Cadences
Ted Greene, circa 1973

Read this first: The word diatonic means "in the key" or "of the key." Theoretically, any diatonic chord may be combined with any other, but there are some basic things to learn first.

A tonality (key) becomes *clearly* established only when all of its tones (7) have been heard. In using chords, at least 3 triads are needed. When 3 such triads follow each other but do not end on the tonic (I) triad, a tension is created, a longing to return to the tonic, to rest there. When these three triads *do* end on the tonic, the resulting chord sequence is called a *cadence*. The I, IV, V followed by the I again form the most usual cadence. Notice that in playing the I, IV, and V triads that all seven tones of the scales are sounded.

To perform I, IV, V cadences in minor, the triads of the harmonic minor scale are used. This means that I is minor, IV is minor, and V is major. Another important cadence is the I-V-IV-I. Examples:

Key of C:

Key of Am:

The most important notes in music are the *outer voices*, that is, the melody and bass. The ear hears these first usually.

Often in place of the V chord, the V7 is used; sometimes an incomplete V7 is used, that is one that does not have all the notes of the chord (1, 3, 5, b7). Usually in 4-part harmony, the root is doubled in an incomplete V7 while the 5th is left out. Some examples are on the next page.

Some of the most common incomplete V7 chords with their resolutions are:

A good exercise at this point would be to go back to the cadence examples and substitute V7 or incomplete V7 chords.

Another important cadence is one that ends on the V or V7. This is known as the *1/2 cadence.*
Examples:

A more rich cadence is one that adds a I chord in between the others in the following manner:

I - IV - (I) - V - I or I - V - (I) - IV - I. This new I chord usually has the 5th in the bass; (it is called a $^6_4$ chord).

Examples:

Notice in these three examples how the last chords all have the root as the melody and the bass. These types of cadences are called *final cadences*.

To construct long musical phrase from cadences, some more tools are needed. One is a knowledge of substitute harmonies. One simple rule will yield many beautiful sounds: *You may substitute harmonies that are a 3rd apart for each other in many cases*.

Example:
     Key of C major has the following harmonies: C, Dm, Em, F, G, Am, B°, C, Dm, Em, F, G, etc.

     For a C chord you could substitute Em or Am.
     For an F chord you could substitute Am or Dm.
     For a G chord you could substitute B° or Em.

Important: Even though the statements [above] are right and true, a simpler approach should be learned first:
          I, iii, vi are *tonic* sounds.
          ii, IV are *subdominant*.
          V, vii° are *dominant*.

You may now try building longer phrases by adding some substitute harmonies.

Examples: in place of C, F, G, C, you could play   C Am   Dm F   Em G7   Am
                                                                          \ /   \ /   \ / |
                                                                           C   F   G   C

One way to do this is as follows:

Another tool of harmony is to play a chord twice in a row in different inversions. Here is a phrase derived from C, F, C, G, C using substitute harmonies and repeated chords.
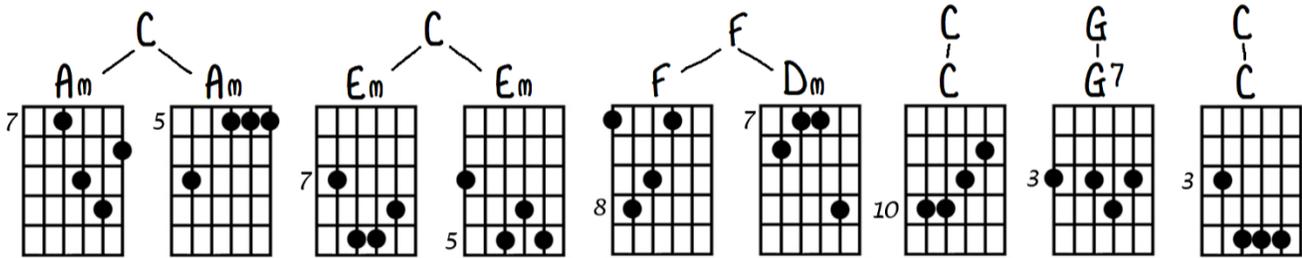
In writing chord progressions such as these, it is wise to decide on either the melody or bass first and *then* get the rest of the chord.

Also, when using substitute harmonies, the following suggestions might help:
   1) The vii° is a V7 chord with no root, so you may just think V7 instead of vii°.
   2) The iii in place of V may sound odd in some places, so use this more sparingly.
   3) iii for I may also not fit particularly as the final chord in a cadence.

After working on more extended cadences you will find you can abandon the thought of substitute harmonies completely and just make up chord progressions that flow together smoothly.

Example: C, Em, Am, Dm, G7, C.
This could be thought of as C, F, G, C or it could be thought of as itself, that is, C, Em, Am, Dm, G7, C.

