modal source,* ***not*** *the key signature of the piece.*

This is different from the formula for diatonic chords and secondary dominants. In the case of subdominant minor chords, the most usual source is the parallel Aeolian.

Fig. 5.30. Modes of the Aeolian Scale from II, IV, ♭VI and ♭VII

Throughout this section, we will show the tensions for each chord and a chord scale associated with the chord. You will study chord scales in depth in Harmony 3; seeing them here will prepare you for that detailed work.

If the C Aeolian scale is displaced starting on scale degrees 2, 4, ♭6 and ♭7 respectively, the following chords and tensions result:

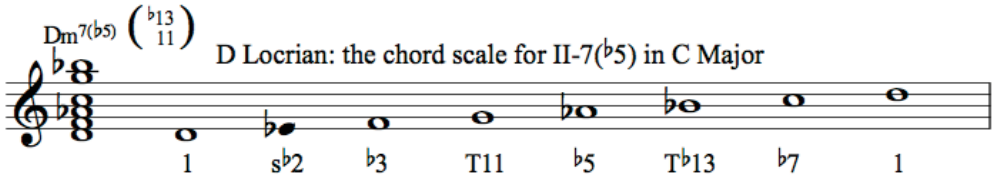



Fig. 5.31. Available Tensions for II-7♭5

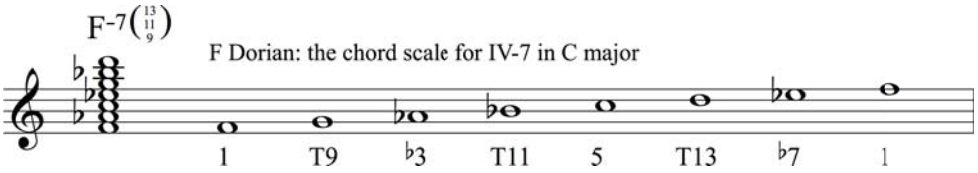



Fig. 5.32. Available Tensions for IV–7

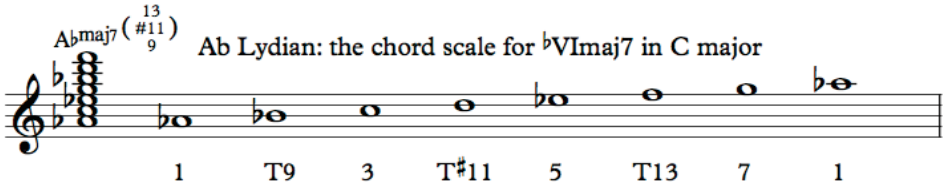



Fig. 5.33. Available Tensions for ♭VImaj7

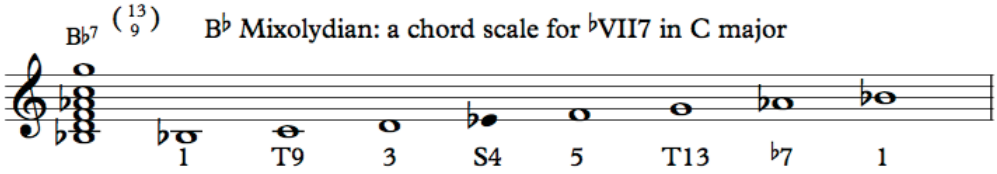



Fig. 5.34. Available Tensions for ♭VII7

Notice that some modal interchange tensions are diatonic to the parent major key: for instance, T11 on D-7♭5, or T♯11 on ♭VImaj7. Using them in a voicing helps create a smoother connection to the overall key. Using tensions which are darker modal notes from the Aeolian source (like T9 on ♭VImaj7) will makes the effect of modal interchange even stronger and clearer.

**Exceptions That Include *Mi* of the Parent Major Key**

In the previous section, we saw how displacements of the parallel Aeolian source scale provide us with the tensions for each of the most common SDM chords. Many of those tensions happen to be scale tones from the original parent major key; however, one scale tone is missing. It is the note which defines the major character of the key: scale degree 3 or *Mi*.

In order to create a stronger connection with the I major chord the ♭VII7 chord scale is often altered to include scale degree 3 or *Mi* of the parent major key. This results in a *Lydian ♭7* chord scale that includes tension #11.

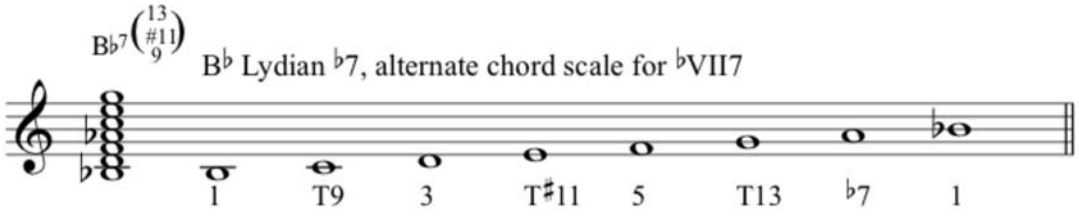



Fig. 5.35 Alternate Tensions for ♭VII7 including #11

Adding T#11 to a voicing of ♭VII creates a common-tone connection to the 3rd of the Imaj7 chord.

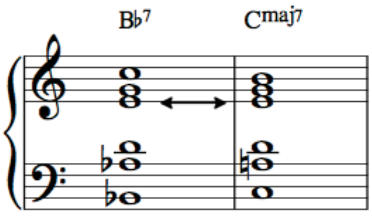



Fig. 5.36. #11 of ♭VII7 is a Common Tone with the 3rd of Imaj7

In another context, the combination of the IV– triad with the melody note *Mi* of the parent major key results in a harmony of IV–(maj7), as in Fig 5.37 on the next page.

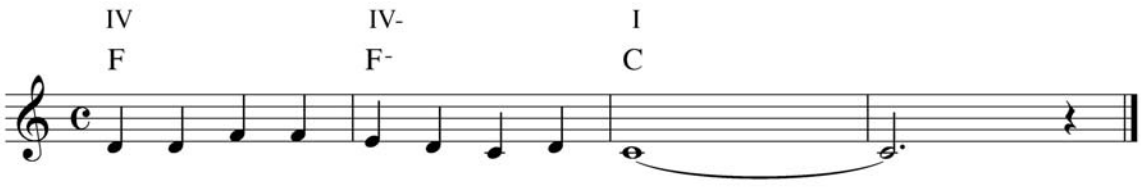



Fig. 5.37. *Mi* in Melody over IV– Triad

In this situation, the chord scale for IV– will be melodic minor, reflecting the inclusion of *Mi*. The tensions 9, 11, and 13 come from this scale.

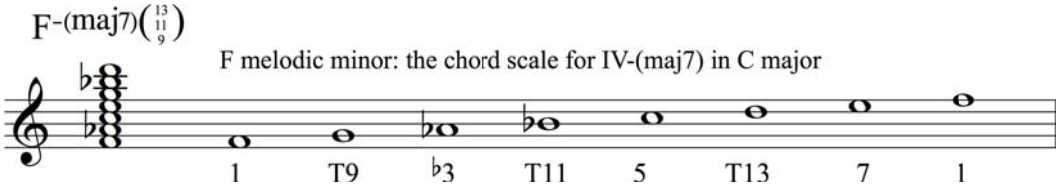



Fig. 5.38. Tensions for IV–(maj7)

**Additional SDM Chords and Chord Scales**

IV7 presents a couple of options. In a basic blues, IV7 usually has a straight Mixolydian sound: tensions 9 and 13, 11 is avoided in chord voicings. However, when IV7 is preceded by a Imaj7 chord, the chord scale for IV7 is often derived from the melodic minor source.

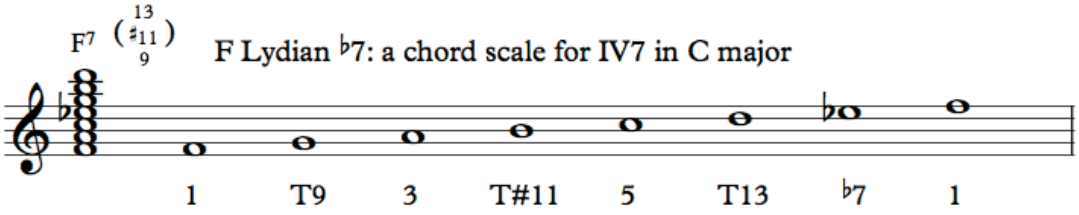



Fig. 5.39. Tensions for IV7

This results in the inclusion of tension #11 which creates a common-tone connection with the 7th of the Imaj7 chord.

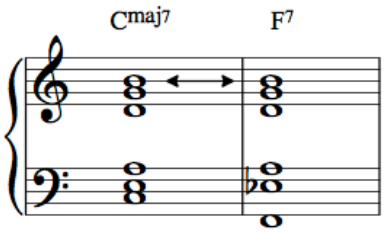



Fig. 5.40. Scale degree 7 is a Common Tone Between Imaj7 and IV7

## ♭IImaj7

♭II is from the parallel Phrygian source.

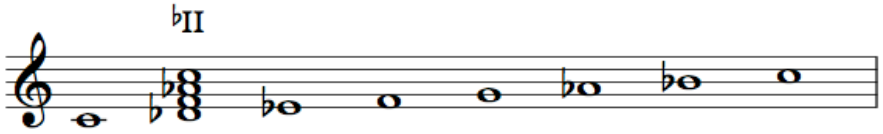



Fig. 5.41. ♭IImaj7 from C Phrygian Modal Source Scale

This results in tensions 9, #11 and 13.

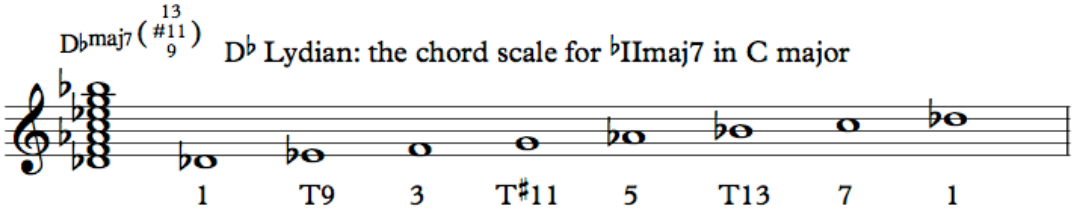



Fig. 5.42. Chord Scale for ♭II

♭II is a very dissonant chord within the context of a major key. Arrangers often look for ways to soften that dissonance and connect the chord's function to the major key. T#11 can be used to make an aural bond between ♭II and I.

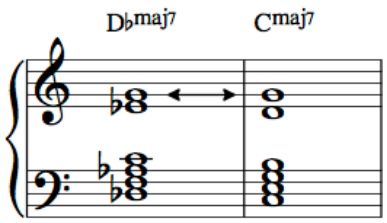



Fig. 5.43. T#11 is a Common tone with the 5th of Imaj7

## Tensions for V-7

V-7 is usually derived from a Mixolydian source.

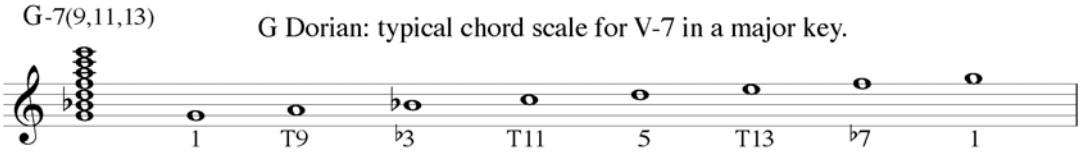



Fig. 5.44. V–7 with Tensions derived from C Mixolydian

This produces a set of tensions (9, 11, and 13) that connect neatly with the home key.

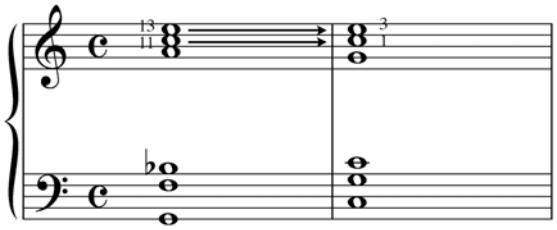


Fig. 5.45. 11 and 13 of G–7 Are Common Tones with Root and 3rd of C major triad

### Analysis of Modal Interchange

Modal interchange chords are analyzed with Roman numerals: just like diatonic chords, they are described by their intervallic distance from the tonic and by their chord quality. This is a simple system that facilitates transposition and reinforces the concept that these chords are *diatonically related* to a single tonal center. A complete analysis includes labeling each modal interchange chord as subdominant minor (SDM) or tonic minor (TM).

## Summary of Modal Interchange

- Adds a momentary contrasting sound from a parallel source scale.
- Can use either triads or seventh chords
- Can be used to:
  - change the mood of a passage
  - harmonize diatonic or chromatic melodies
  - add variety to a diatonic passage
  - change or embellish the bass line
  - create alternate cadential patterns
  - emphasize, reinforce or subvert a lyric
- One or two chords in a progression will provide the most effective contrast without weakening the major modality.
- Subdominant minor chords are the most common modal interchange chords
- Aeolian mode is the most common modal source of subdominant minor modal interchange chords: II–7♭5, IV–7, ♭VImaj7 and ♭VII7.
- Modal interchange offers alternative cadential chords: ♭VII7, ♭II and V–7
- Tensions come from the *modal source*: the parallel scale that produces the modal interchange chord.

# Chapter 6: Blues

In Music Application and Theory, you were introduced to the blues form and its characteristic harmonic language. We will start this chapter with a review of blues basics, then show how concepts from Harmony 2 can be applied to analyze and create more complex variations on the fundamental form.

## Minor Pentatonic Melody + Major Key Chords = Blues Harmony

Essential blues harmony comes from the combination of minor pentatonic melodies over tonic, subdominant and dominant major chords. This results in a unique hybrid melody-harmony relationship that depends on familiar functional relationships, but goes beyond the limits of a pure major key system.

In Fig. 6.1, a minor pentatonic figure is repeated over a I IV V triadic accompaniment. The combination creates a rich, varied melody/harmony relationship.

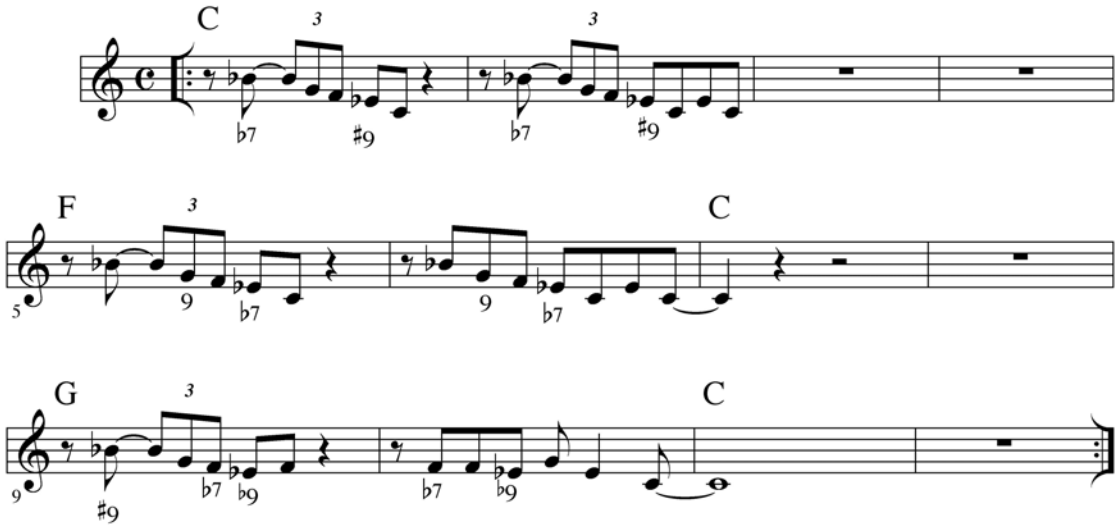



Fig. 6.1. Minor Pentatonic Melody Over I IV V Progression creating I7, IV7 and V7

The changing set of chord tones and tensions that arises from repeated melodic statements over changing roots forms the basis for blues harmony:

- The tonic, subdominant, and dominant chords are all dominant 7 in quality
- They are not diatonic to a major or minor scale: no conventional scale yields I7, IV7, and V7.
- Blues melody is an independent layer with its own set of defining pitches.
- The interaction between these two layers creates the characteristic tensions that define the sound of blues.

## "The" Blues Scale

The minor pentatonic scale is the basic melodic pitch set in simpler blues songs, whether major or minor. When sounded against I7, IV7, and V7, it creates a particular combination of chord tones and tensions on each chord.

