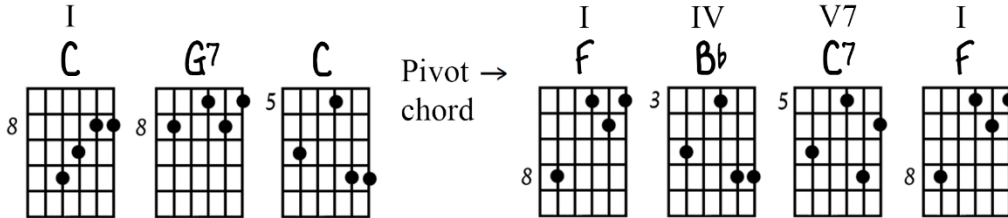


Harmony

Ted Greene (circa 1973)

[This series is a continuation from Ted's series on "Cadences" (pages 1-5)]

In the last example, A minor is diatonically related to C (vi), as well as being the new key. Here is another example:



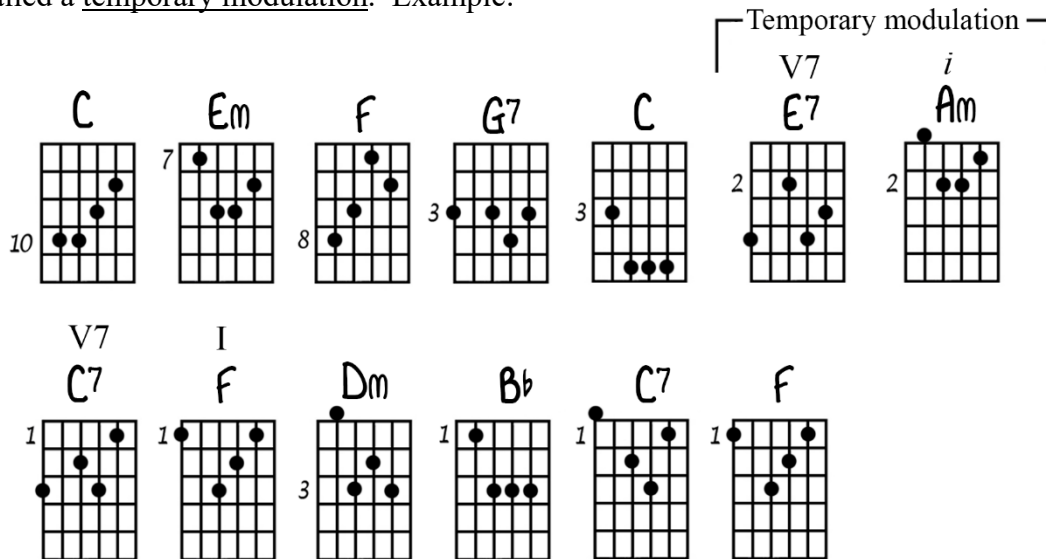
Practice many exercises of modulating to all the diatonically related keys from C and Cm. Use good voice-leading in the outer voices at least.

The third way to modulate involves using a chord in between the keys that is not common to *both* keys, but only to the *new* key. The most common chord to be used this way is the V7 of the new key. Examples:

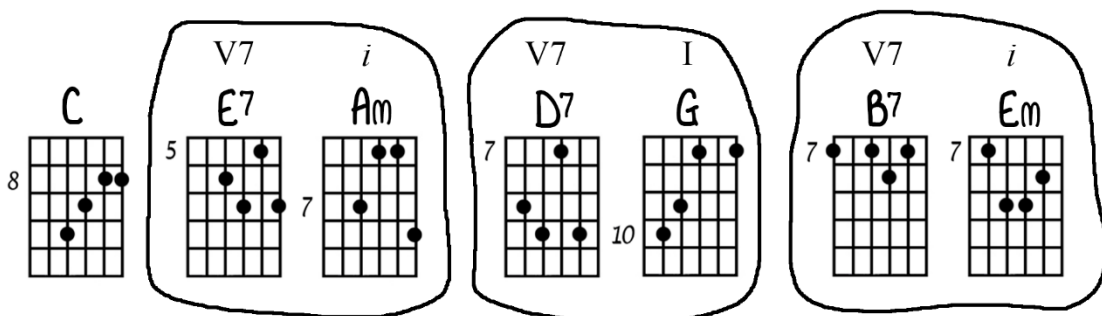
C – Am – F – G7 – C – Am – D7 – G ← new key.

Or C – Dm – F – G7 – C – E7 – Am ← new key

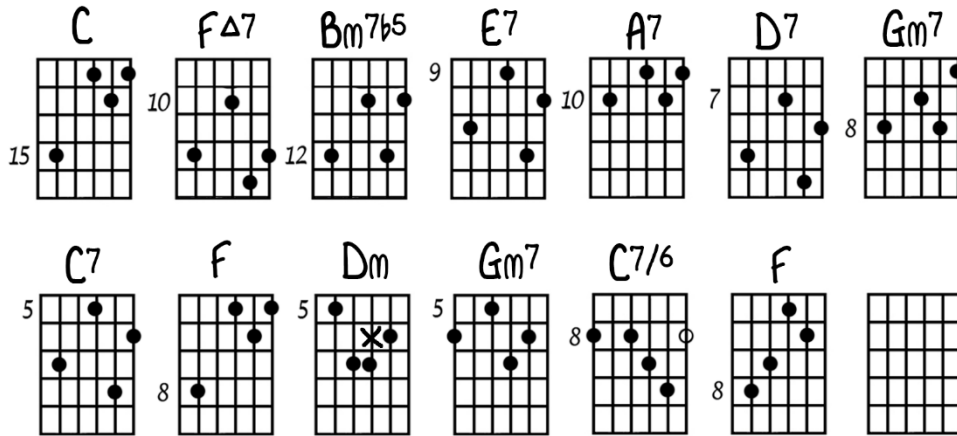
When no cadence is performed in the new key but instead another key is gone to immediately, this is called a temporary modulation. Example:



