

2. Add three upper voices to the following basses.

a

b

c

d

CHAPTER EIGHT



MODULATION

COMPOSERS appear to have been in consistent agreement that to remain in one key throughout a piece of any length is aesthetically undesirable. The process of modulation, meaning change of key, is one of the most important resources of variety in music.

A change of key means a change of tonal center, the adoption of a different tone to which all the other tones are to be related.

Any chord, or any group of tones, can be interpreted in any key. This is but another way of saying that a relationship can be found between any given chord and any one of the twelve tones chosen as a tonal center, or key-note. The ambiguity of the single chord was pointed out in the discussion of tonality, and it is just this ambiguity which is the basis of the technique of modulation.

Taking the triad of C major, the following interpretations can be given it without using more advanced chords than those which have already been used by the student:

EX. 132



C I, F V, G IV, A III, E VI, and D VII (descending minor).

The relationships to the other six tones are given here for completeness, but require a knowledge of chromatic alterations: C-sharp: V of III; E-flat: V of II; E: V of the Neapolitan sixth; A-flat: V of VI; B-flat: V of V; B: II Neapolitan sixth.

The above are not the only relationships existing in each case, but are offered as examples to show the principle.

HARMONY

There are three stages in the mental process of effecting a modulation within a phrase. First, a tonality has to be made clear to the hearer. Second, the composer at some point changes his tonal center. Third, the hearer is made aware of the change, and the new tonal center is made clear to him.

THE INITIAL KEY

In the first stage, the establishment of the first key, the principles described in the chapter on tonality should be observed. It is not essential that the tonic chord should appear, but the dominant must be made to sound as such. Indecision due to overuse of modal degrees and their harmonies may result in the whole phrase being heard as in the second key, especially if the second key is strongly established.

When the phrase containing the modulation is not the first phrase of the piece there is less responsibility to establish the first key, provided that it is the key of the preceding cadence.

THE PIVOT CHORD

The second stage of the modulation involves the choice of a chord which will be conveniently susceptible to the change of tonal viewpoint. In other words, it will be a chord common to both keys, which we will call the pivot chord, and to which we will give a double analysis.

For example, the C major triad could be employed as a pivot chord in a modulation from C to G, indicated thus:

EX. 133

The pivot chord selected is preferably not the V of the second key. In the second stage we are still at the point where only the composer is aware that a modulation is to take place. The sounding of the dominant chord of the new key belongs to a later stage, when the hearer is made to realize that a new tonal center is being felt. To

put it a little more technically, the pivot chord should be placed in advance of the appearance of the dominant chord of the new key.

The following scheme represents a modulation effected by means of the pivot chord shown above:

EX. 134

$$C: IV \Pi V \left\{ \begin{array}{l} C: I \\ G: IV \Pi VI \end{array} \right.$$

THE NEW KEY

Establishment of the new key is accomplished by means of the cadence which ends the phrase, although there may occur strong progressions in the key before the cadence. The cadence may be either a half cadence or an authentic cadence.

EXAMPLES OF MODULATING PHRASES

EX. 135. Mozart—*Fantasia*, K. no. 397

Allegretto

Musical score for "The Rose Tree" in G major, 2/4 time. The score is written for voice and piano. The vocal line is in the upper staff, and the piano accompaniment is in the lower staff. The key signature has one sharp (F#), and the time signature is 2/4. The score consists of two systems. The first system shows the vocal line starting with a quarter note G4, followed by a half note A4, and then a quarter note B4. The piano accompaniment starts with a quarter note G4, followed by a half note A4, and then a quarter note B4. The second system shows the vocal line continuing with a quarter note C5, followed by a half note D5, and then a quarter note E5. The piano accompaniment continues with a quarter note C5, followed by a half note D5, and then a quarter note E5. The score ends with a double bar line.

The analytical pattern of this phrase is as follows:

EX. 136

2
4

D: I

D

V

{D: I
A: IV}

V

I II V

I

Reduced to triads in root position, the harmonic background is this:

EX. 143



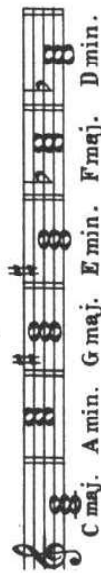
A modulation up a major third. The progression II-V-I confirms the key of D. The pivot chord is VI of the major mode and is taken to be the equivalent of IV in F-sharp, minor mode. Then follows the strong progression IV-V-I in the new key.

RELATED KEYS

All keys are related. It is only a question of the degree of relationship. The common expression "related keys" means always those most closely related.

The relationship of keys has two aspects of definition. The first conception is based on the number of tones in common between two keys. Thus it is plain that the keys C major and G major are very closely related since they differ in scale only as to F and F-sharp. By this definition the keys of nearest relationship to a given key are those having one sharp (or flat) more or less in the signature.