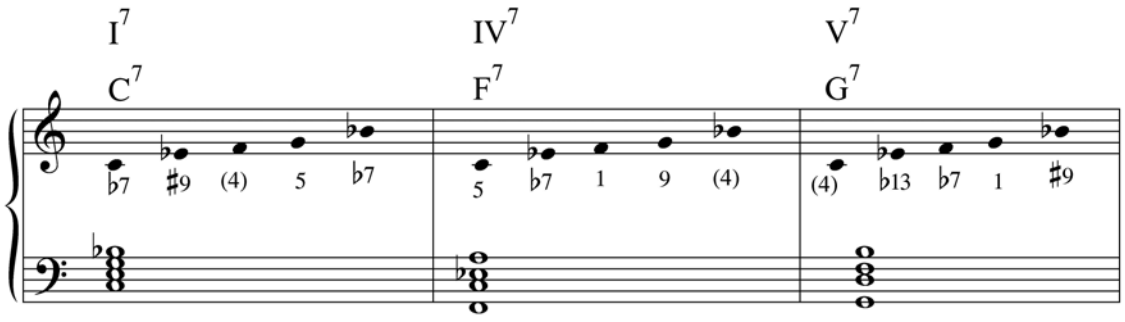



Fig. 6.2. Tensions resulting from C Minor Pentatonic Scale on I7, IV7 and V7

#9 on the I7 chord, 9 on IV7, and #9/♭13 on V7 are characteristic tensions in most blues progressions. There is no simple rule for adding tension to blues voicings, because of the wide variation in harmonic and melodic style.

In many blues, the minor pentatonic scale is extended. The performance style of blues singers and instrumentalists often involves "bending" pitches, especially the 3 and 7, in a

way that blurs the distinction between major and minor. On the tonic I7, the tension between major 3 in the accompaniment and #9 in the melody allows a performer or arranger to emphasize or de-emphasize the major quality of a tune by using one or the other more liberally, or by bending the #9 upward toward the major 3. The same possibility exists on the V7 chord: the player has the freedom to use major 3 of the scale to create a major 13 on V7, or b3 to create ♭13. In many blues *melodies*, it makes more sense to think of the scale this way:

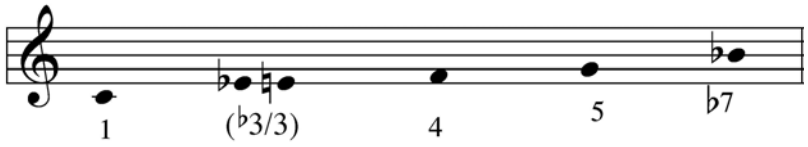



Fig. 6.3. Simple Blues Scale

Just as the 3rd and 7th of the scale are inflected, or bent, another important "blue" note is ♭5. In a conventional diatonic setting, it would be intensely dissonant against any of the three basic chords: a tritone against the tonic, ♭2 on the subdominant, and major 7 on the dominant chord. But in blues, the dominant quality of the chords and the horizontal strength of the blues-inflected pentatonic scale allow for much greater tension. The expanded blues scale sounds like this:

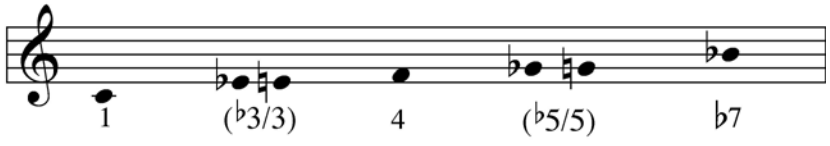



Fig. 6.4. Blues Scale with ♭5

An important scale variation that sounds more clearly major is often used in boogie-woogie piano and New Orleans blues and related styles. It can be described as a "blues major pentatonic" scale.

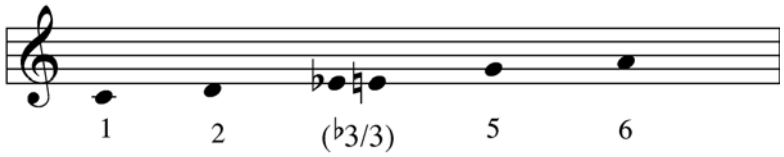



Fig. 6.5. "New Orleans" Blues Scale

In these styles, the V7 chord is often arpeggiated, and ♭5 and ♭7 are important expressive pitches, so really the full scale is more like this:

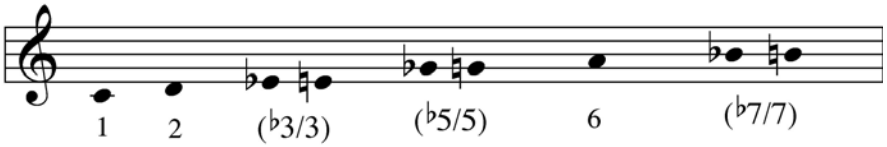



Fig. 6.6. Expanded Blues Scale

At this point, we are pretty close to all 12 notes! Of course, the music sounds much more centered than the scale resources would suggest, because the harmonic accompaniment is so solidly in a key.

The only familiar rule from diatonic harmony that applies clearly to blues is the avoidance of 11 on any chord.[6] In short, there is no single blues scale. Rather, there is a large variety of scales that share common blues characteristics. Each variety is appropriate to a particular style of blues.

[6] In performance, even this rule is somewhat flexible, but for our purposes, 11 is to be avoided in a voicing or as strong, sustained melodic pitch.

## Blues progressions: the point of departure

In its simplest form, the standard 12-bar blues progression is a set of three 4-measure phrases, each with its own harmonic rhythm and functional emphasis:

11. measures 1–4: tonic
12. measures 5–8: subdominant to tonic
13. measures 9–12: dominant to subdominant to tonic.

This harmonic map underlies the thousands of variations that have been created on blues progressions over the last one hundred years. No matter how complex the harmonic elaboration, this unique functional template is the base that links chromatic complexity to a familiar experience.

One of the things that contributes to its power is the gradual increase in tension and release as the form progresses. Listen to this basic, three-chord blues progression:

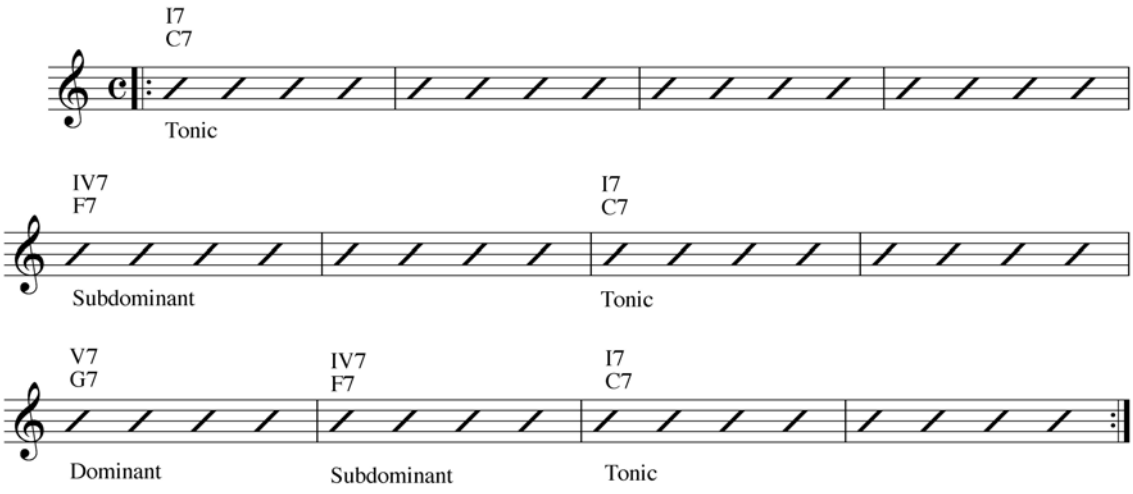



Fig. 6.7. Harmonic functions in a I IV V Blues

The harmonic instability increases in each phrase: first tonic, then subdominant, then dominant. Each time, the harmony relaxes back to tonic. This development provides a satisfying journey through the harmonic functions.

While the chords in a basic blues all have dominant *quality*, only the V7 chord has dominant *function*. In this simple harmonization, I7 should not be confused with V7/IV. Its position in the form and its duration—occupying the entire first phrase and the last two bars of the next two phrases—help to confirm its structural importance as the tonic. Similarly, IV7 in a blues does not create an expectation to resolve to ♭VII . It is a subdominant chord that simply has dominant *color,* but not a resolving tendency.

*The harmonic function of the I, IV, and V chords is independent of their dominant seventh quality (interval structure).*

There *can be* secondary dominants, including V7/IV, in blues progressions, but they are usually prepared by related II's to distinguish them from the harmonic foundation chords in the progression. In the following sections, we will use these I IV V guideposts to support increasingly chromatic versions.

## Stretching the Blues

The most common variation adds a subdominant chord in measure 2 and a dominant chord in measure 12.

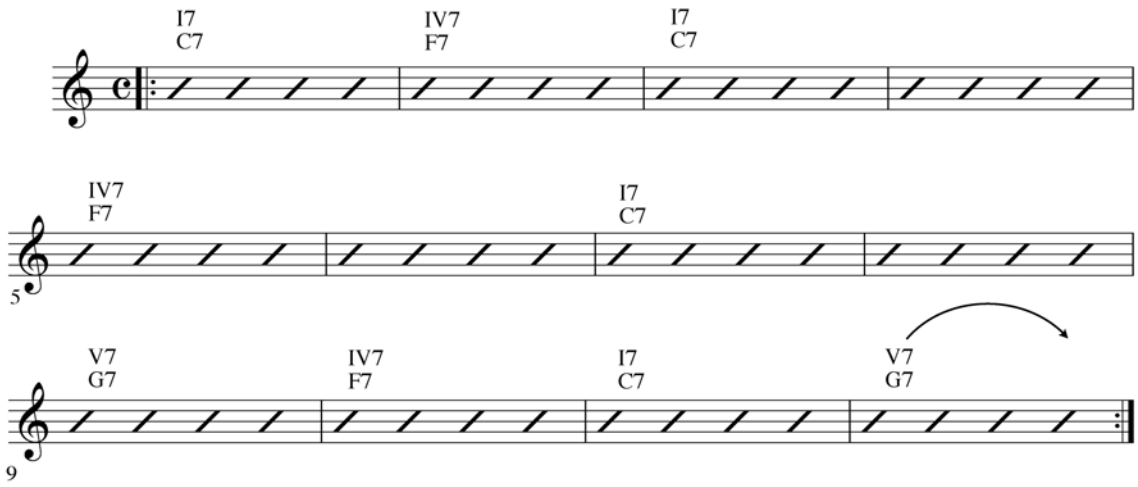



Fig. 6.8. Blues with IV7 in Measure 2

This progression is the classic blues progression played and recorded countless times since the 1950s. It is the basis for hundreds of well-known tunes from the dawn of rock 'n' roll to the present. Here are the overall dynamics of the progression:

- IV7 in the first phrase provides a little relief from four bars of tonic, but does not seriously disturb the overall stability of the phrase.
- The second phrase creates mild tension and release with plagal motion: a subdominant blues cadence.
- IV7 in measure 10 softens the return to I7. This "retreat" from the dominant is a form of retrogressive functional movement: dominant–subdominant–tonic.
- V7 in measure 12 is only used on repeats. It is not part of the essential harmonic structure, it is simply a way to recharge the momentum after each chorus.

The retrogressive harmonic motion from measure 9 to 10 is typical of the cadential pattern in the vast majority of standard three-chord blues. This two-measure area of the form is particularly fertile ground for variations on the basic progression, and musicians have often reharmonized these bars. The most important variant of this cadence employs a II–7 V7 in bars 9 and 10.

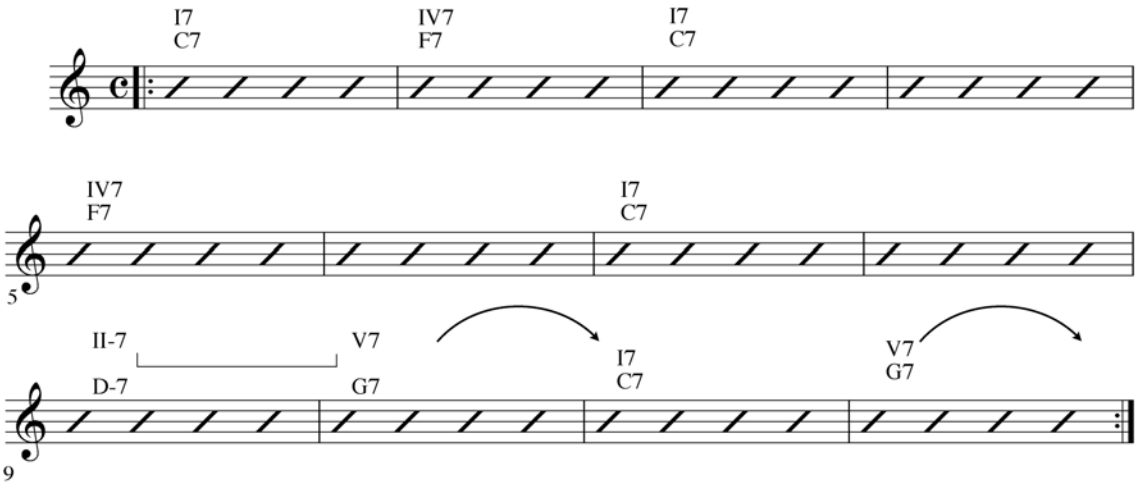



Fig. 6.9. Blues with a II V

This brings major key diatonic language into the picture. That simple replacement creates a world of possibilities: all the chromatic variations used in major key harmony are now available. The next sections will apply those devices to create a wide range of blues progressions.

## Secondary Dominants and Related II's

The long stretch of tonic in bars 1 to 4 builds a great deal of harmonic tension. It can be further intensified by interpolating a related II in measure 4, recasting I7 as a true V7/IV. In the last phrase, II–7 makes an inviting target for a secondary dominant. Although V7/II could be inserted alone in measure 8, it is much more common to precede it by a related II. E–7♭5 has three common tones with the tonic C7, and helps foreshadow the minor target. Fig. 6.10 on the next page illustrates this variation.

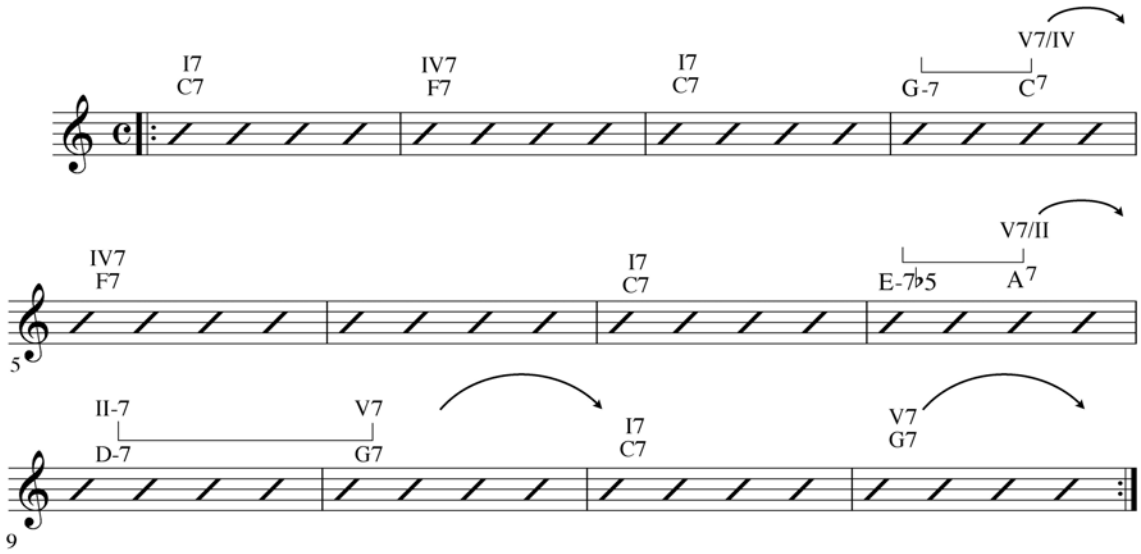



Fig. 6.10. Blues with Secondary Dominants and Related II's

To continue with this approach, adding an extended dominant series in the last two bars provides powerful momentum back to the top of the form.