Sometimes a few temporary modulations are strung together in a row:



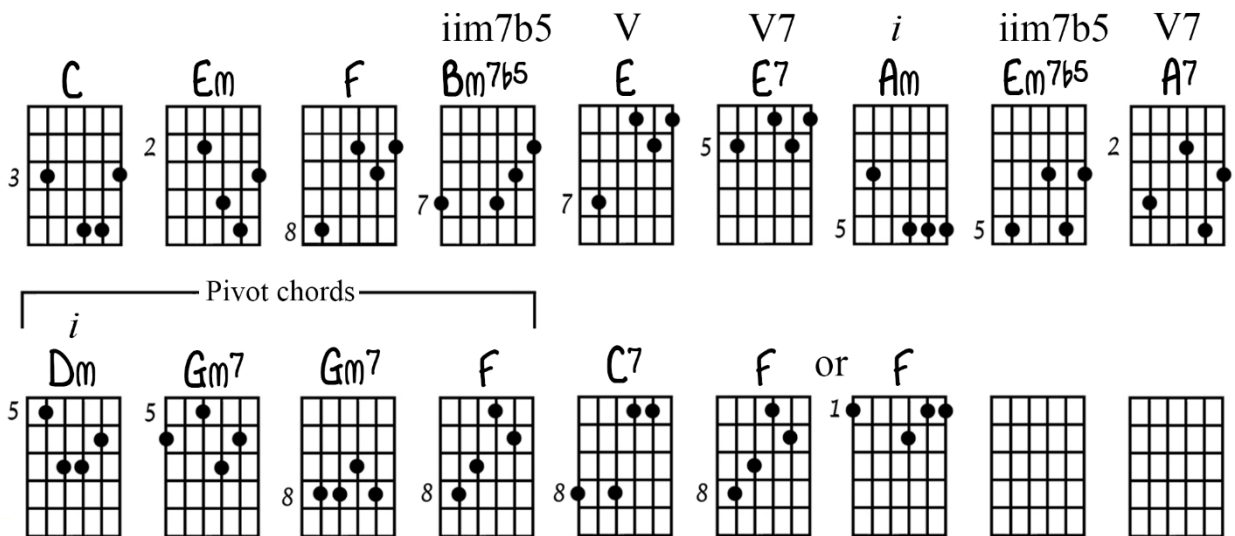
Sometimes 7th type chords are strung together like temporary modulations:



Notice that this example uses the circle of 4ths for the roots of most of the chords. This is a common device similar to the sequence of 4ths encountered earlier.

Often in many types of music, the V7 chord in a key is preceded by other chords of that same key, such as II, IV, etc. Remember that you may add 7ths to chords for a change in color. By the way, when any 7th type chord is used as the V7 of any chord other than the tonic, it is referred to as a *Secondary Dominant*. In the above example, Bm7b5 is the secondary dominant of E7, which is the secondary dominant of A7, etc.

Here is another progression using secondary dominants, temporary modulations, and pivot chords:

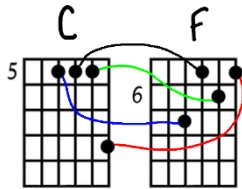


You should now practice writing progressions such as these, using only the diatonically related keys.

LINES

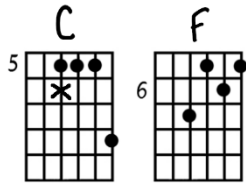
One way to increase interest in chord progressions is to think in "lines," or separate voices. This definitely can improve the sound of your musical attempts if handled with careful thought and *logic*. There have been volumes upon volumes written on this subject which covered it very well. The following approach is a radical simplification of the principles: To change a chord progression into a linear one you look for "holes" first of all.

Example:



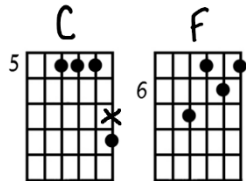
Notice the voice-leading all drawn in; this should be the procedure that goes on in your mind after you decide on certain chords that you wish to play.

The next step is to see if there is room for another note to be played between the notes of one voice. For instance, in the above example, the bass voice goes from G to A, so you could theoretically put in G# (Ab) between them like so:



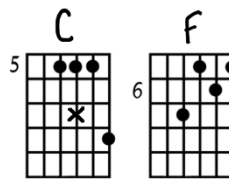
However, this kind of logic can lead to unpleasing sounds in certain cases, so for now the following guideline should help: Between two diatonic chords, only add diatonic notes. That limits us much more in one sense, but in another assures that voice moving will sound agreeable.