Chords and Cadences
In sequences that follow the I-IV-vii-iii-vi-ii-V-I pattern, you may leave out any *one* of the harmonies, or *three*, *four*, or *five consecutive* harmonies (two is less desirable, though also acceptable). You would be wise to experiment with this principle, as many songs have these kind of chord changes.

Seventh Chords
For additional color in a chord, the seventh is often added. For those who do not know this: the I and IV chords in the harmonized major chord scale are major 7ths; the ii, iii, and vi are minor 7ths; the V is a dominant 7th (7), and the vii is a minor7b5. Likewise, the 7th chords in the Natural minor [harmonized scale] are as follows: im7, iim7b5, bIII∆7, ivm7, V7 or vm7, bVI∆7, and bVII7. The Harmonic minor is also important, but will not be necessary now.

Exercise: Practice smooth chord progressions, cadences, and sequences using 7th chords exclusively and in combination with triads.

Modulation

The word modulation means to change the key or tonal center. There are 3 basic ways: 1) by direct skip from the first key to the second. This merely involves establishing a key (remember that is what a cadence does) with a certain series of chords, and then establishing the second key with chords related to it.
Examples:

I	I△7	vi7	I	iii	V7	I
D	D△7	Bm7	D	F#m	A7	D

	I	I△7	IV△7	I	iii	V7	I
New key:	Gb	Gb△7	Cb△7	Gb	Bbm	Db7	Gb

or		I	I△7	vi	ii	I	V7	I
	New key:	Db	Db△7	Bbm	Ebm	Db	Ab7	Db

Modulating by skip if very often done between two keys that are *not* diatonically related.
Example: in C the diatonically related keys are Dm, Em, F, G, and Am; so modulation by skip might be from C to keys such as Eb, E, D, B, instead of diatonic ones.

The second kind of modulation is using *pivot chords*, that is, a chord (or chords) that is common to both keys is used between the two keys. This is accomplished very easily between diatonically related keys by using the chord of the new key itself as the pivot chord and following with a cadence in the new key.
Examples: I   IV V   I   i   iv   V   i
              C F G7 C Am Dm E7 Am
                            ⌐‾‾‾‾‾‾‾‾‾ pivot chord

[Ted's original page indicated that this lesson is continued on another page, but we don't have that page.]

Cadences (Page 1)

A (key) tonality becomes clearly established only when all of its tones (7) have been heard. In using chords at least 3 triads are needed. When 3 such triads follow each other but do not end on the tonic (I) triad, a tension is created, a longing to return to the tonic, to rest there. When these 3 triads do end on the tonic, the resulting chord sequence is called a cadence. The I, IV, V followed by the I again form the most usual cadence. Notice that in playing the I, IV, and V triads that all seven tones of the scale are sounded.

To perform I, IV, V cadences in minor the triads of the harmonic minor scale are used. This means that I is minor, IV is minor, V is major.

Another important cadence is the I V IV I.

(left margin notes:)
the word diatonic means "in the key" or "of the key". Theoretically any diatonic chord may be combined with any other but there are some basic things to learn 1st.

EXAMPLES:

① Key of C

C   F   G   C

②

C   F   G   C   (optional)

③

C   G   F   C

④

C   G   F   C

The most important notes in music are the outer voices, that is the melody & bass. The ear hears these first usually.

Key of Am

①

Am   Dm   E   Am

②

Am   Dm   E   Am

③

Am   E   Dm   Am

④

Am   E   Dm   Am

Often in place of the V chord, the V 7 is used, sometimes an incomplete V 7 is used, that is one that does not have all the notes of the chord (1, 3, 5, ♭7). Usually in 4 part harmony, the root is doubled in an incomplete V 7 while the 5th is left out. Some examples are on the next page.

Some of the most common incomplete I7 chords with their resolutions are:

G7 C   G7 C   G7 C   G7 C

A7 D opt. A7 D   A7 D   A7 D opt. A7 D

A good exercise at this point would be to go back to the cadence examples and substitute I7 or incomplete I7 chords.

Another important cadence is one that ends on the V or V7. This is known as the ½ cadence. EXAMPLES:

I V I₆   I V I₆   Im VIIm Im G7←I7

A more rich cadence is one that adds a I chord in between the others in the following manner: I IV I̱ I I or I IV I̱ V I. This new I chord usually has the 5th in the bass, (it is called a ⁶⁄₄ chord). EXAMPLES:

E A E(⁶⁄₄) B7 E   E A E(⁶⁄₄) B7 E

Em Am Em(⁶⁄₄) B7 Em

Notice in these 3 examples how the last chords all have the root as the melody and the bass. These type of cadences are called final cadences.