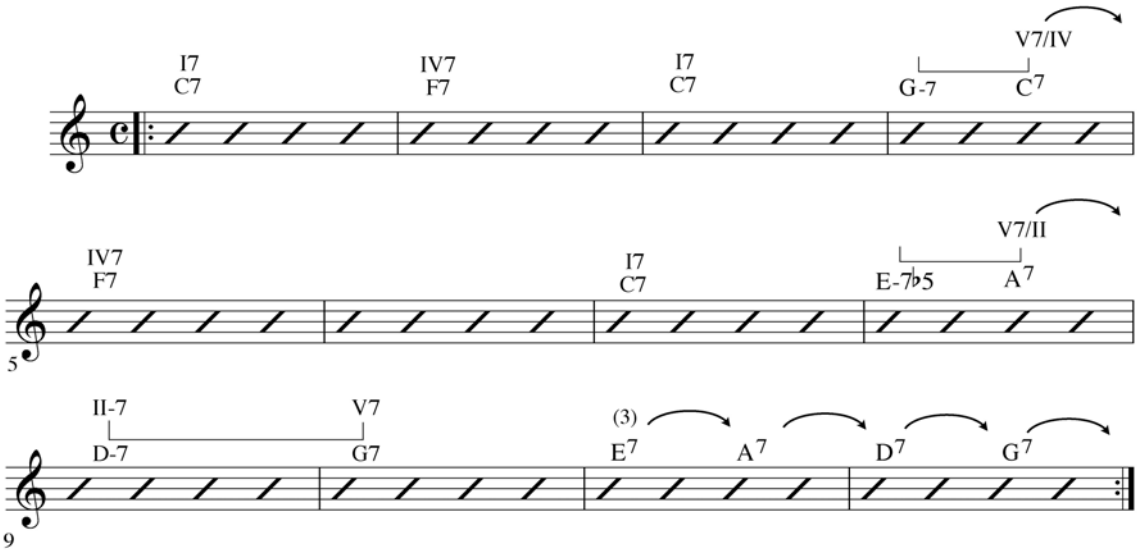



Fig. 6.11. Blues with Secondary Dominants and an Extended Dominant Turnaround

## "Jazz" Blues

Using major key seventh chords, adding related II's, and using modal interchange in the subdominant area can ultimately result in a progression with relentless progressive energy that is quite different from the basic blues we saw at the beginning of the chapter, with its long durations on each harmonic function. The harmonization in Fig. 6.12 is typical of blues in a bebop or mainstream jazz context.

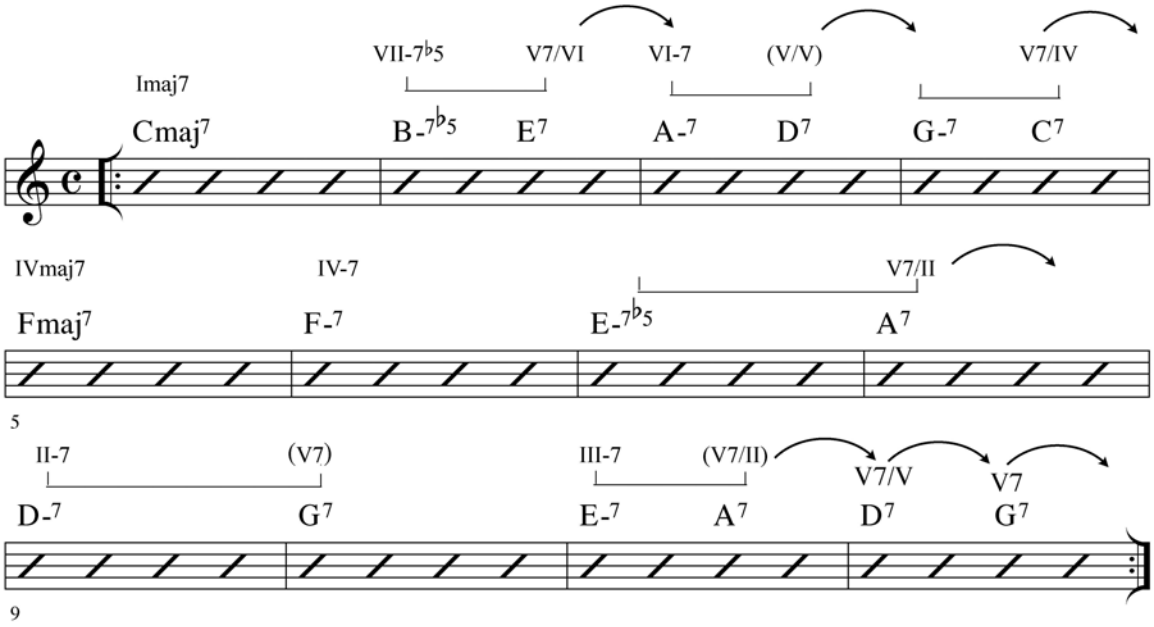



Fig. 6.12. Blues with Secondary Dominants, II V's and Modal Interchange

The only vestiges of a simple three-chord blues are the roots in measure 1 and measures 5–6. Neverthelesss, it retains its structural identity as a blues, because it has:

- 12-bar form
- tonic chord in measure 1
- alternate tonic chord in measure 3
- subdominant chords in measures 5 and 6
- turnaround in measure 9-10
- tonic chord in measure 11

## 16-Bar Blues and 8-Bar Blues

Although 12-bar blues is the most common form, 8-bar or 16-bar versions do appear occasionally. The extended 16-bar form is usually achieved by repeating the turnaround changes from bars 9 and 10 of the 12-bar form. Herbie Hancock's "Watermelon Man" (Fig. 6.13) and Joe Henderson's "Step Lightly" (Fig. 6.14) are two examples.

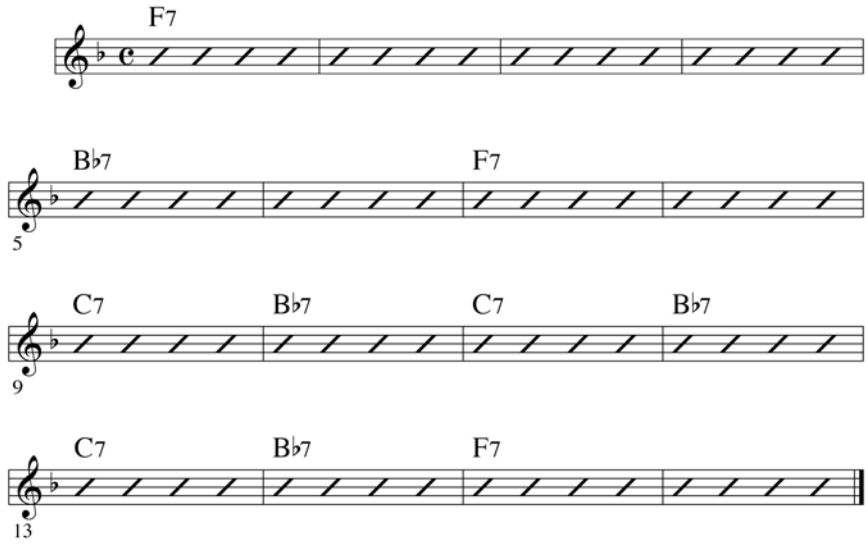



Fig. 6.13. Changes for Herbie Hancock's "Watermelon Man"

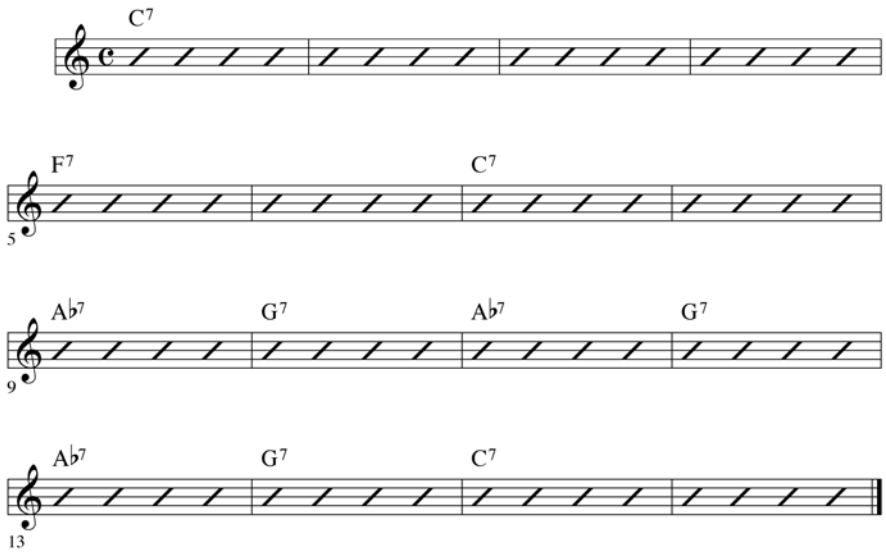



Fig. 6.14. Changes for Joe Henderson's "Step Lightly"

## Minor Blues

Although less common in contemporary practice, minor-key blues are important variants of the basic blues form. Minor blues can be a pure Aeolian version of the classic progression. Here is one in C minor:

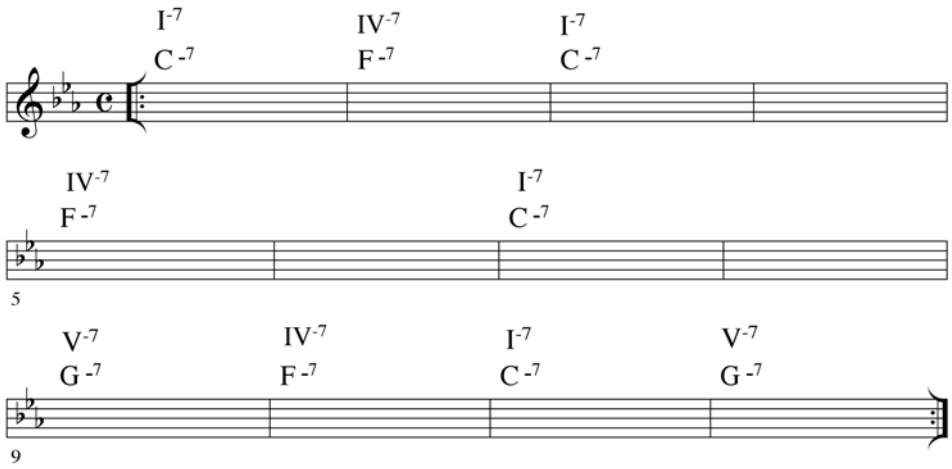



Fig. 6.15. Basic Aeolian Blues

Functional minor key patterns can also occur. For example, secondary dominants can resolve to important chords:

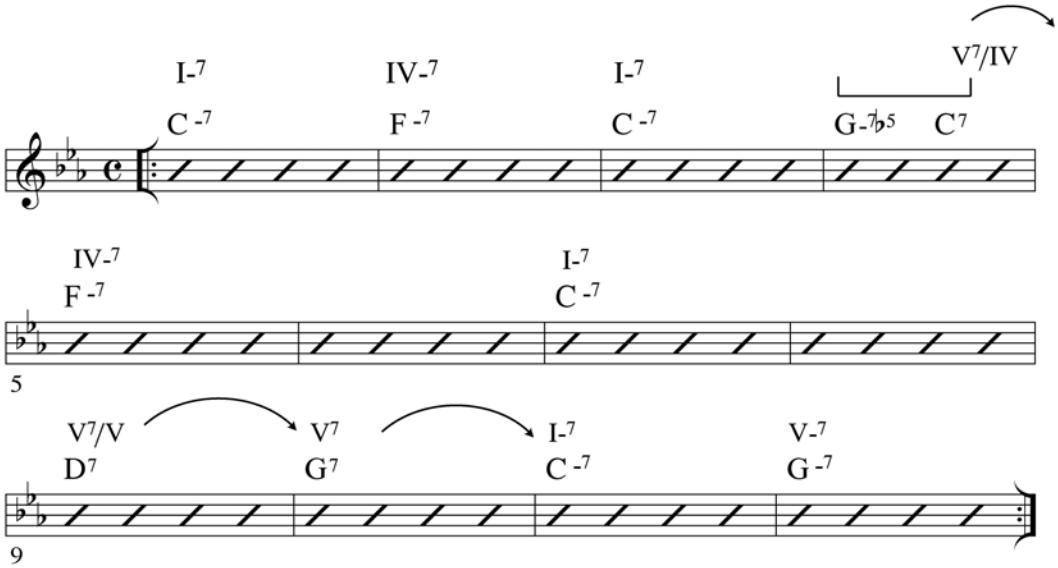



Fig. 6.16. Minor Blues with Secondary Dominants

Subdominant minor chords can create a variety of cadential patterns at the turnaround. Fig 6.17 shows one possibility.

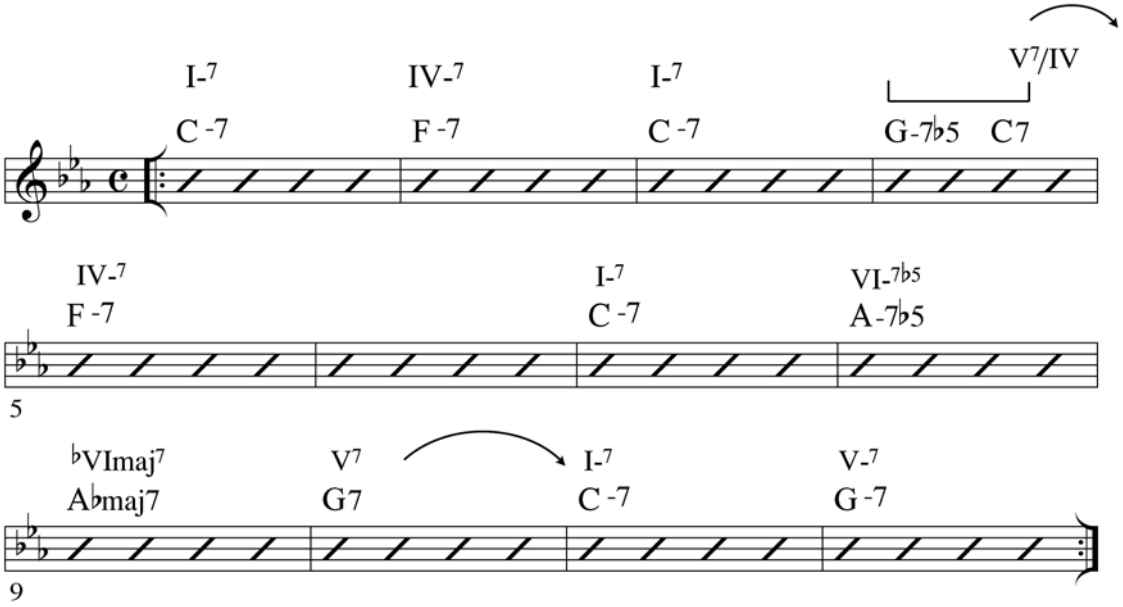



Fig. 6.17. Minor Blues with ♭VImaj7 in turnaround

In measure 8, VI–7♭5 from the melodic minor scale extends the tonic I–7 downward and creates a stepwise connection to ♭VImaj7 in measure 9. In measure 9, the other subdominant minor chords could be substituted: F–7 or D-7♭5. They would create a similar functional effect with different root motion.

# Blues Summary

- Essential blues harmony comes from the combination of minor pentatonic melodies over tonic, subdominant and dominant major triads.
- In major key blues, the tonic, subdominant, and dominant chords are all dominant 7 in quality.
- 11 should be avoided in melodies and voicings of I7, IV7 and V7.
- Blues melody is an independent layer with its own set of defining pitches, dependent on style.
- The interaction between these two layers create the characteristic tensions that define the sound of blues.
- Most contemporary blues are in 12-bar form.
- Secondary dominants can be used to highlight important parts of the progression.
- Modal interchange can be used to elaborate on the basic chords.
- Major key blues are the most common.
- Minor key blues can be modal (usually Aeolian) or tonal.

# Chapter 7: Voicings

## Guide Tones

After the root, the 3rd and 7th of a chord are the most important notes in defining a chord quality. In an arrangement, either the 3rd or the 7th of each chord in a progression can be used to suggest the harmony without fully sounding the chords. One chord voice or the other can be selected in such a way as to create a smooth background line for a melody. This arranging technique is called a *guide tone line.* In its basic form, a guide tone line:

- *is a conjunct (smooth, stepwise) line that contains the 3rd or 7th of each chord.*
- *creates a sketch of the harmony, when combined with the chord roots.*
- *can start on the third or the seventh of the first chord.*
- *is rhythmically very simple, usually just half or whole notes.*
- *complements the root motion and serves as a background to a more active melody.*

A texture that contains only the roots and a single guide tone line will give a surprisingly complete picture of the progression as demonstrated in Fig. 7.1 The following pages will build on this concept to derive other types of voicings that are essential for contemporary arranging.

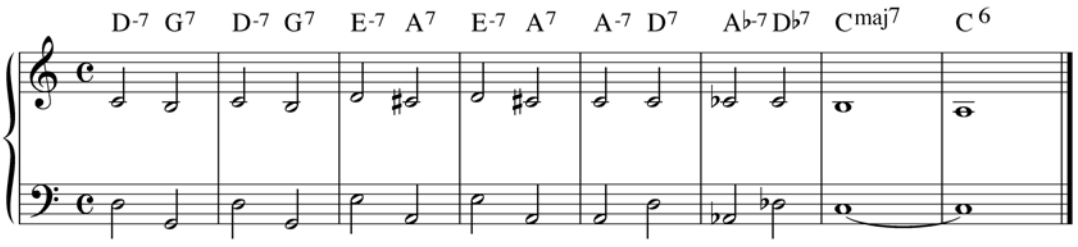



Fig. 7.1 Guide tone line in the treble staff

### Three-Note Voicings : Guide Tones over Roots in the Bass

The 3-note voicing is the most essential expression of the chord symbol. Since the most important information about a chord's identity is carried in its root, 3rd and 7th, the perfect 5th can be omitted without losing the essential sound of the chord. Effective three-note voicings combine both guide tone lines into a series of similar voicings.