So, back to the following example, the only line that goes *between* C and F chords is as follows:



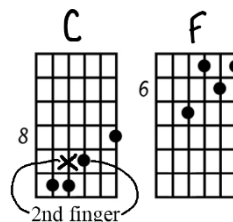
Another technique for creating lines between two given chords is to make a note go up or down diatonically and then return to itself. This only works when the notes of a voice between two chords are the same.

Example:



Another point: sometimes by re-fingering a chord in a new location (with the same notes) you may find lines available that would not have worked the other way.

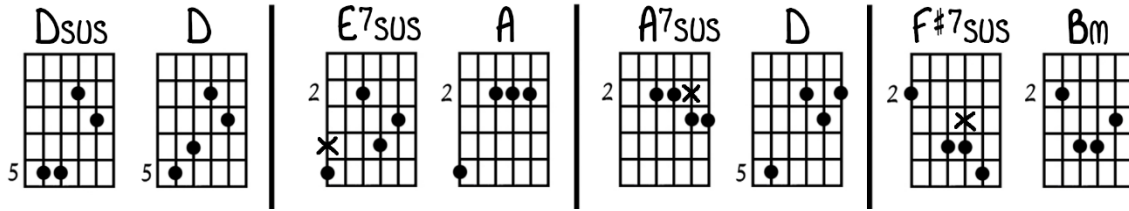
The previous example could be played like so: The line now is one that was not possible the other way.



THE 4-3 (3-4) SUSPENSION

A pleasing sound is to raise the 3rd of a chord (often a dominant 7th chord) up to the 4th, and resolve it down to the 3rd.

Examples:



OTHER IMPORTANT CHORDS

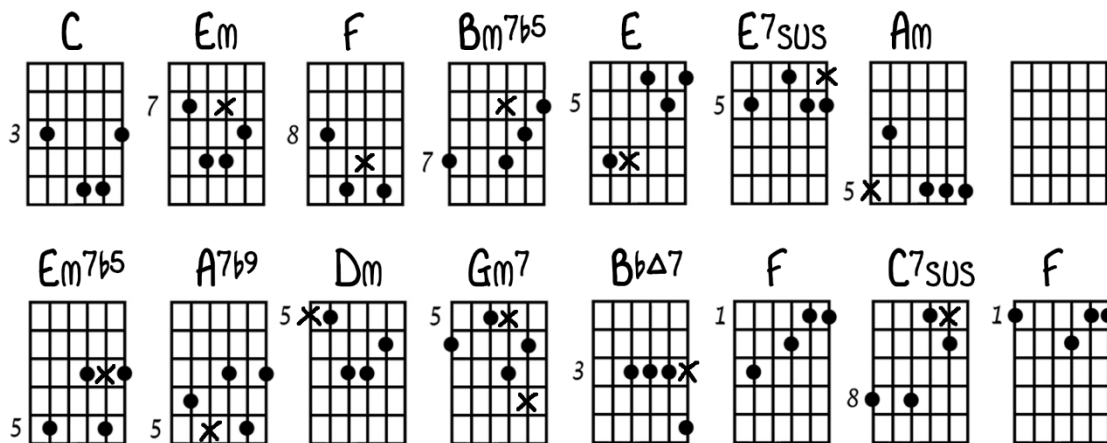
In 4-part harmony, some other important chords are used. Firstly, the 9th chord (1,3,5, \flat 7,9). The 5th or root may be omitted (more rarely, the 3rd also). One of them *must* be omitted in 4-part harmony. The 9th chord is almost always used on the V of the key (in place of the V7) in traditional harmony (almost always in a major key, not minor).

Also important is that if the root is omitted from a V9, you now have a viim7 \flat 5 chord. This is logical because as you should recall, the harmonies a 3rd apart in a scale are related, and V and vii are a 3rd apart.

Also important is the V 11th chord, which in 4-part harmony uses the formula of 1, \flat 7,9,11. (It's really a 9sus chord.) (Almost always in a major key, not minor).

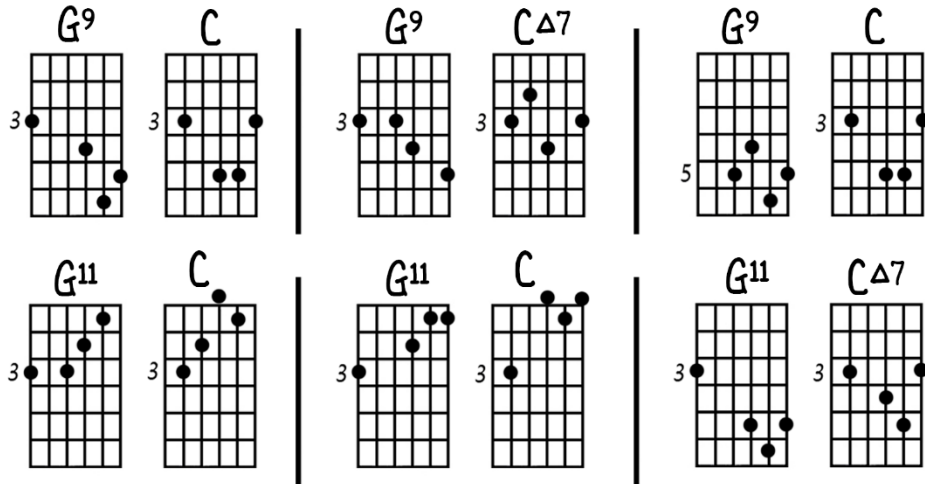
Finally, very widely used, especially in minor keys is the V7 \flat 9. The root of a V7 is replaced with the \flat 9 to construct this chord.