To construct long musical phrases from cadences some more tools are needed. One is a knowledge of substitute harmonies. One simple rule will yield many beautiful sounds: You may substitute harmonies that are a 3rd apart for each other in many cases. EXAMPLE: Key of C major has the following harmonies C Dm Em F G Am B° C Dm Em F G etc.

For a C chord you could substitute Em or Am.
For an F chord you could substitute Am or Dm.
For a G chord you could substitute B° or Em.

IMPORTANT
even though the statements to the right are true, a simpler approach should be learned first:
I, IIIm, VIm are tonic sounds
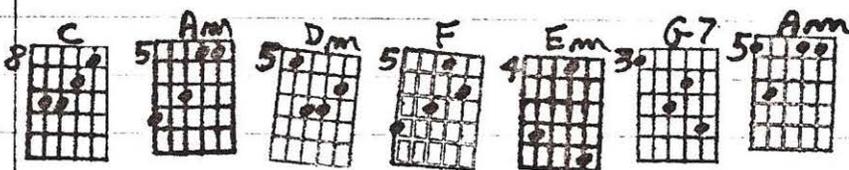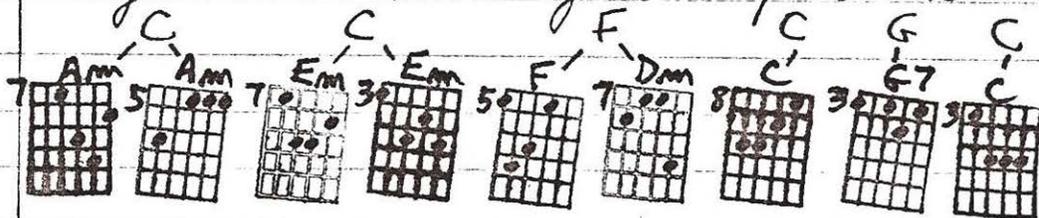IIm, IV are subdominant
V, VII° are dominant

You may now try building longer phrases by adding some substituted harmonies. EXAMPLES: In place of C F G C you could play C Am Dm F Em G7 Am. One way to do this
C   F   G   C   is as follows:

8 C   5 Am   5 Dm   5 F   4 Em   3 G7   5 Am

Another tool of harmony is to play a chord twice in a row in different inversions. Here is a phrase derived from C F C G C, using substitute harmonys and repeated chords.

7 Am / C   5 Am / C   7 Em / C   3 Em / C   5 F   7 Dm / F   8 C / C   3 G7 / G   3 C / C

In writing chord progressions such as these it is wise to decide on either the melody or bass first and <u>then</u> get the rest of the chord.

Also when using substitute harmonies the following suggestions might help: ① The $VII°$ is a $V7$ chord with no root so you may just think $V7$ instead of $VII°$. ② The $IIIm$ in place of V may sound odd in some places so use this more sparingly. ③ $IIIm$ for I may also not fit particularly as the final chord in a cadence.

After working on more extended cadences you will find you can abandon the thought of substitute harmonies completely and just make up chord progressions that flow together smoothly. EXAMPLE: C Em Am Dm G7 C
This could be thought of as C F G C or it could be thought of as itself, that is C Em Am Dm G7 C.

In sequences that follow the I-IV-VII-III-VI-II-V-I pattern, you may leave out any one of the harmonies, or three, four or five consecutive harmonies (two is less desireable, though also acceptable). You would be wise to experiment with this principle as many songs have these kind of chord changes.

Seventh Chords

For additional color in a chord the seventh is often added. For those who do not know this: the I & IV chords in the harmonized major chord scale are 7's; the II, III, & VI are m7's; the V is a dominant 7th (7), and the VII is a m7♭5. Likewise the 7th chords in the natural minor are as follows: Im7, IIm7♭5, ♭III7, IVm7, V7 or Vm7, ♭VI7, and ♭VII7. The harmonic minor is also important but will not be necessary now.

Modulation

The word modulation means to change the key or tonal center. There are 3 basic ways: ① by direct skip from the 1st key to the second. This merely involves establishing a key (remember that is what a cadence does) with a certain series of chords, and then establishing the second key with chords related to it. EXAMPLES:

Modulation by skip is very often done between two keys that are not diatonically related. Example: in C the diatonically related keys are Dm Em F G & Am; so modulation by skip might be from C to keys such as E♭, E, D, B, instead of diatonic ones.

The 2nd kind of modulation is using pivot chords, that is, a chord (or chords) that's common to both keys is used between the 2 keys. This is accomplished very easily between diatonically related keys by using the chord of the new key itself as the pivot chord and following with a cadence in the new key. Examples: C F G7 C Am Dm E7 Am ————→ continued