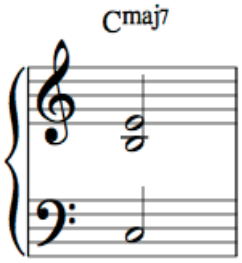



Fig. 7.2. Basic Three-note Voicing

3-note voicings provide a smooth background accompaniment to a melody when the upper tones are voice-led smoothly. Movement by common tone, by step or at the most a third will ensure this. When realizing a chord progression with 3-note voicings, the root motion determines the voice leading procedure from one chord to the next.

When root motion is by perfect fifth or fourth (cycle 5), the 3rd of a chord will move to the 7th of the next chord and vice versa.

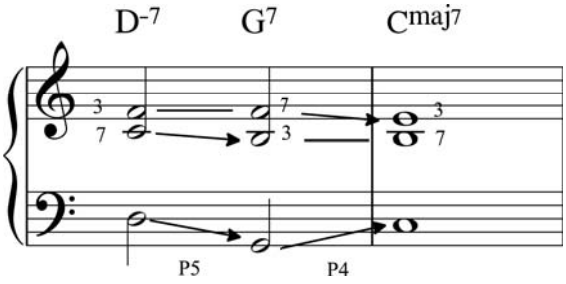



Fig. 7.3. Root Motion by Fourth and Fifth: 7 moves to 3, 3 moves to 7

When root motion is by major or minor second (cycle 2), the most efficient voice leading is via parallel motion. Parallel motion is common and acceptable in contemporary popular styles.

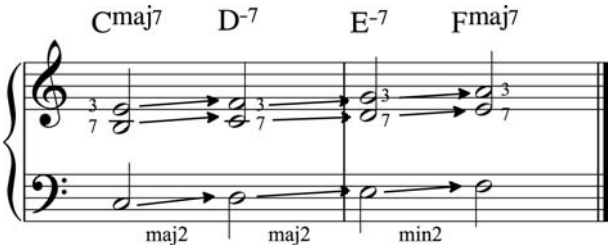



Fig. 7.4. Root Motion by Major and Minor Seconds: Parallel Voice Leading

When root motion is by major or minor third (cycle 3), efficient voice leading can move in either direction. At least one voice will have to move by a third:

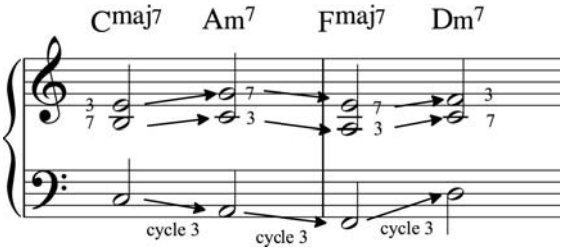



Fig. 7.5. Root Motion by Major and Minor Thirds: Variable Direction, No Common Tones

The following progression contains all three types of root motion. The upper two voices of the chords create lines that move efficiently by conjunct motion.

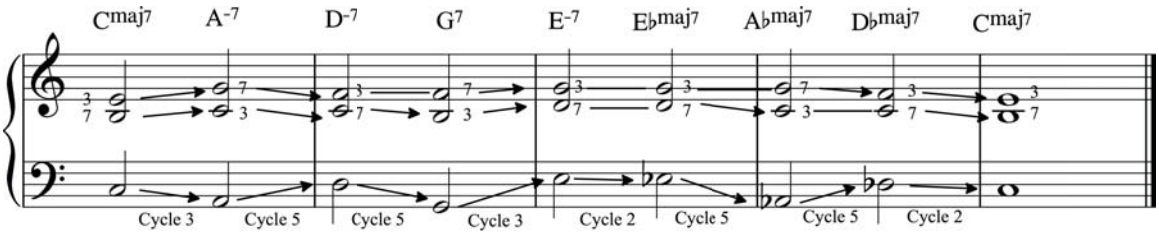



Fig. 7.6. Mixed-Interval Root Motion, 3rds and 7ths in the Treble

If 7sus4, maj6, or min6 chords appear in a progression, 4 is substituted for 3, and 6 replaces 7.

**The Effective Range for Guide Tones**

It is important to consider the *range* in which guide tones are sounding. Guide tones are most effective when written within the range of the third and fourth octaves of the piano. Fig. 7.7 shows this range in both the treble and bass staffs.

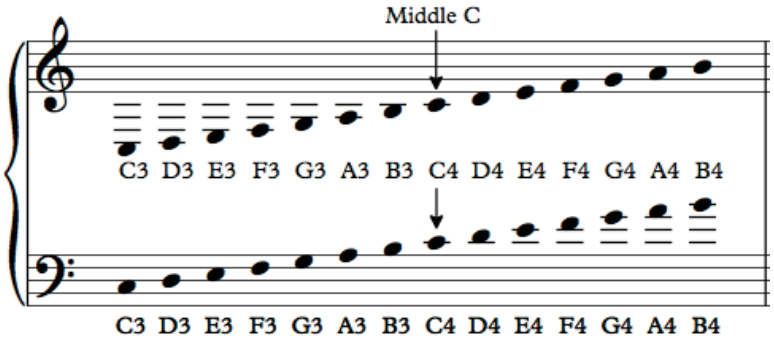



Fig. 7.7 Effective Range for Guide Tones in Treble and Bass Staff

If positioned too low, the guide tone lines begin to compete with the chords' roots for the listener's attention. The clashing overtones in the pitches makes the voicings sound muddy and unclear. On the other hand, if the guide tones are too high in a voicing, they tend to compete with the foreground melody. Keeping guide tone lines below B4 (the middle of the treble staff) and respecting low interval limits will ensure that the voicings you create sound the chord progression clearly and effectively.

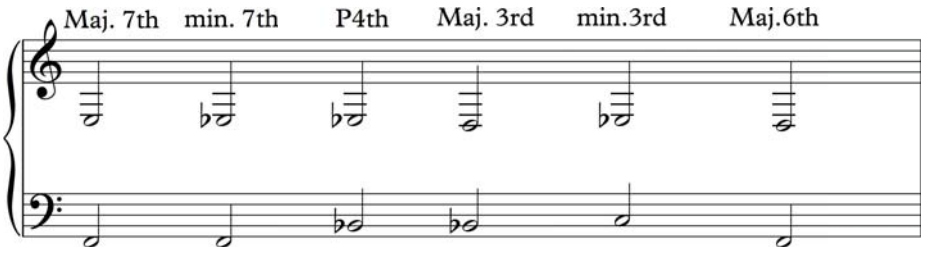



Fig. 7.8 Low Limits for Intervals In Guide Tones Written in Treble Clef

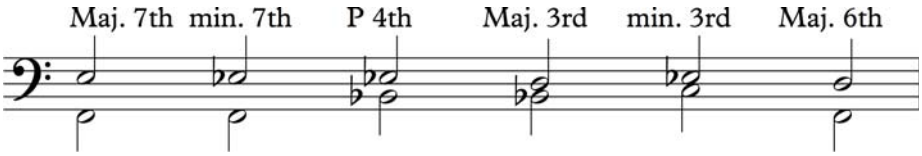



Fig. 7.9 Low Limits for Intervals In Guide Tones Written in Bass Clef

**Five-Note Voicings: Four-Way Close Technique Over Roots**

In *4-way close* technique, all four notes of the chord are voiced as close together as possible, over roots in the bass. The starting position is arbitrary.

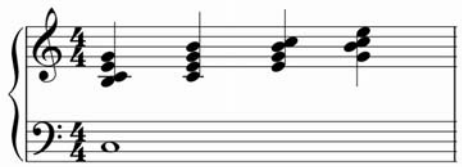


Fig. 7.10. 4-Way Close Voicings of Cmaj7

The voice leading procedure for 4-way close technique is identical to that of the 3-note voicings above: the guide tone lines will appear in these examples along with the root and 5th. When the root motion is cycle 5, connect the common tones between the chords and move the remaining notes downward by step. Once again, 3 will connect to 7 and vice-versa:

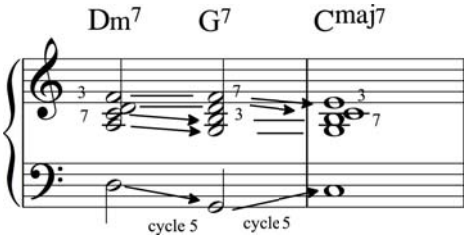



Fig. 7.11. II V I Pattern with 4-Way Close Voicing

When the root motion is cycle 2, all voices move in parallel:

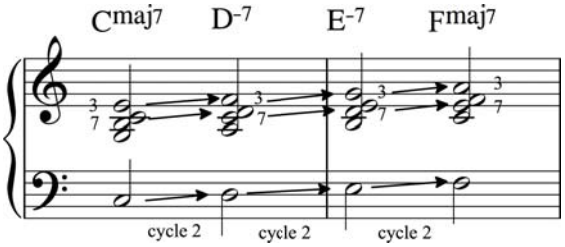



Fig. 7.12. Cycle 2 Progresssion, 4-Way Close Voice Leading

When the root motion is cycle 3, connect the common tones between chords and move the last note by step. Because of the abundance of common tones that occur in cycle 3 progressions, the guide tones will migrate from voice to voice:

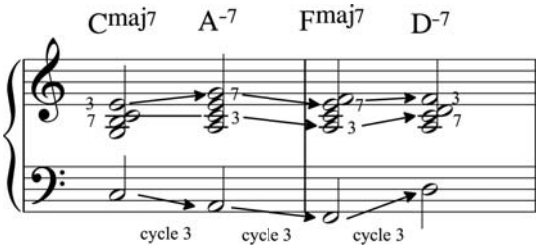



Fig. 7.13. Cycle 3 Progresssion, 4-Way Close Voice Leading

**Tension Substitutions on 4-Way Close Voicings**

Depending on style and instrumentation, chord tones can be replaced by the appropriate available tensions. If the root is present in the bass, the root in the "upper structure" (the voices in the treble) of a 4-way close voicing is redundant. It can be replaced by tension 9, when available.

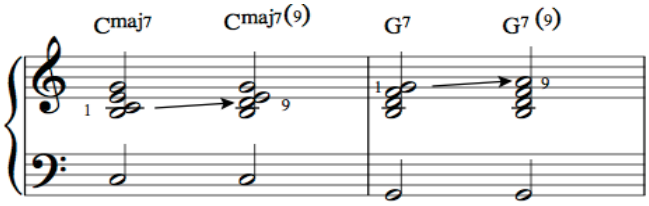



Fig. 7.14. Tension Substitution: 9 for 1

The 5th is a non-essential chord tone and can be replaced by tension 13, when available:

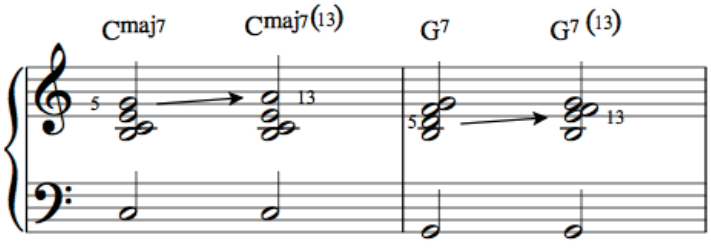



Fig. 7.15. Tension Substitution: 13 for 5

Or both tensions can be substituted. This is especially typical in jazz arranging.

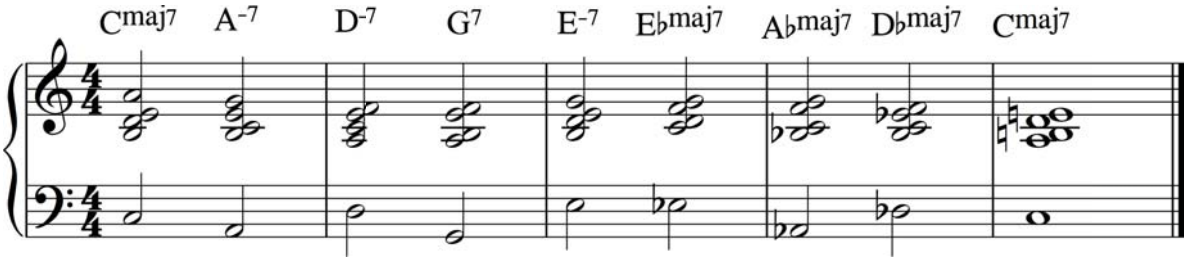



Fig. 7.16. Tension Substitution: 9 for 1 and 13 for 5, When Available

**Summary of Five-Note Voicings**

- Basic four-note voicings contain the root, 3rd, 5th, and 7th of the chord.
- They can be voiced *close* (all four voices within the span of an octave) or *spread* (the voices more widely separated.)
- They can be in root position, or inverted for better voice-leading
- The root can be isolated in the bass, and the other three notes can be close-voiced or spread in the treble
- All four voices can sound in the treble, with the root doubled in the bass.

### 3-Way Close Technique Over Roots in Bass

In 3-way close technique, the 3rd, 5th and 7th of the chord are voiced as close together as possible in the treble while the root is positioned in the bass. In sus4 chords, 4 replaces 3; in maj6 chords, 6 replaces 7. The starting position of the upper voices is arbitrary.

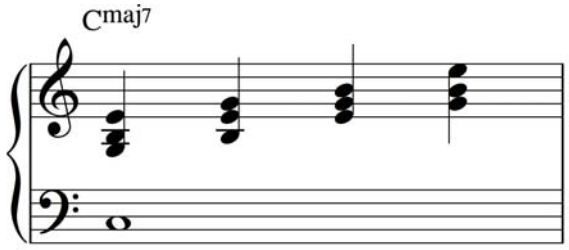



Fig. 7.17. 3-Way Close Voicings of Cmaj7

When root motion is by second, the voices will move most efficiently in parallel motion.

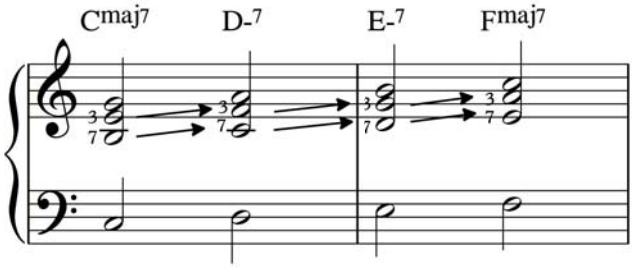



Fig. 7.18. 3-Way Close Cycle-2 Root Motion

When root motion is by third, connect the common tones in the upper voices.

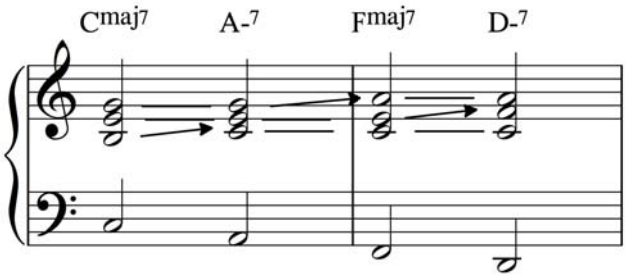



Fig. 7.19. 3-Way Close Cycle-3 Root Motion

When root motion is by 5th, there are two possibilities. In the first, the chord tones move by common tone and step. This results in free resolution of the melodic tendency of the guide tones. Notice in Fig. 7.20 below how the 3rds and 7ths change position from chord to chord. While the voice leading is efficient, the continuity of each of the upper voices is slightly compromised because the guide tones are moving up away from their true melodic tendencies.

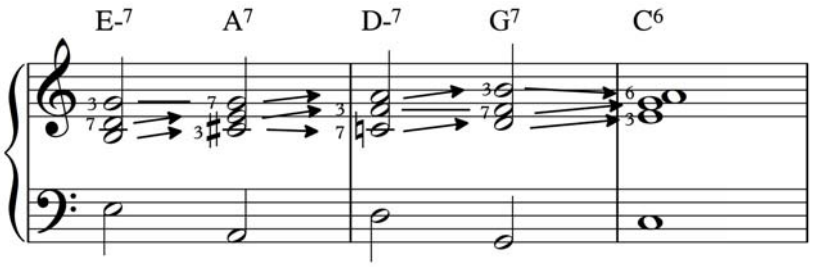



Fig. 7.20. 3-Way Close Cycle-5 Root Motion – Free Resolution of the Guide Tones

The second procedure allows for strict resolution of the melodic tendency of the guide tones. This necessitates omitting the 5th of some chords and doubling the root. Notice in Fig. 7.21 below how the 5th has been omitted and the root doubled in the A7 and G7(sus4) chords. This allows the guide tones to follow a downward path within their respective voices. This strongly supports the tonal progression.