Here is the same progression from [the previous page] with lines added, suspensions, and 7 \flat 9 chords:



You should now practice writing smooth sounding chord progressions using all the new tools that have been discussed. Start in the key of C and gradually progress to other keys.

Below are listed some V⁹ and V¹¹ chords and possible resolutions:



THE MINOR KEY (Minor Mode)

The minor key (mode) is not used as frequently in music, but it is necessary for contrast, so more discussion will be needed: there are quite a few minor scales in existence today, but in general the most useful scales for the time being are: Natural minor, Harmonic minor, and the Melodic minor (Dorian is not needed for harmony discussions now).

In C minor the following diatonic harmonies are obtained:

Natural:

----- triads -----	→	----- 7th chords -----
Cm – D ^o – E ^b – Fm – Gm – A ^b – B ^b		Cm7 – Dm7 ^b 5 – E ^b Δ7 – Fm7 – Gm7 – A ^b Δ7 – B ^b 7

Harmonic:

----- triads -----	→	----- 7th chords -----
Cm – D ^o – E ^{b+} – Fm – G – A ^b – B ^o		Cm ^Δ 7 – Dm7 ^b 5 – E ^b Δ7+ – Fm7 – G7 – A ^b Δ7 – B ^o 7

Melodic:

----- triads -----	→	----- 7th chords -----
Cm – Dm – E ^{b+} – F – G – A ^o – B ^o		Cm ^Δ 7 – Dm7 – E ^b Δ7+ – F7 – G7 – Am7 ^b 5 – Bm7 ^b 5

The harmonies of these scales may be combined (and often are). Practice making up chord progressions in the minor mode.

MODULATION IN THE MINOR MODE

The most common diatonic keys to modulate to in minor are:

\flat III (the relative major), iv, v, \flat VI, and \flat VII.

In C minor these would be: $E\flat$, Fm, Gm, A \flat , and B \flat .

Another common modulation is to the *Parallel major* – that is, for example from Cm to C; this also works in reverse (from C to Cm) (More on this later). The most common way to modulate from minor to parallel major is to play a cadence in minor and make the last *i* chord major rather than minor. This device is called the "Picardy 3rd." Try it – also practice modulating to the abovementioned diatonic keys from Cm. (Use secondary dominants and pivot chords.)

SPECIAL CHORD RELATIONSHIPS

Some of the most beautiful sounds in the world are derived by using certain special substitute harmonies. Remember in diatonic relationships that the chords a 3rd apart are strongly related? Therefore, for the IV chord we could use the ii and vi chords (\flat VI in Natural and Harmonic minor). By the way, the IV chord is called the Subdominant, and therefore ii and vi (*especially* \flat VI in minor) are said to have a *subdominant function*.

In the minor mode some of this type of substitution is especially nice. However, something that is even nicer is to use the harmonies of the minor mode along with or in place of the harmonies of the parallel major.

Try the following examples:

* This chord will be discussed later →

C C7 F/9 iv Fm C C F#m7b5 Dm7b5 C

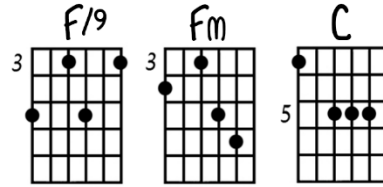
* This chord will be discussed later. However, for now you may think of it as D9 (II9) in place of a D7, if this will help ease your mind. The progression [above] gets its nice color due to good voice-leading and three essentially subdominant substitute chords.

Here is the same progression with more contrast and more apparent voice-leading.

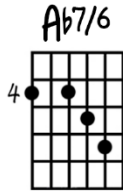
C C7 F/9 Fm C C(7) F#m7b5 Dm7b5 C

Before we continue on with this idea of using minor harmonies in major, another special chord should be discussed – it is the dominant 7th chord built on the \flat VI ($A\flat 7$ in the key of C) and all its relatives (such as $A\flat 7/6$, $A\flat 7+$, $A\flat 7\flat 5$). It is used as a subdominant harmony, and perhaps was originally discovered due to voice-leading.

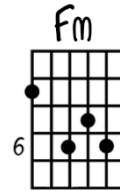
Example: In the [second to last] progression on [the previous page], the following chords were played:



If you treated the 4th string voice separately and decided to move it chromatically, the Fm would change into:

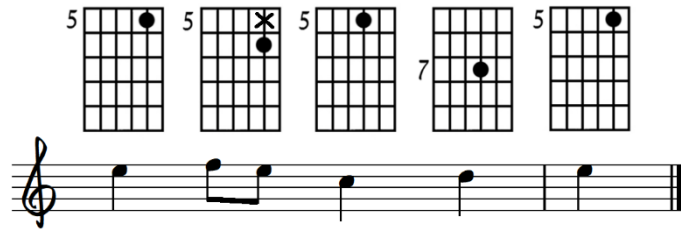


Notice how similar $A\flat 7/6$ is to Fm

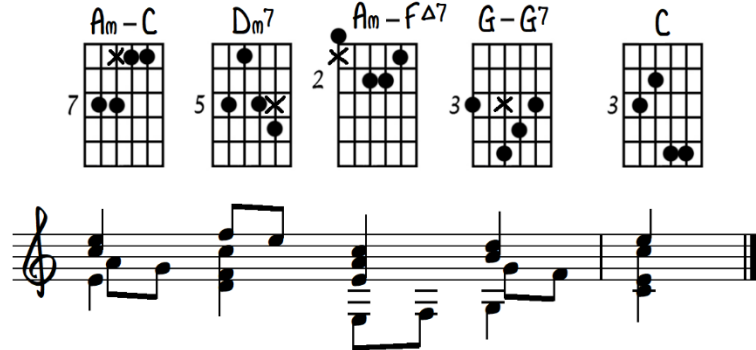


Some other inversions of \flat VI chords could be used as follows:

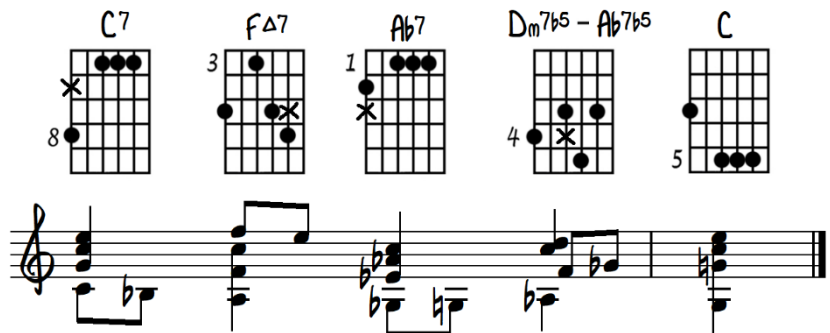
Suppose you had this melody in the key of C and wanted to harmonize.



You might play it diatonically as follows:



For another type of color, you might substitute $A\flat 7$ for some of the harmonies like so:



Notice in the $A\flat 7\flat 5$ that the $\flat 5$ is a necessity because of the melody.

Experiment in progressions using the \flat VI7 chord and its relatives.

Back to the Minor harmonies in major – Try this:

(1/2 cadence)

Another example:

Try making up your own progressions now using the minor-major concept. There is a whole world of sound in it waiting to be discovered (or rediscovered).

One more important tonality in minor is the bII chord (occasionally this chord is used in major also). Example:

By the way, the $bVI7$ family is used in minor keys quite often.

MORE "MAJOR" SUBSTITUTIONS

A common device in major keys is to change the *quality* of the diatonic chords (quality refers to either major or minor); in the key of C we would get: Cm D E Fm Gm A Bm (the B° actually can become B or Bm). Notice that we now have some new chords in the key of C, namely, D, E, A, and Bm; these chords were all encountered before as 7th chords (such as D7, E7, A7, and Bm7 $b5$), but not as triads. They are used primarily like the 7th chords, that is as secondary dominants. We will call them *Reversed Diatonic* chords (including the Cm and Gm), and modulate freely to all of them (the modulation to the VII or vii may sound distant though) using the same techniques as regular diatonic chords.

Examples:

1/2 cadence in A

As usual, you must practice various modulations and progressions to really get the feel of the subject matter. Once you feel comfortable with this in major, try it in minor. Notice that you will get (in Cm): C D E^bm A^bm B^bm. ← Notice that these are the only *new* chords in Cm if you combine all the scales (F, Fm, G, Gm are already in the scales). Then you can try all of these harmonies of Cm in C major for in the same way as you did before with the stock harmonies.

MODULATION THROUGH CHANGE OF FUNCTION

This is a device which opens up an almost unlimited array of great sounds. What is involved is actually an extension of the idea of pivot chords. Look at the following progressions:

① C Em F C Am B Em

② C Em F C Am B⁷ E^b

What happened? Well, in the first progression there is a pivot chord (Am) that is common to both keys (C and Em). In the second progression there is the same pivot chord, and we appear headed for the same place as before (Em), but instead the B⁷ is used as the ^bVI⁷ of E^b (like A^b7 in the key of C). This is one of the most common “change of functions” for a 7th chord, that is, treating it as a ^bVI⁷ and following with an appropriate I^{6/4} or i^{6/4} (also 3rd in the bass on major and minor as well.)

Here is another example using ^bVI⁷'s. Notice that the modulations go in double whole steps.

I III vi pivot I III vi pivot

C E Am C⁷ E G[#] C[#]m E⁷

I III vi pivot I

A^b C Fm A^b7 C

You should experiment changing the function of the 7th chords on different degrees of the scale to $\flat VI7$'s. $\flat VI7$ does not always have to be followed by the new I or i – it may be followed by V, V7, or other chords of the new key.

Another sometimes used change of function for a dominant 7th is to treat it as a II7 (no matter what degree it is on originally) and proceed to either IV, IV7, I, I7, or various other chords. Notice IV7 in the last sentence (not $IV^{\Delta 7}$). As the tonal system and man's ears expanded, it became quite common to play chords based on IV7 and I7 in place of $IV^{\Delta 7}$ and $I^{\Delta 7}$. Extensions of these (7/6, 9, 11, 13) are also commonly used now. More on this later, but you should be familiar with IV7 in minor from the Melodic minor harmonies, and since we may use the harmonies of minor in major.....