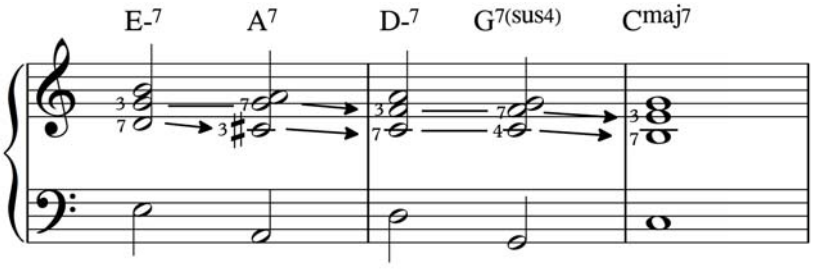



Fig. 7.21. 3-Way Close Cycle-5 Root Motion – Strict Resolution of Guide Tones

As in 4-way close technique, tensions 9 and 13 can be substituted for the redundant root and the expendable 5th. Compare Figs. 7.21 and 7.22 to see how tensions have been substituted for roots and 5th in the highest voice of the chords of Fig. 7.22.

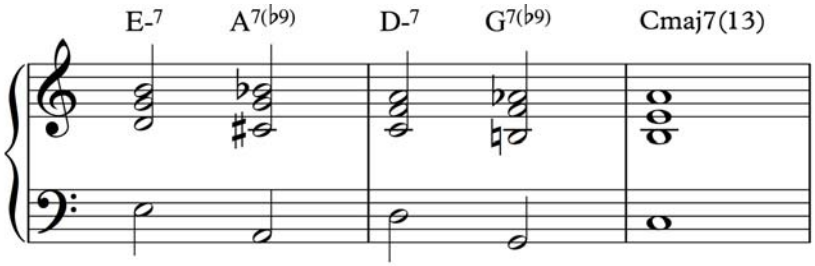



Fig. 7.22. Tension Substitutions in 3-Way Close Voicings

# Chapter 8: Melody

## Melody: A Succession of Tones

The most basic, all-encompassing way to define a melody is to say that it is ***a succession of tones***: one note played after another in time. The notes that the lead singer or instrumentalist performs is a melody. But so too are the notes the back-up vocalists sing, the long notes and riffs of the horn players and the notes played by the bass. Each is a melody in its own right because it is ***a succession of tones***. This distinguishes melody – notes played successively – from harmony: notes played simultaneously. Each of these melodies is different in its effect: some are memorable–others, not at all. Often, people use the word melody to refer only to the main tune. Musicians will often refer to the subsidiary melodies as *lines*. Line in this instance is short for *melodic line*. Musicians refer to the bass line, a string line or a subsidiary or inner line to describe a melody that is between the principal melody and that of the bass. Sometimes we even refer to the principal melody with the word *line*, as in, "he wrote a nice *line* there" or "she played a nice *line*." Let's learn some terms that will help us to describe different aspects of melody and define their essential differences.

### Range

**Range** is an important characteristic that we use to describe and categorize different types of melodies. The ***range*** of a melody is the overall distance from its lowest note to its highest note. Some tunes, like "The Star Spangled Banner" or "Over the Rainbow", have a large range. "The Star Spangled Banner" has a range of a perfect 12th.

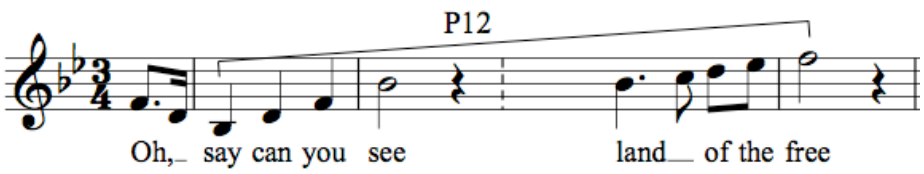



Fig. 8.1. Range of "The Star Spangled Banner"

"Over the Rainbow" has an overall range of a perfect 11th.

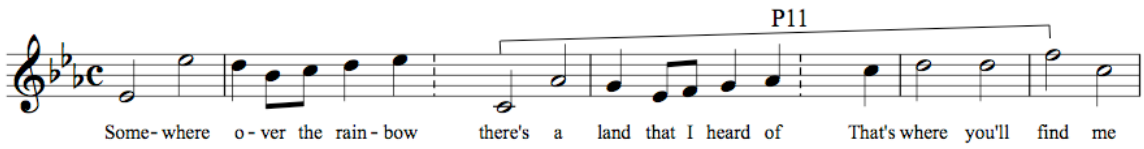



Fig. 8.2. Range of "Over the Rainbow"

No wonder these songs are challenging to singers. By contrast, the backing vocal melody in the chorus of "Roxanne" by the Police has a range of only a minor 6th.

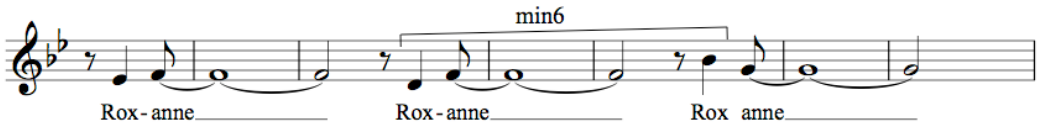



Fig. 8.3. Range of "Roxanne" Backing Vocal

**Motion**

Intervallic **motion** is another notable feature of melody. If a melody moves from one note to another by consecutive 2nds (whole steps or half steps) or by repeated notes it has ***conjunct motion***. If a melody moves consistently by intervals of a 3 or more it has ***disjunct motion***. Some melodies exhibit all conjunct motion; others are disjunct, while still others balance between conjunct and disjunct motion.

**Contour**

Another feature of melody is ***contour***. If we follow the direction of the intervals of a melody we can detect its contour or basic shape. There are three contours:

***convex*** – like a hill or an arch,

***concave*** – like a valley or a bowl

***plane*** – little to no change.

"Over the Rainbow" begins with a ***convex*** contour.

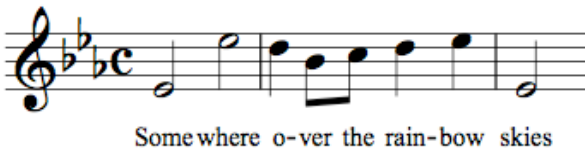



Fig. 8.4. Convex Contour

"The Star Spangled Banner" has a ***concave*** contour.

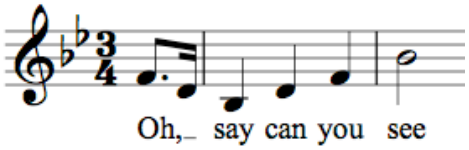



Fig. 8.5. Concave Contour

"One Note Samba" by Antonio Carlos Jobim has a ***plane*** **contour**.

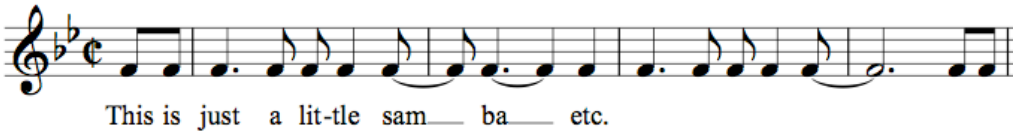



Fig. 8.6. Plane Contour

Let's put our new descriptive vocabulary to work as we examine three melodies that occur simultaneously in the lead line, a harmony line and the bass line of "My Funny Valentine". (These examples are taken from the original score from the Broadway musical "Babes In Arms".) The first is the lead melody or "tune" that the singer sings:

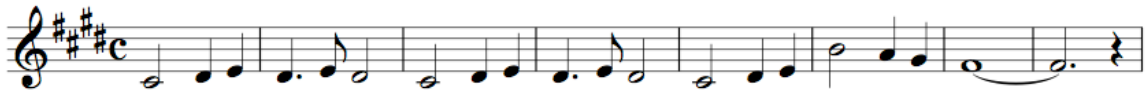


Fig. 8.7. "My Funny Valentine" Lead Melody

The *motion* is conjunct except for a leap of a perfect 5th from the last note of the fifth measure to the first note of the sixth. This leap gives the phrase an emotionally dramatic moment. The *contour* is convex with the steepest "arch" in the 5th through the 8th measures. The range is a minor 7th (C#-B), but the *tessitura* (the average range of the melody) is a perfect 4th (C#-F#).

A harmony line played by violas:

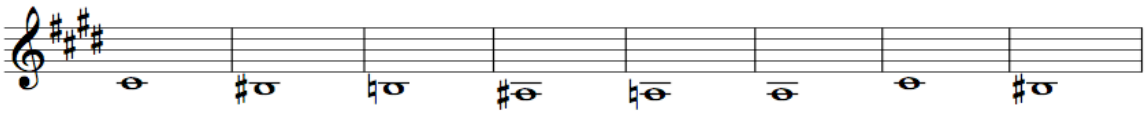


Fig. 8.8. "My Funny Valentine" Viola Line

Here the range of the melody is narrow: a major 3rd from highest to lowest note. The motion is conjunct: all stepwise motion with one leap of a third. The contour is gently concave.

The bass plays another melody:

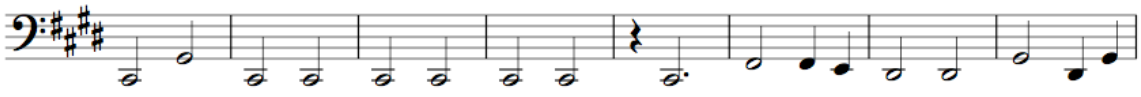


Fig. 8.9. "My Funny Valentine" Bass Line

The range of the phrase is narrow: a perfect 5th. The first part of the phrase has a plane contour broken at the beginning by leaps of a perfect 5th. The second part of the phrase has a gentle concave contour. Leaps of 4ths and 5ths are common in bass lines because the bass usually provides the roots of the harmony.

While each of these melodies performs its function appropriately, it is the vocal melody that draws our focus and has arguably the most impact on our imagination and memory. If we compare this melody with the other two, we begin to get a sense of the importance of rhythmic variety in creating an interesting tune.

Let's examine the note durations used in the three melodies above. The bass line is made up almost entirely of half notes,

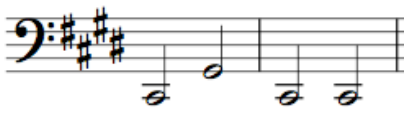


Fig. 8.10. "My Funny Valentine" Half Note Durations

the viola line is all long durations represented by whole notes,

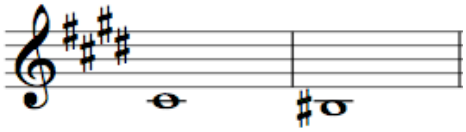


Fig. 8.11. "My Funny Valentine" Whole Note Durations

but the singer's melody consists of changing durations: half, quarter, dotted quarter, eighth, etc.

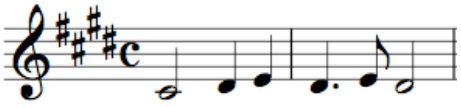


Fig. 8.12. "My Funny Valentine" Changing Durations

Not only is there variety in the durations but there is also a recurring rhythmic pattern.

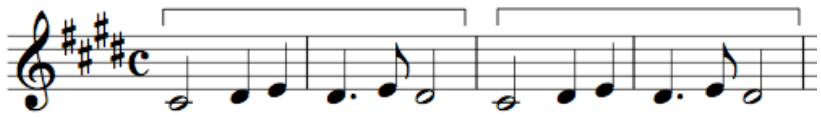


Fig. 8.13. “My Funny Valentine” Recurring Rhythmic Pattern

**Unity and Variety**

One important aspect of creating a memorable melody is to achieve a balance of ***unity*** and ***variety***. The human mind prefers a balance that is 2/3 to 3/4 unity and 1/3 to 1/4 variety. The bass and viola lines are less memorable because they consist of all or mostly the same durations. The singer’s melody has a variety of durations, in such a way that a specific rhythmic pattern repeats. One might say that rhythmically the singer’s melody exhibits ***variety*** in its use of mixed durations, and ***unity*** in its use of a repeated rhythmic pattern.

If we examine the first 16 measures we can see that the rhythmic pattern repeats twice more. The first 16 measures are unified by repetitions of this same rhythmic pattern.

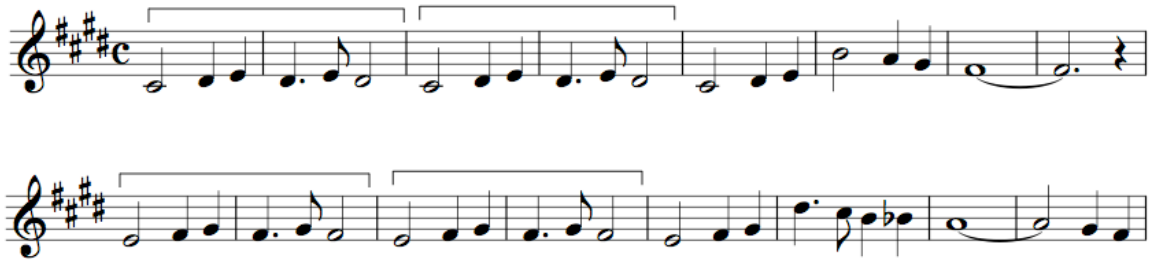


Fig. 8.14. “My Funny Valentine” Repetition of Recurring Rhythmic Pattern

Now let's look at the melody in terms of contour. The first phrase is built of two connected convex contours with the range of a minor third. This is followed by another convex shape with the overall range of a minor 7th. The tessitura of the melody is a perfect 4th. There are three repetitions of the convex contour with an expansion of range the 3rd time. This creates a sense of developing variation for the listener.

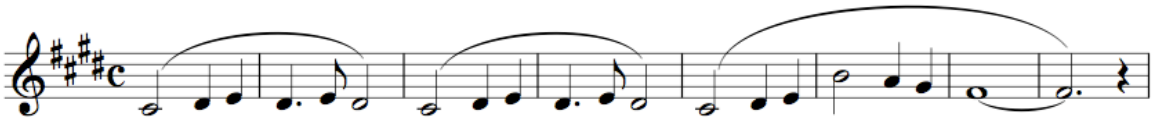


Fig. 8.15. "My Funny Valentine" Lead Melody Contour

Let's contrast this with the melody played by the violas in the orchestra. The viola line has only a single contour: concave with a range of a major 3rd.

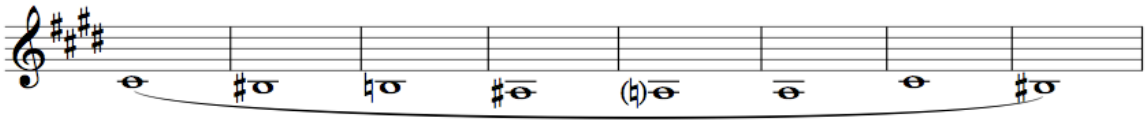


Fig. 8.16. "My Funny Valentine" Viola Line Contour

From this comparison of the two we see that the singer's melody is more memorable because of varied rhythm and contour. The viola melody is only a background to that of the singer. One might argue that its uniformity of rhythmic durations and its single contour make it less memorable and as a result less ***melodic***.

In summary, any succession of tones is a melody, but a melody that is memorable achieves a balance of unity and variety that results from the complex interaction of range, contour and variety in rhythm and pitch.

## GLOSSARY

**Aesthetic(s)** – 1. *adj*. concerned with beauty or the appreciation of beauty. 2. *noun* A set of principals underlying and guiding the work of a particular artist or artistic movement.

**Contour** – the shape of a melody

- **convex contour** – arch-like, low to high to low
- **concave contour** – valley or bowl shaped, high to low to high
- **plane contour** – little or no change in pitch, flat line

**Intervallic Motion** – progress from note to note in a melody characterized by a general size of interval.

- **conjunct motion** – motion by step or common tone.
- **disjunct motion** – motion by leap

**Line** – *noun* 1. a melody that plays a subordinate role to the principal melody of a piece of music. For example: a bass line, a string line, etc. 2. Any melodic line.

**Range** – the distance from the lowest to highest note of a melody expressed as an interval.

**Melody** – 1. *noun* any succession of musical tones 2. The principal tune in the foreground of a piece of music.

**Melodic** – 1. *adj*. referring to melody 2. (aesthetic) a succession of tones that attracts the listener's attention through its balance of musical unity and variety.

**Tessitura** – (It.) *noun* the average range of a melody discounting its extreme high and low notes.

**Unity and Variety** – an aesthetic concept that holds that human beings prefer art that maintains a balance of repetition versus change, the preferred balance being 2/3 to 3/4 unity (repetition) and 1/3 to 1/4 variety (change).

## Part 2 – The Melody/Harmony Relationship

Lets look at the intervallic relationship between the notes of a melody and its harmony. This relationship–the ***melody/harmony relationship***, elicits a powerful response in the listener. Understanding this response can help us to communicate emotionally with our audience. Analyzing the melody/harmony relationship in each of the songs you encounter will start you on the road to this awareness.

Numerical designations such as 3, 9, ♭13, etc. are derived from the distance between the root (1) and each chord tone or tension in a hypothetical root position close-spaced chord. The flat sign is used to designate minor intervals and the sharp sign to identify augmented intervals regardless of the actual spelling of the interval. #9 is often spelled enharmonically as a minor third. In practical application, tensions and chord tones may appear several octaves above the root depending on how a given chord is voiced.