HARMONY (PAGE 6)

In the last example, Am is diatonically related to C (VI in C) as well as being the new key. Here is another example:

Practice many exercises of modulating to all the diatonically related keys from C and Cm. Use good

voice leading in the outer voices at least.

The 3rd way to modulate involves using a chord in between the keys that is not common to both keys but only to the new key. The most common chord to be used this way is the II 7 of the new key. Examples:

C Am F G7 C Am **D7** G ← new key or C Dm F G7 C **E7** Am

When no cadence is performed in the new key but instead another key is gone to immediately this is called a temporary modulation.

EXAMPLE:

Sometimes a few temporary modulations are strung together in a row:

Sometimes 7th type chords are strung together like temporary modulations:

Notice that this example uses the circle of 4ths for the roots of most of the chords. This is a common device similar to the sequences of 4ths encountered earlier.

Often in many types of music, the II 7 chord in a key is preceded by other chords of that same key such as II, IV etc. Remember that you may add 7ths to chords for a change in color. By the way, when any 7th type chord is used as the II 7 chord of any chord other than the tonic, it is referred to as a SECONDARY DOMINANT, in the above example Bm7b5 is the secondary dominant of E7 which is the sec. dom of A7, etc.

Here is another progression using secondary dominants, temporary modulations and pivot chords.

You should now practice writing progressions such as these, using only the diatonically related keys.

LINES

One way to increase interest in chord progressions is to think in "lines" or separate voices. This definitely can improve the sound of your musical attempts if handled with careful thought and logic. There have been volumes upon volumes written on this subject which covered it very well. The following approach is a radical simplification of the principles: To change a chord progression into a linear one you look for "holes" first of all. EXAMPLE:

Notice the voice leading all drawn in, this should be the procedure that goes on in your mind after you decide on certain chords that you wish to play.

The next step is to see if there is room for another note to be played between the notes of 1 voice. For instance, in the above example, the bass voice goes from G to A so you could theoretically put in G# (Ab) between them like so:

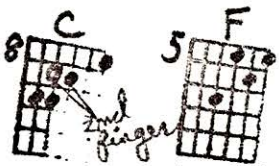
however this kind of logic can lead to unpleasant sounds in certain cases, so for now the following guideline should help: Between two diatonic chords, only add diatonic notes. That limits us much more in one sense, but in another assures that voice moving will sound agreeable.

So back to the following example, the only line that goes between the C & F chords is as follows:

Another technique for creating lines between 2 given chords is to make a note go up or down diatonically and then return to itself. This only works when the notes of a voice between 2 chords are the same. EXAMPLE:

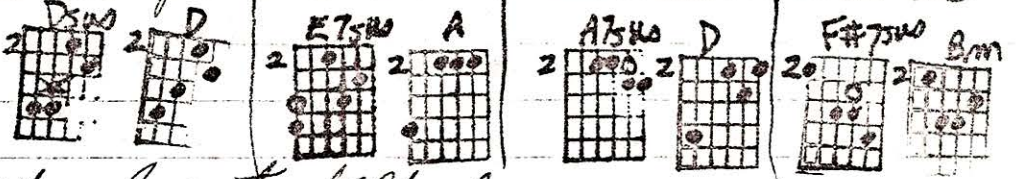
Another point - sometimes by re-fingering a chord in a new location (with the same notes) you may find lines available that would not have worked the other way. →

The previous example could be played like so: the line now is one that was not possible the other way.



The 4-3(3-4) suspension

A pleasing sound is to raise the 3rd of a chord (often a dom. 7th chord) up to the 4th and resolve it down to the 3rd. EXAMPLES:

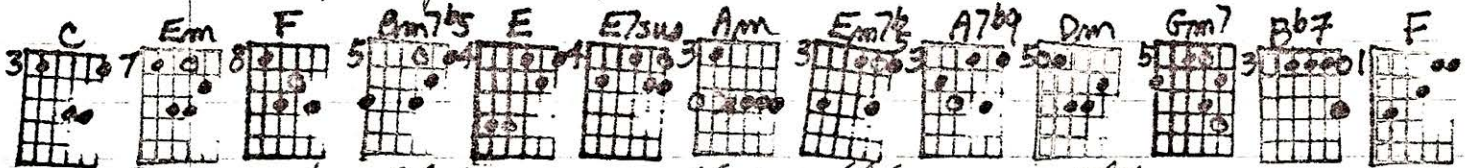


Other Important Chords

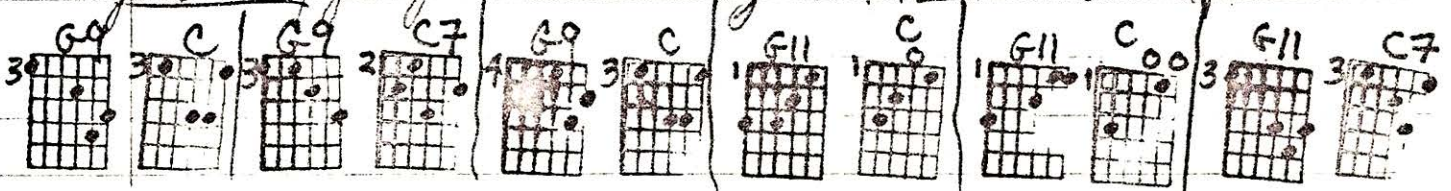
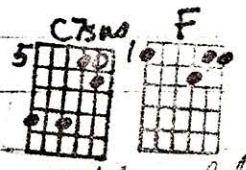
In 4 part harmony, some other important chords are used. Firstly, the 9th chord (135^b7⁹). The 5th or root may be omitted (more rarely, the 3rd also). One of them must be omitted in 4 part harmony. The 9th chord is almost always used on the V of the key (in place of the V7) in traditional harmony. Also important is that if the root is omitted from a V9 you now have a VII m7^b5 chord. This is logical because as you should recall, the harmonics a third apart in a scale are related and V+VII are a 3rd apart.
 → also important is the V11 chord which in 4 part harmony uses the formula of 1, ^b7, 9, 11. (It is really a 9sus. chord).
 Finally, very widely used, especially in minor keys is the V7^b9. The root of a V7 is replaced with the ^b9 to construct this chord.

(almost always in a major key, not minor)

Here is the same progression from page 7 with lines added, suspensions, and 7^b9 chords.



You should now practice writing smooth sounding chord progressions using all the new tools that have been discussed. Start in the key of C and gradually progress to other keys. Below are listed some V7 + V11 chords and possible resolutions.



Harmony - (Page 9)

The ^(mode) minor key is not used as frequently in music but it is necessary for contrast so more discussion will be needed. There are quite a few minor scales in existence today but in general the most useful scales for the time being are the: Natural minor, Harmonic minor, and the Melodic minor (Dorian) is not needed for harmony discussions now.

In Cm the following diatonic harmonies are obtained:

NATURAL:	$C_m \overset{\text{TRIADS}}{D^{\circ} E^{\flat} F_m G_m A^{\flat} B^{\flat}} \rightarrow \overset{\text{7th chords}}{C_m7 D_m7^{\flat 5} E^{\flat 7} F_m7 G_m7 A^{\flat 7} B^{\flat 7}}$
HARMONIC:	$C_m D^{\circ} E^{\flat+} F_m G A^{\flat} B^{\circ} \rightarrow C_m7 D_m7^{\flat 5} E^{\flat 7+} F_m7 G7 A^{\flat 7} B^{\circ} \text{ (dim)}_{7^{\flat}}$
MELODIC:	$C_m D_m E^{\flat+} F G A^{\circ} B^{\circ} \rightarrow C_m7 D_m7 E^{\flat 7+} F7 G7 A_m7^{\flat 5} B_m7^{\flat 5}$

The harmonies of these scales may be combined (and often are).

Practice making up chord progressions in the minor mode.

Modulation in the Minor Mode

The most common diatonic keys to modulate to in minor are: $bIII$ (the relative major), IV_m , V_m , bVI , and $bVII$, in Cm these would be E^{\flat} , F_m , G_m , A^{\flat} , + B^{\flat} . Another common modulation is to the parallel major - that is, for example from Cm to C; this also works in reverse (from C to Cm) more on this later). The most common way to modulate from minor to parallel major is to play a cadence in minor and make the last I chord major rather than minor. Try it - also practice modulating to the above mentioned diatonic keys from Cm.

This device is called the RARDY 3RD

Special Chord Relationships

Some of the most beautiful sounds in the world are derived by using certain special substitute harmonies. Remember in diatonic relationships that the chords a 3rd apart are strongly related? therefore, for the IV chord we could use the $II + II$ chords (bVI in natural + harmonic minor). By the way, the IV chord is called the subdominant and therefore $II + VI$ (especially bVI in minor) are said to have a subdominant function. In the minor mode some of this type of substitution is especially nice. However something that is even nicer is to use the harmonies of the minor mode along with IV in place of the harmonies of the parallel major.

Try the following examples on the next page:

HARMONY (PAGE 10)

however for now you may think of it as D9 (II 9) in place of a D7 if this will help ease your mind. The progression at the left gets its nice color due to good voice leading and three essentially subdominant substitute chords.

this chord will be discussed later

Here is the same progression with more contrast and more apparent voice leading:

Before we continue on with this idea of using minor harmonies in major, another special chord should be discussed - it is the dominant 7th chord built on the bVI , (A^b7 in the key of C) and all its relatives (such as A^b7/b , A^b7+ , A^b7^b5).

It is used as a subdominant harmony and perhaps was originally discovered due to voice leading. Example: in the 1st progression on this page the following chords were played:

the 4th string voice separately and move it chromatically, the Fm would change into:

Notice how similar A^b7/b is to A^b . Some other inversions of bVI chords could be used as follows

Suppose you had this melody in the key of C and wanted to harmonize it. You might play it diatonically as follows:

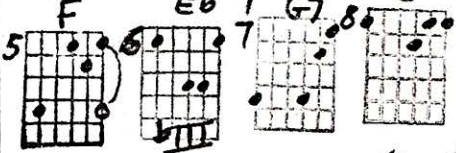
For another type of color you might substitute A^b7 for some of the harmonies like so:

Notice in the A^b7^b5 that the $b5$ is a necessity, because of the melody. Experiment in progressions using the bVI 7 chord and its relatives. Back to the minor harmonies in major - try this:

Key of C Key of Cm

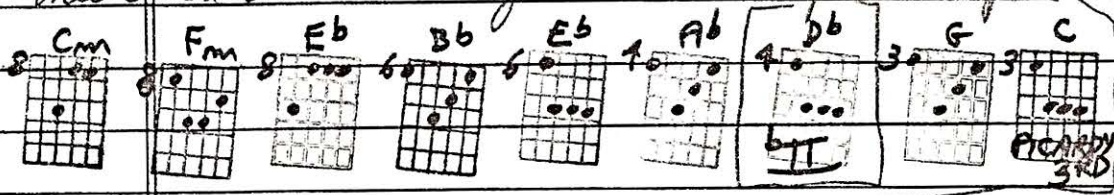
Harmony (Page 11)

Another example:



Try making up your own progressions now using the minor-major concept, there is a whole world of sound in it waiting to be discovered (or rediscovered).