Compare the color of the tensions and chord tones in the lead (highest) voice on the G7 chord in the following example:

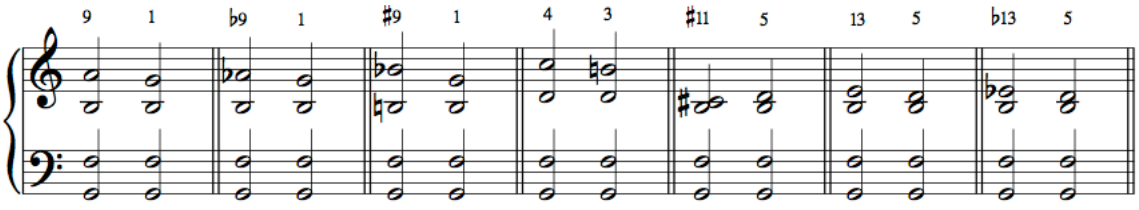



Fig. 8.17. Tensions on G7

Play and listen to each voicing and notice how the chord tones 1, 3, sus4 and 5 each offer different levels of stability while the tensions 9, ♭9, #9, #11, 13 and ♭13 offer various levels of light and dark shading. Using the figure above as a model, we can explore the possible melody/harmony relationships for all of the different triads and four-note chord types. As writers, it is important to cultivate an awareness of the expressive melodic colors available for use in different creative situations. Additionally, the ability to

recognize the melody/harmony relationship quickly and accurately helps in more advanced techniques in improvisation, arranging, harmonization and composition.

**Melody and Tonal Center**

Equally important is the relationship of melodic pitches to a tonal center. Melody notes may be stable or unstable in relation to the overall 1 or *do* of a piece or a section of a piece. See Chapter 1, pp. 1-2.

## Part 3 – The Motive and Motivic Development

A motive is a short melodic or rhythmic idea. A famous example of a motive is the first four notes of Beethoven's Symphony #5.

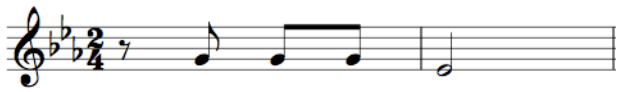
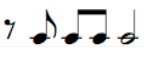


Fig. 8.18. Motive from Beethoven: Symphony #5 – Movement 1

A motive is a small memorable musical idea that serves as a building block for melodic construction. It consists of two elements: a characteristic rhythm and an intervallic shape. In the case of the Beethoven example above the motive consists of the characteristic rhythm  . The intervallic shape is a descending major 3rd.

Beethoven created much of the first movement of his 5th symphony by repeating and transforming this simple motive. In just the first 12 measures this motive is repeated literally or with some rhythmic or pitch variation 7 times. The technique of motivic transformation has generated one of the most memorable symphonic movements in the history of music.

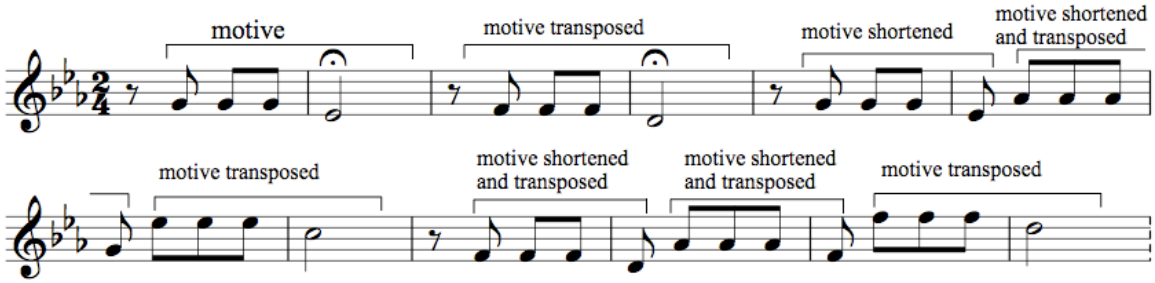



Fig. 8.19. Beethoven: Symphony #5 Motive Developed

## Developing a Motive

The human mind has an innate ability to manipulate mental objects. Given a little snippet of a tune, a musical person may subconsciously transform it in many different ways to create a phrase of melody. This next section will describe common *motivic transformations* that we can learn to use consciously in our analysis of other's work and to acquire for the benefit of our own writer's craft.

A **motive** is a small fragment of melody with a characteristic rhythm

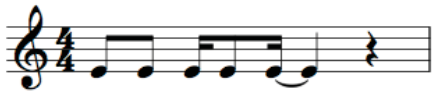


Fig. 8.20. Characteristic Rhythm

combined with an intervallic shape.

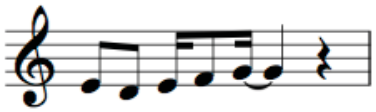


Fig. 8.21. A Motive

### Repetition

One of the easiest ways to build a melodic phrase is just to *repeat* the motive over and over for the length of the phrase.

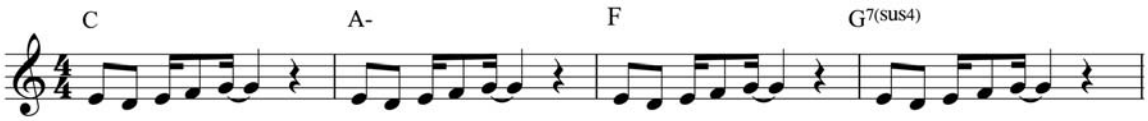



Fig. 8.22. Repeating a Motive

This can be very effective with changing harmony because the melody/harmony relationship changes with each chord.

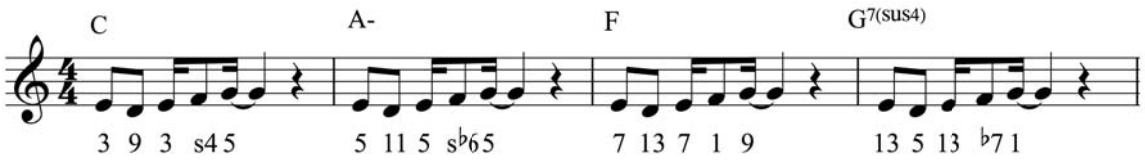



Fig. 8.23. Repeating a Motive Changes the Melody/Harmony Relationship

In the example above, the repetitions of the motive provide musical unity while the changing melody/harmony relationship provides variety.

**Sequence**

Another way to transform a motive is through *sequence*. A diatonic sequence maintains the same rhythm and intervals, while transposing the notes of the motive to a higher or lower pitch. Here's our motive again followed by the six possible diatonic transpositions.

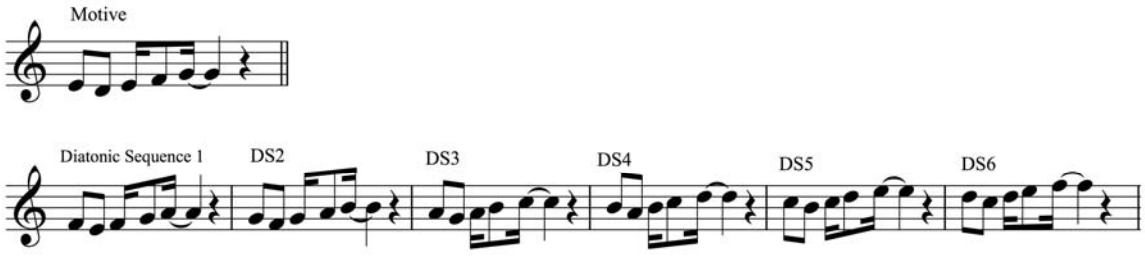



Fig. 8.24. Motive and Six Diatonic Sequences

Please note that while each diatonic sequence (DS) has the same characteristic rhythm and intervals of consecutive seconds, the quality of those intervals may change as we move through the diatonic tones. For example, the motive starts with the interval of a major 2nd but DS1 begins with a minor 2nd.

We can now create another phrase based on the same motive this time using sequence.

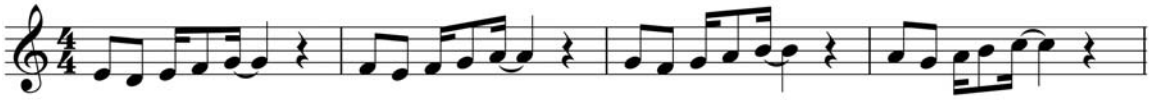


Fig. 8.25. Developing a Phrase Through Diatonic Sequence

Notice how the sequences create a rising melodic contour. This doesn't really fit with our original chord changes. The F on beats 1 and 2 won't agree with the A- chord. Another option might be to combine both repetition and sequence.

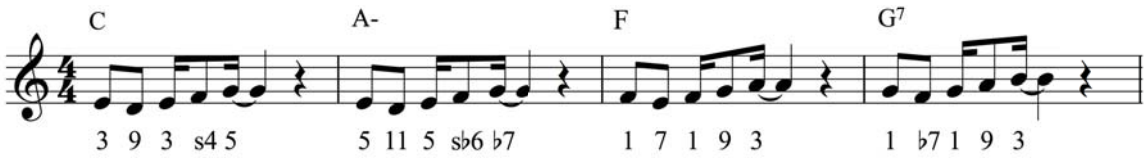



Fig. 8.26. Developing a Phrase Through Repetition and Diatonic Sequence

By repeating the motive over a new chord we get a variation on the melody/harmony relationship. By delaying the sequence until the 3rd measure our melody now lines up nicely with the I VI- IV V7 progression.

**Inversion**

To *invert* a motive is to create a kind of mirror image of it.

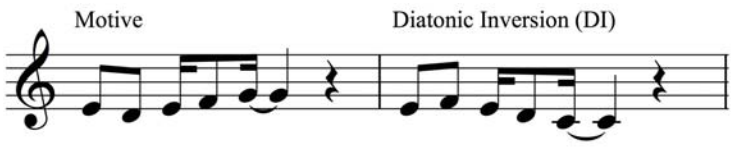



Fig. 8.27. Motive and its Diatonic Inversion

The rhythm is exactly the same as that of the motive, but the direction of the intervals has been transformed. Where the motive went down a 2nd the inversion goes up a 2nd and vice versa. We can develop yet another phrase from our original motive by following it with its diatonic inversion and then repeating those two measures to complete the phrase. This also sounds good with our I VI- IV V chord progression. Take a moment to analyze the melody/harmony relationship to see why it does.

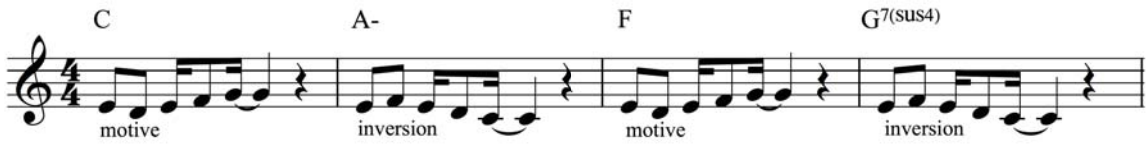



Fig. 8.28. Developing a Phrase Through Diatonic Inversion

We could also create a phrase with this motive, its inversion and then a diatonic sequence of the first two measures.

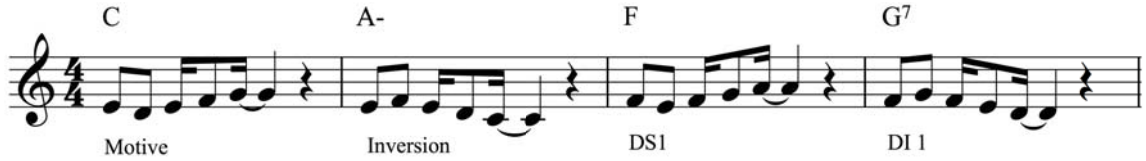



Fig. 8.29. Developing a Phrase Through Diatonic Inversion and Sequence

We could create yet another with the motive, a repetition, a sequence and then the inversion in sequenced form.

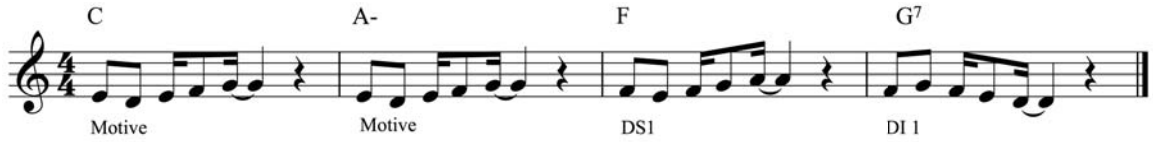



Fig. 8.30. Developing a Phrase Through Repetition, Sequence and Inversion

The more transformations, the more possibilities! The important thing to remember is that the use of the motive helps to provide a sense of unity and integrity to the melody. Too much variety creates a sense of randomness and chaos that is hard for the listener to

comprehend. We do not write sentences letter-by-letter: similarly, composing with motives is faster and more coherent than trying to compose a melody note by note.

**Front to Back: Retrograde**

Still another way to transform a motive is by creating its retrograde. The *retrograde* of a motive reverses the melodic rhythm.

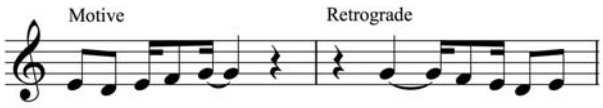



Fig. 8.31. Motive and Retrograde

The uses of the retrograde of a motive aren't so immediately apparent because the musical identity of the motive is changed pretty drastically by this particular transformation.

One way to make use of the retrograde is to elide it with the original motive to create a longer unit for the sake of variation. First let's *elide* the motive with its retrograde (combine them end to end) by removing the quarter note from each version:

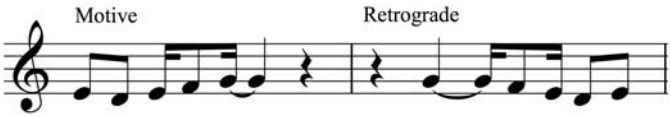



Fig. 8.32. Motive and Retrograde

and then tying the two quarter notes together in a single measure:

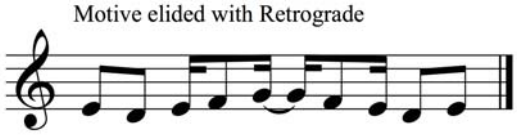



Fig. 8.33. Motive and Retrograde Combined

We can use this newly developed fragment to add more variety to our phrase without sacrificing the integrity of the original motivic material.

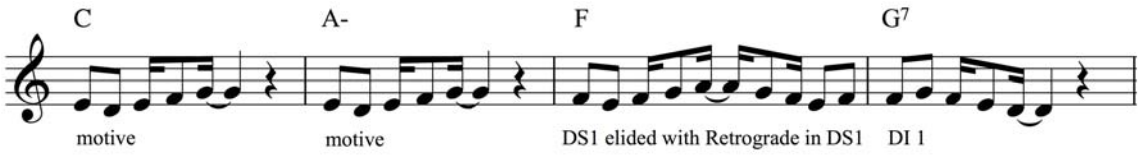



Fig. 8.34. Developing a Phrase with Repetition, Retrograde, Inversion and Sequence

This creates more rhythmic energy in the melody as we approach the harmonic half cadence at the end of the phrase.

**Front to Back and Upside Down: Retrograde Inversion**

The final way that we can maneuver our motive is to invert the retrograde. This creates (you guessed it!) the **retrograde inversion.**

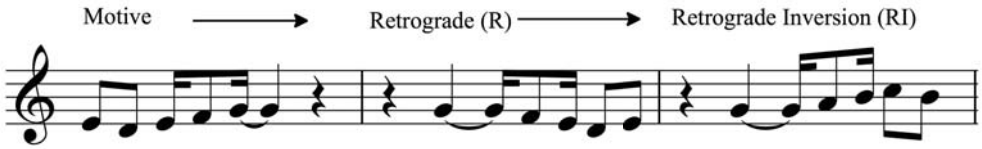



Fig. 8.35. Motive, Retrograde and Retrograde Inversion

Again, the retrograde form of the motive is very different in character but when it is elided with the original motive it creates something new, but organic to the original, with which we can energize our melody!

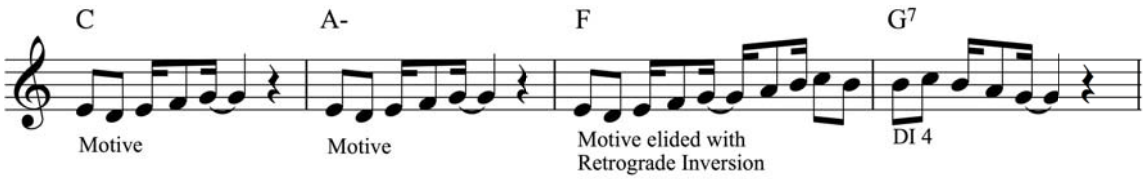



Fig. 8.36. Developing a Phrase with Repetition, Retrograde Inversion, Inversion and Sequence

Notice how the fragment of the retrograde inversion changes the contour of the melody so that it sweeps upward. In our use of the retrograde we have fragmented both the motive and its transformation combining them to produce something new and more intensely syncopated than just the original idea.

**Fragmenting the Motive**

Another possibility for melodic development of a motive is actual fragmentation. Once the motive has been established, a portion of the motive can be used for further development. This phrase uses fragments of the original motive to develop a phrase:

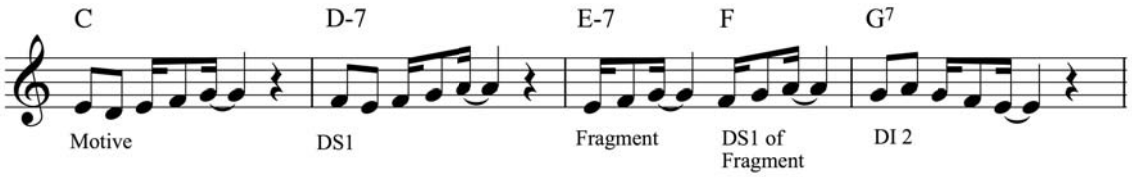



Fig. 8.37. Further Variation with Motivic Fragments

**Changing the Intervals – Intervallic Transformation**

A motive can also be transformed by changing the size of its intervals. This phrase repeats the motive, but with each repetition there are subtle changes to the size of its intervals.

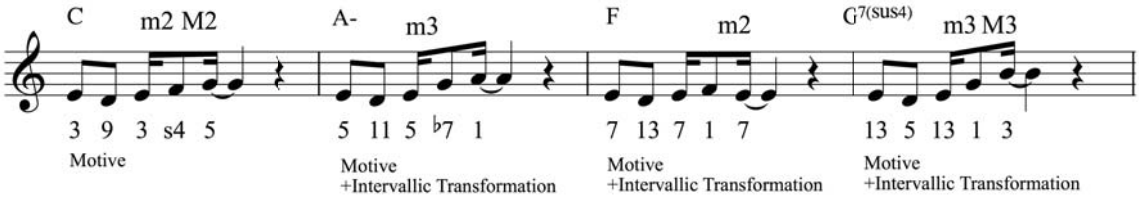



Fig. 8.38. Further Variation with Intervallic Transformation

Up until now, we have harmonized each phrase of melody with only diatonic chords. In a melody where modal interchange chords from the parallel natural minor scale are employed, a completely diatonic melody will not always sound good. In the phrase below, we have developed the melody with transformations that we have used in previous versions. However this time the notes A, B and E don't agree with the A♭maj7 and D♭maj7 chords.

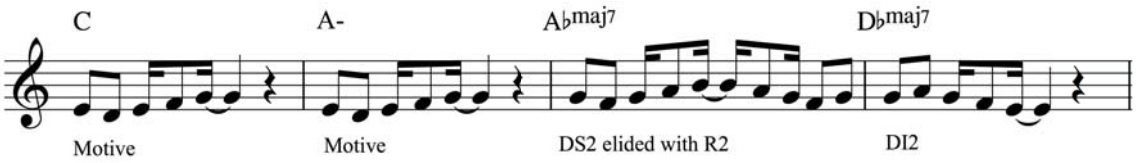



Fig. 8.39. Motivic Material Fitted to a Harmonic Phrase including Modal Interchange

Sometimes a change of interval is necessary in order for the melody to agree with the accompanying harmony. By changing A, B and E to A♭, B♭ and E♭ the melody now works with the accompanying harmony. The note changes create changes in the intervals of the original material. This is called *Intervallic Transformation* of the motive. Fig 8.40 on the next page illustrates the technique.

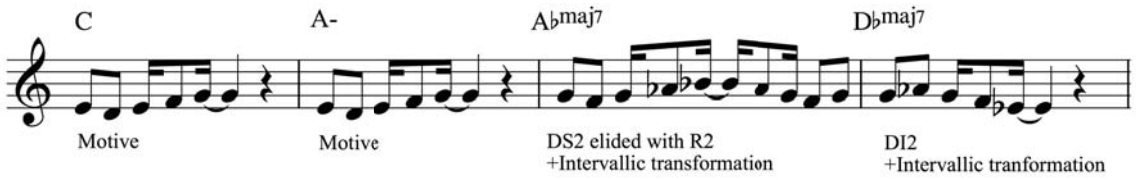



Fig. 8.40. Intervallic Transformation so that Melody Agrees with Modal Interchange

Now consider this phrase that includes a secondary dominant chord:

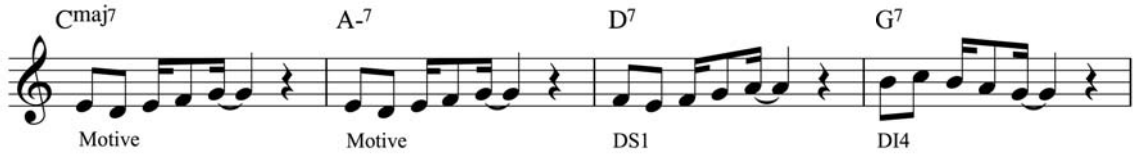



Fig. 8.41. Motivic Material Fitted to a Harmonic Phrase with Secondary Dominant

Once again we've developed a phrase through repetition, inversion and sequence, but the F in measure 3 (in combination with the E) clashes a bit too much with the D7 chord that accompanies it. By changing the F to F# the melody now agrees with the D7 chord. The note change creates an intervallic transformation of Diatonic Sequence 1 of the original motive.

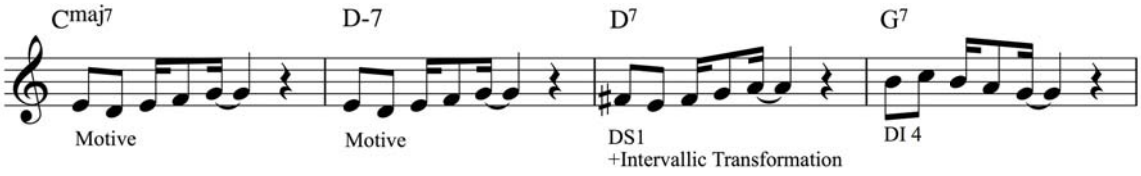



Fig. 8.42. Intervallic Transformation with Secondary Dominant

**Rhythmic Variation**

The last transformation that we'll discuss is rhythmic variation.


Fig. 8.43. Motive and Rhythmic Transformations

Subtle changes to the rhythm of the motive can often help to give a melodic phrase a little lift.

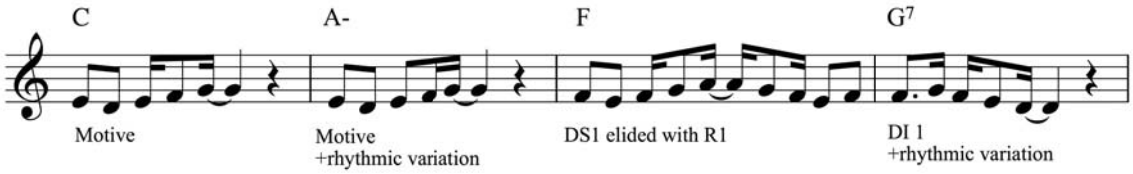



Fig. 8.44. Motivic Development of Phrase with Rhythmic Transformations

It is important to be aware of the fact that too much rhythmic variation alters the essential character of the motive and introduces an excess of variety into a phrase. This can render the phrase difficult to follow or understand, resulting in a less than satisfying musical experience.

## Review and Summary

Generating melody consciously from a motive ensures musical unity and is also faster than trying to compose a melody note by note. Using the transformative processes outlined above will provide musical variety while maintaining the integrity of the original musical idea. The transformational processes are:

- repetition,
- diatonic sequence,
- inversion, retrograde
- retrograde inversion.
- Additionally, subtle transformations of interval and rhythm can be appropriate variations.

These transformations are illustrated below.

### Motivic Transformations

**Sequence**

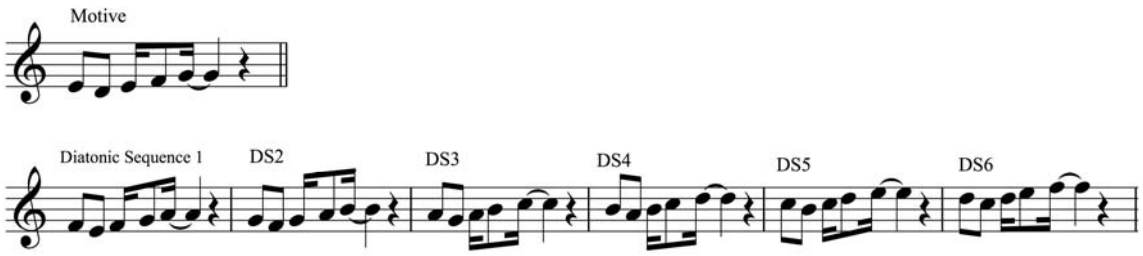



Fig. 8.45. Motive and Sequence

**Inversion**

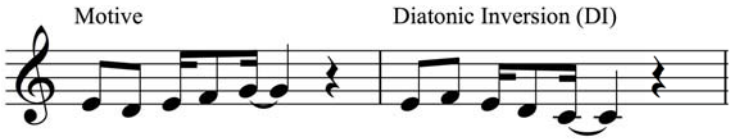



Fig. 8.46. Motive and Inversion

## Retrograde and Retrograde Inversion

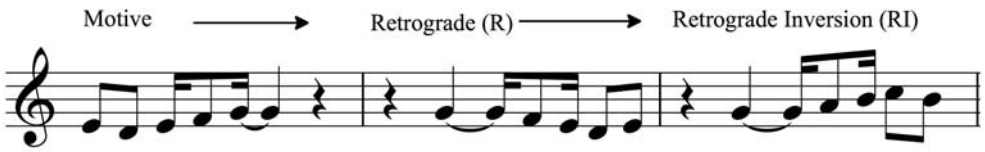



Fig. 8.47. Motive and Retrograde and Retrograde Inversion

## Intervallic Transformation

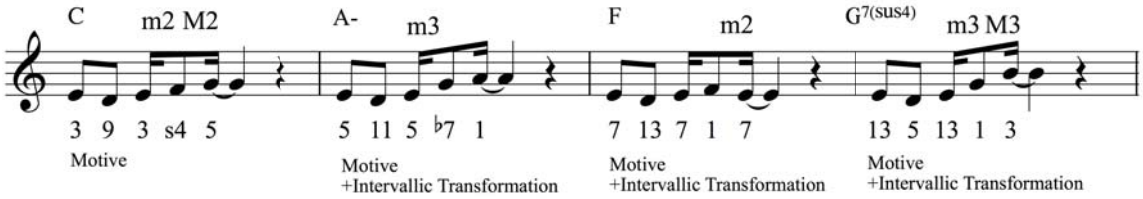



Fig. 8.48 Motive and Intervallic Transformations

## Rhythmic Transformation

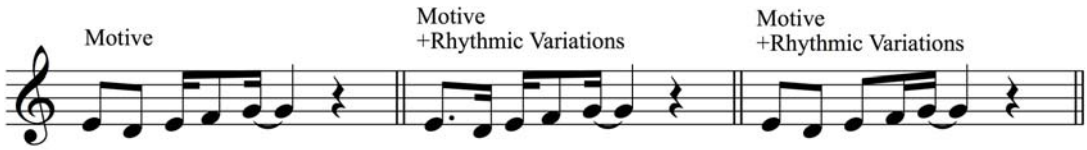



Fig. 8.49. Motive and Rhythmic Transformations

## Part 4 – Phrase, Antecedent/Consequent, Period, Form

In the previous section we have outlined possible ways in which to take a small musical idea–a motive and to use it to develop a longer coherent musical utterance: a ***phrase***. Now it's time to define what we mean by phrase. The term phrase is borrowed from linguistics and is used to define short musical units of various lengths. One way to think of a phrase is that it is a musical idea that lasts the length of a breath. In popular music, melodic phrases are generally organized in lengths of 2 or 4 bars depending on the tempo. At a slower tempo the phrase length will be 2 bars, at a faster tempo, four. While phrases of other lengths do occur, they do so less frequently and their effect is dependent largely on the listener's expectation of the more common 2 or 4 bar phrase lengths.

The end of a phrase is called a ***cadence***. The cadence of a phrase can offer varying degrees of tonal rest or stability depending on the final note and accompanying harmony.

Let's compare the first two phrases of Harold Arlen's "Over the Rainbow". In each case, examine the cadence and determine if the phrase feels open-ended and in need of continuation or closed-ended and final.

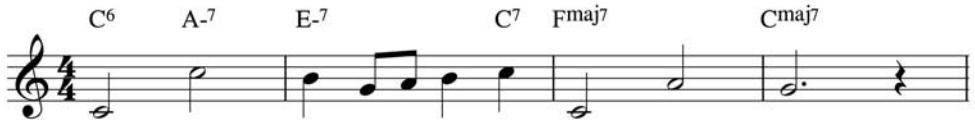



Fig. 8.50. "Over The Rainbow" – Phrase 1

The first four-measure phrase ends on scale degree 5 or Sol–a less stable pitch than Do. Even though it is harmonized with the tonic chord, the musical idea seems incomplete and seems to beg for another phrase to follow it.

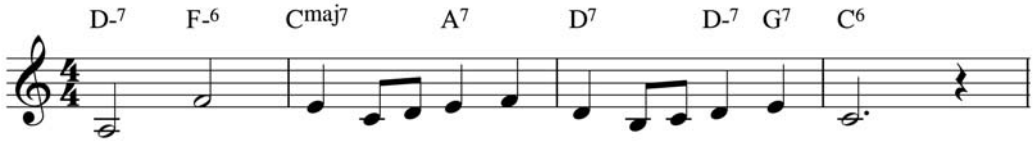



Fig. 8.51. "Over The Rainbow" – Phrase 2

The second four-measure phrase ends on scale degree 1, the most stable pitch in the key. The accompanying harmony (II-7 V7 I6) at the cadence reinforces that sense of rest and stability.

An **antecedent** is a phrase with an open-ended cadence. It begs to continue. A **consequent** phrase completes the idea started by the antecedent in a complimentary way.

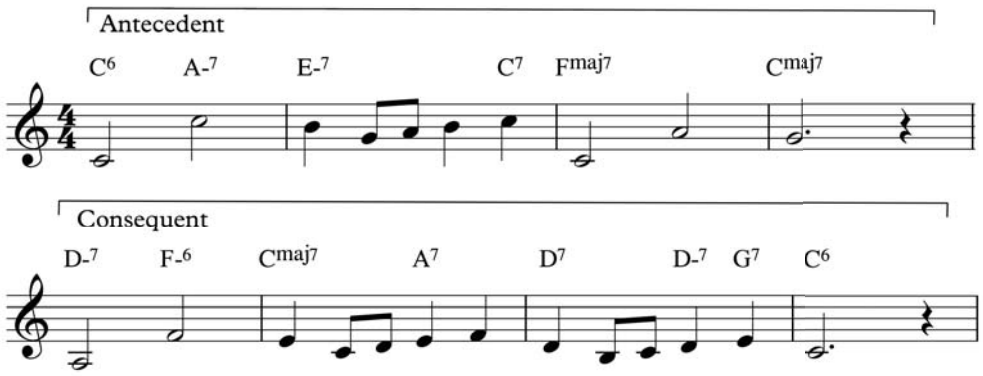



Fig. 8.52. "Over The Rainbow" – Antecedent and Consequent

Just as a linguistic phrase is considered an incomplete thought, a musical phrase is also incomplete in and of itself. Linguistic phrases combine to produce sentences. Antecedent and consequent phrases combine to create a larger unit called a **period**.

*Antecedent phrase + Consequent phrase = Period*

While the antecedent will always be open-ended, the consequent may be closed-ended coming completely to rest or open-ended allowing the melody to continue further.

In popular song, periods are combined to create the song form. Some common song forms are AAB, AABA and ABAC. Each letter in the form represents a period. Notice that the balance of unity and variety exists again at this larger level of organization. Repetitions of the A period create unity while the B and C periods provide variety.

## Part 5 - Approach Tones

Those who have studied Common Practice Harmony (Tonal Harmony and Composition) are familiar with the terms that we use to identify approach tones. Please note that there is a significant difference in the way that these terms are used in contemporary practice. In the Common Practice Period (i.e. classical music) the harmonic style was oriented to the simpler sound of the triad. Passing tones, neighbor tones, etc. were defined as dissonant non-chord tones. In contemporary practice we have a much freer approach to dissonance (i.e. harmonic color or tensions) and so the distinction between chord tone and non-chord tone is of less significance. In contemporary harmony, *the difference between* **target tones** and **approach tones** is one of **rhythmic placement**.