One more important quality in minor is the bII chord (occasionally this chord is used in major also). Example: (By the way, the bVII family is used in minor keys quite often.)

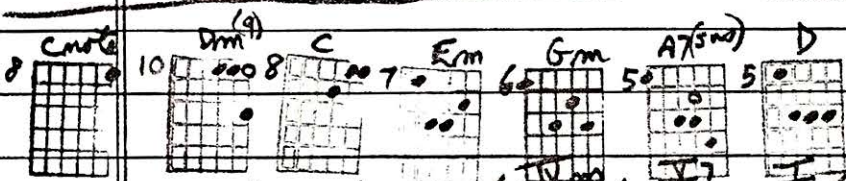
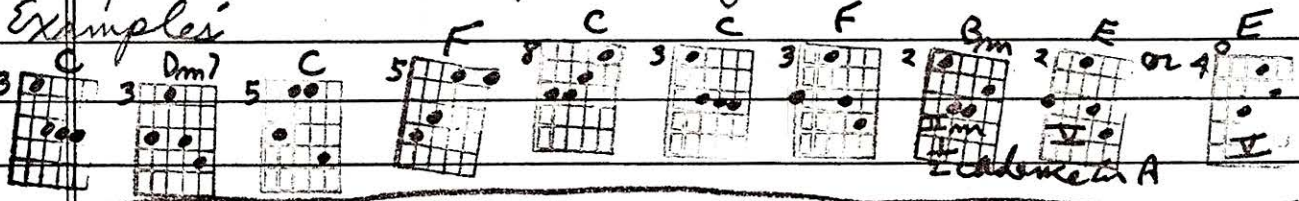


is used in minor keys quite often.

More "Major" Substitutions

A common device in major keys is to change the quality of the diatonic chords (quality refers to either major or minor), in the key of C we would get: Cm D E Fm Gm A Bm (the B $^{\circ}$ actually can become B or Bm). Notice that we now have some new chords in the key of C namely D, E, A, + Bm; these chords were all encountered before as 7th chords (such as D7, E7, A7, Bm7 $^{\flat}5$) but not as triads. They are used primarily like the 7th chords, that is as secondary dominants. We will call them reversed diatonic chords and modulate freely to all of them (the modulation to the VII or VII^{\flat} may sound distant though) using the same techniques as regular diatonic chords.

Examples:



As usual, you must practice various modulations +

progressions to really get the feel of the subject matter. Once you feel comfortable with this in major, try it in minor - notice that you will get (in Cm): C D E $^{\flat}$ A $^{\flat}$ B $^{\flat}$ - notice that these are the only new chords in Cm if you combine all the scales (F, Fm, G, Gm are already in the scales). Then you can try all of these harmonies of Cm in C major in the same way as you did before, with the stock harmonies.

MODULATION THROUGH CHANGE OF FUNCTION

This is a device which opens up an almost unlimited array of great sounds. What is involved is actually an extension of the idea of pivot chords. Look at the following progressions:

① C Em F C Am B Em

② C Em F C Am B7 Eb

What happened? Well, in the first progression, there is a pivot chord (Am) that is common to both keys (C + Em). In the 2nd progression, there is the same

pivot chord and we appear headed for the same place as before (Em) but instead the B7 is used as the $\text{bVII}7$ of E^b (like A^b7 in key of C). This is one of the most common "change of functions" for a 7th chord, that is treating it as a $\text{bVII}7$ and following with an appropriate $\text{I}^{\frac{6}{4}}$ or $\text{I}^{\text{m}\frac{7}{4}}$ (also 3rd in the bass on major + minor is used). Here is another example using $\text{bVII}7$'s.

Notice that the modulation goes in double whole steps.

You should experiment changing the functions of 7th chords on different degrees of the scale to $\text{bVII}7$'s, $\text{bVII}7$ does not always have to be followed by the new I or I^{m} - it may be followed by II , $\text{II}7$ or other chords of the new key.

Another sometimes used change of function for a dominant 7th is to treat it as a $\text{II}7$ (no matter what degree it is on originally) and proceed to either IV , $\text{IV}7$, I , $\text{I}7$ or various other chords. Notice $\text{IV}7$ in the last sentence (not $\text{IV}7$). As the tonal system and man's ears expanded, it became quite common to play chords based on $\text{IV}7$ and $\text{I}7$ in place of $\text{IV}7 + \text{I}7$ (extensions of these (7/6, 9, 11, 13) are also commonly used now). (More on this later, but you should be familiar with $\text{IV}7$ in minor from the melodic minor harmonies and since we may use the harmonies of minor in major.....)