In every melody there are two kinds of notes: those that fall on the points of metrical stress and those that don't. This establishes a hierarchy of importance among the notes of the melody. Because the chords of the accompanying progression also sound at the points of metrical stress, the notes that coincide with the changes of harmony (target tones) seem most prominent to the listener. The notes that come in between the stresses (approach tones) are less prominent. In essence, the approach tones create a sense of melodic motion toward the target tones.

### Distinguishing Targets and Approach Tones Rhythmically

In the melody in Fig. 8.53, the speed at which the notes change is at the *metrical level*: all the notes coincide with the beats of the meter. The target tones fall on strong beats 1 and 3 and the approach tones on weak beats 2 and 4.

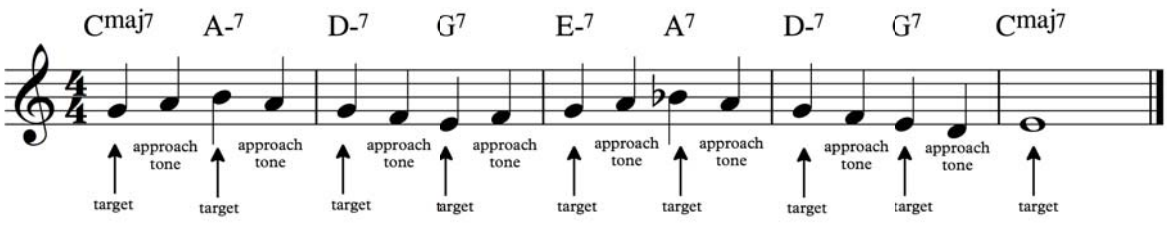



Fig. 8.53. Metrical Level – Target and Approach Tones

In Fig. 8.54, the melody notes change at the *super-metrical level*: the melody uses rhythms which are longer than the unit of the beat.

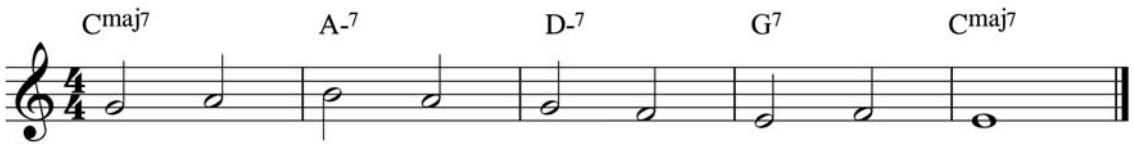



Fig. 8.54. Super-metrical Level

In a melody in which rhythms are at the super-metrical level, the target notes coincide with the stronger beat 1 and the approach tones come on the weaker beat 3, as in Fig. 8.55.

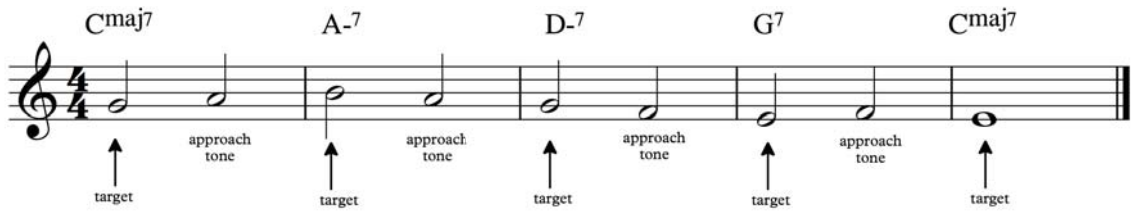



Fig. 8.55. Super-metrical Level – Target and Approach Tones

In Fig. 8.56, the melodic rhythm moves at a rate faster than the speed of the meter: this melody is said to be at the *sub-metrical level*. The target tones come on the beat; the approach tones are on the off-beats.

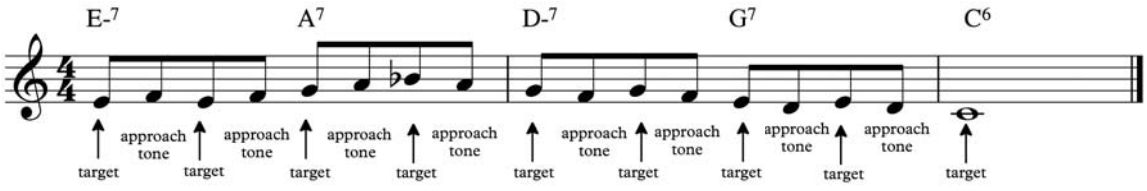



Fig. 8.56. Sub-metrical Level – Target and Approach Tones

Fig. 8.57 shows a melody that uses a mixture of different rhythms.

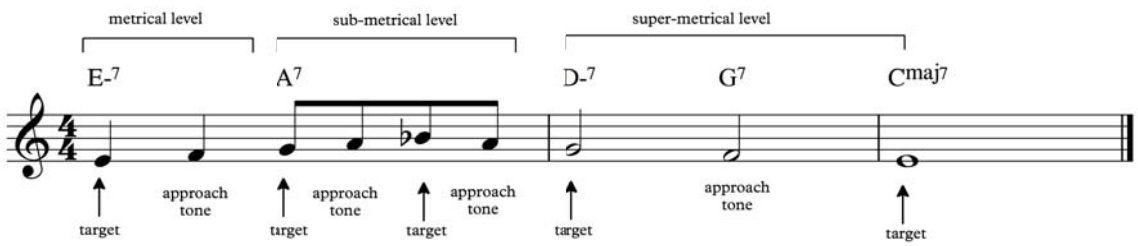



Fig. 8.57. Mixed Metrical Levels – Target and Approach Tones

Notice that the distribution of target and approach tones changes as the level of rhythmic activity changes.

**Categories of Approach Tones**

In order for a note to be considered an approach tone, it must also fall into one of a number of intervallic patterns.

A **passing tone** (PT) is an approach tone that leaves a target by step and resolves by step filling the gap of a third.

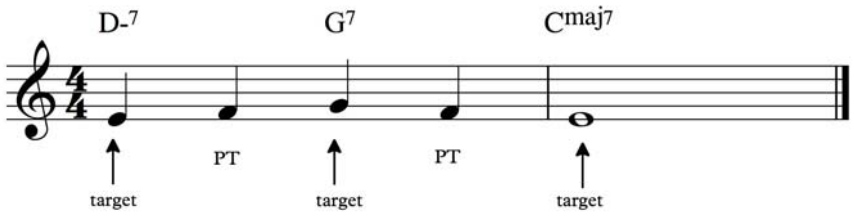



Fig. 8.58. Passing Tones

A **neighbor tone** (NT) is an approach tone that leaves a target tone by step and returns to the same note.

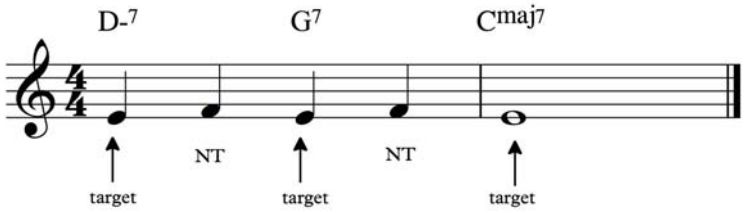



Fig. 8.59. Neighbor Tones

An **unprepared approach tone** (UA) or free neighbor tone is an approach tone that comes after a silence (rest) or a melodic leap and then resolves by step to a target tone.

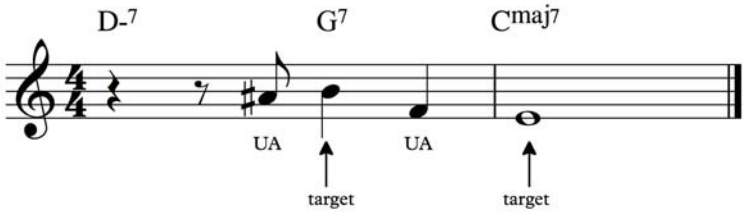



Fig. 8.60. Unprepared Approach Tones

An **indirect resolution** (IR) is the result of two unprepared approach tones, the lower and then the upper neighbor (or the upper and then the lower neighbor) preceding a target tone.

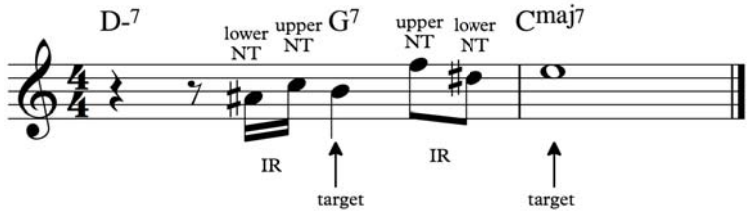



Fig. 8.61. Indirect Resolution Tones

**Double chromatic passing tones** (DCPT) fill in the gap of a third between two target tones.

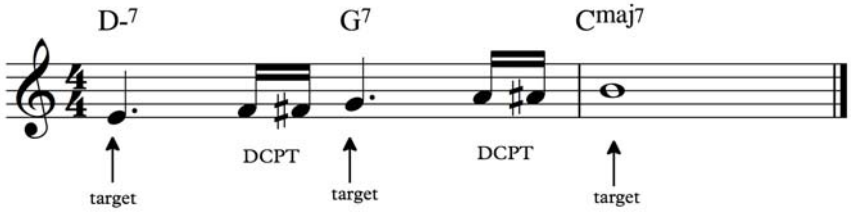



Fig. 8.62. Double Chromatic Passing Tones

Because target tones generally coincide with the strong rhythmic stresses and the changes of harmony they are always chord tones or available tensions of the chords to which they relate.

Notice in the example below that the target tones are either *available tensions* or *chord tones* of the harmonies to which they correspond.

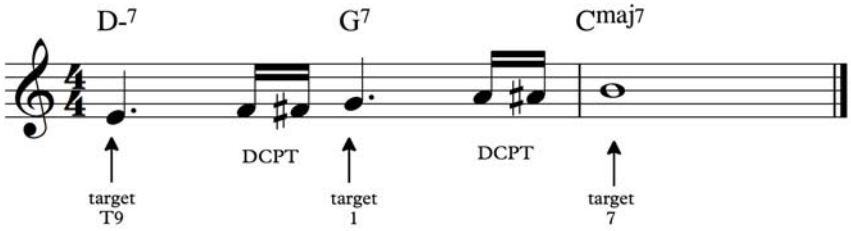



Fig. 8.63. Targets Agree with the Harmony

Approach tones may be *any* note of the chromatic scale, whether available or not. Notes that are very dissonant in relation to the chord are often of brief duration, or in the least rhythmically accented position in the bar.

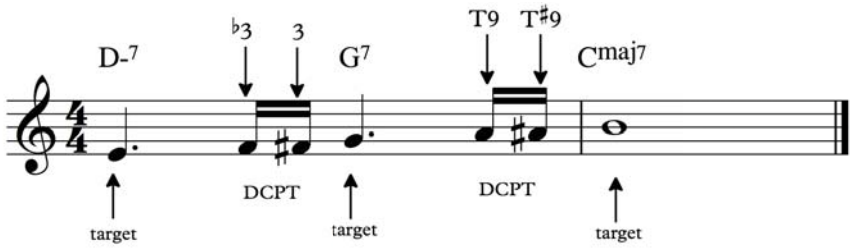



Fig. 8.64. Approach Tones May Be Any Note

Notice in Fig. 8.64 that the double chromatic passing tones are ♭3 and 3 with respect to D-7. The more dissonant 3 appears in the weakest rhythmic position.

Melody notes that fall into weak rhythmic positions in the bar and do not fall into one of the approach tone patterns are often arpeggiated figures that consist of chord tones and/or available tensions. In order for a note to be considered an approach tone, it must fall into one of the recognizable approach tone patterns:

- Passing Tone (PT)
- Neighbor Tone (NT),
- Unprepared Approach (UA)
- Indirect Resolution (IR)
- Double Chromatic Passing Tone (DCPT)

## Analyzing the Melody/Harmony Relationship

When analyzing the melody/harmony relationship for approach tones, follow this procedure:

1. Look for the metrical level(s) of rhythmic activity (metrical, sub-metrical or super-metrical) of the passage
2. Identify the target tones.
3. Label the relationship of the target tone to its corresponding harmony.
4. Identify the approach tones
5. Determine their patterns and label them accordingly

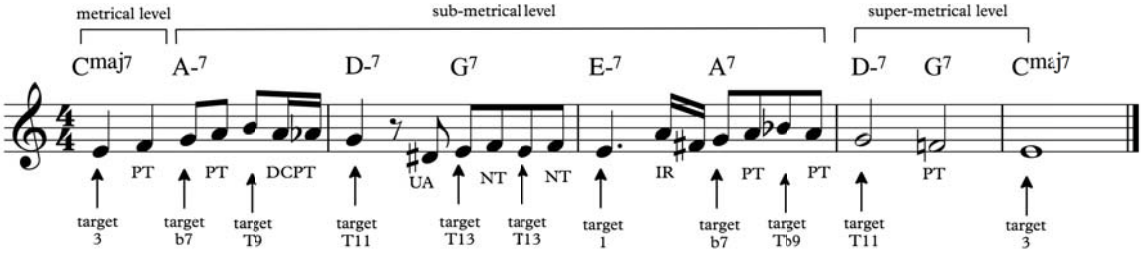



Fig. 8.65. Approach Tone Analysis

## Syncopation and Rhythmic Anticipation

In musical styles that have syncopated rhythms, target tones will often **anticipate** the strong stresses.

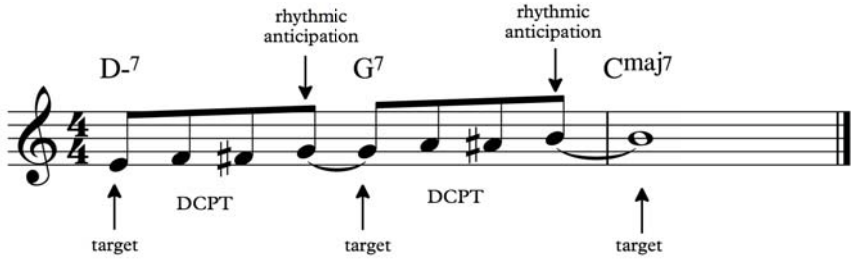



Fig. 8.66. Rhythmic Anticipations

When eighth notes come on the "and" of beat 2 or the "and" of beat 4 and are tied over, listeners perceive the melody to anticipate the next harmony. This will cause our sense of where the target falls to shift slightly forward rhythmically.

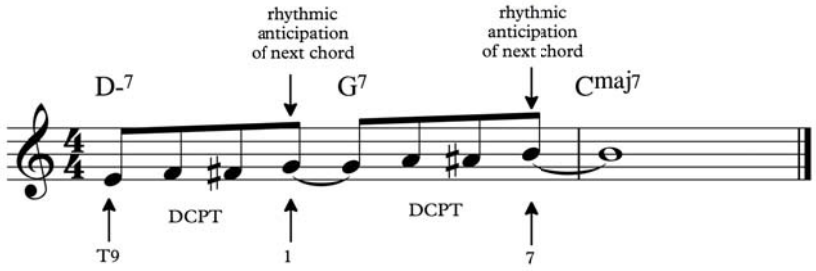



Fig. 8.67. Rhythmic Anticipations Shift the Targets

Even if eighth notes on the "and" of 2 or the "and" of 4 come before a silence (rest), listeners will still perceive the targets to be shifted forward rhythmically and **anticipate** the next chord change.

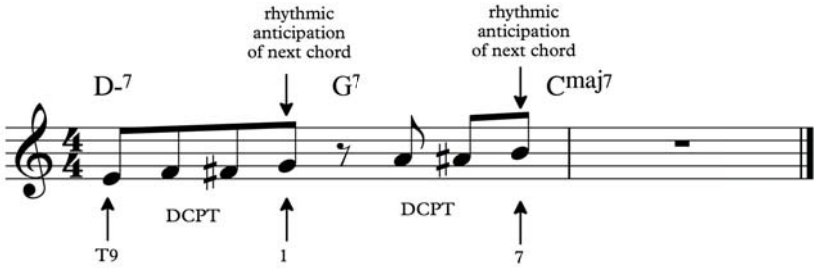



Fig. 8.68. Rhythmic Anticipations Before Rests

A **delayed attack** can also shift our perception of the target tone slightly.

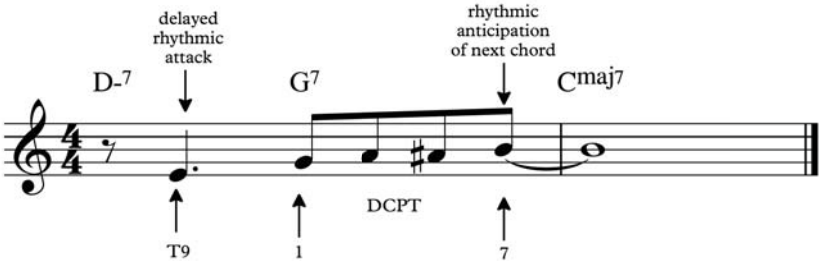



Fig. 8.69. Delayed Rhythmic Attack

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