EX. 144



It will be noted that the key-notes in the above example comprise the steps of the scale of C major, with the exception of VII, and that the modes of the keys, as shown by their tonic chords, are in agreement with the triads on the scale degrees of C major. The minor key having the same signature as a major key is called its relative minor. The "family" of keys in the above illustration can be described in this way: tonic (major); dominant; subdominant; and the relative minors of all three.

Minor Mode



The keys having one sharp (or flat) more or less than a minor key show two important differences. The second degree is missing. It will be remembered that II in the minor mode is a diminished triad and could not serve as a tonic chord. The seventh degree, however, is present, not in its form as leading-tone triad but as a major triad on the seventh degree found in the descending melodic scale. Its relationship is that of relative major of the dominant. This "family" of keys may be described thus: tonic (minor); dominant; subdominant; and the relative majors of all three.

INTERCHANGE OF MODES

During the nineteenth century, as more interest in harmonic color developed, the latent potentialities of another aspect of key-relationship were exploited. This is the closeness of the major mode to the minor mode having the same tonic. Under the principles just outlined, the keys C major and C minor are rather distantly related since there is a difference of three flats in the signature. We have seen, however, that these two keys are practically identical, having as they do the same tonal degrees and really differing only in the third degree. Practice in the nineteenth century, and much individual practice in the eighteenth, tends to regard the two modes as simply two aspects of one tonality, so that the "family" of keys is greatly enlarged.

Rather than compile a list of related keys under this broader principle it is more practical to consider each pair of keys individually. The method of appraising the relationship of a second key to a main tonality is the same as that of relating a chord to a given tonality. The new tonic note is interpreted as in the fundamental key, together with its particular form as a chord.

These are a few examples:

D major is related to C minor as dominant of the dominant.

A-flat major is related to C major as minor sixth degree.

G minor is related to C major as dominant minor, or as subdominant of the second degree, or as supertonic of the subdominant, etc.

In this way tonalities themselves can be said to possess tonal functions in relation to one another, which partly explains the care which composers have customarily bestowed upon the key-scheme of a composition. Modulation is an element of variety but also of unity when the balance of the keys in support of a main tonality is used to advantage. The key-scheme, or pattern of keys, is therefore one of the most significant ingredients of form.

EXPLORATION OF MEANS

The steps given show how the composer modulates by adopting a new tonal center for a given chord. The problem is slightly different when two tonalities are given and the pivot chord is to be found. Here, as in all branches of theoretical study, it is urged that no steps be omitted. They should rather be dwelt upon for what can be learned from them. It is natural to take advantage of the first good pivot chord that comes to mind, and it may happen that none better could be found. But the student should be advised and even required at least a few times to find all the possible pivot chords between two given keys, and then to select the one he considers the most effective to use.

Since we are still limiting ourselves to triads, while establishing fundamental principles, the exhaustive list of pivot chords between two keys will not be very large. The process of discovering these involves the attempted interpretation of all the chords of the first key, in terms of the second key.

Assuming the two keys to be C and B-flat, we first write all the forms of the triads we know in C and note those for which we find an explanation in the key of B-flat.

EX. 146

C: I — II — III — IV — V — VI — VII —
 B^b: I — II — III — IV — V — VI — VII —

Looking at these possibilities, we can say at once that the B-flat V is not very good, for reasons already mentioned. The B-flat II would be excellent for the second key, but, as it is the minor form of I in C, it would be convenient only if we wished to leave the impression of the minor mode in the first key. The B-flat I is not without objection—the note B-flat would have to appear in C as part of the descending melodic minor scale, and to make that clear it would have to proceed next to A-flat, a note we do not particularly welcome in B-flat. These considerations leave the two remaining possibilities B-flat III and IV.

EXERCISES

1. Interpret the triad below in as many keys as possible, using Roman numerals.



2. Label the triad below as a pivot chord in as many modulations as possible.



3. Write out in Roman numerals the scheme of a phrase modulating in each of the following ways (four phrases in all), using only triads:

- The pivot chord is II of the second key.
 - The pivot chord is V of the first key.
 - The modulation is to a key a perfect fourth above the original key.
 - The modulation is to a key a minor third above the original key.
- Analyze the phrase by Schumann, given below.
 - Write out the pattern of the harmonic rhythm of the phrase.
 - Construct the four-part harmonic scheme.
 - Using this harmonic pattern, construct a new phrase different from the original.

Schumann—*Album for the Young*, op. 68, no. 17



5. Describe in technical language the relationship existing between the key of E-flat major and the following keys: A-flat minor; G major; B-flat major; C major; F-sharp minor.
6. Show by Roman numerals the relationship of all the chords in A major to the tonality of C-sharp minor.
7. Write in four parts the following phrases:

a. C min. $\frac{2}{4}$ VI | IV II | V { I III IV II | V I ||

b. E maj. $\frac{3}{4}$ IV I | IV II { V IV I IV | V I ||

c. B $\flat$ maj. $\frac{4}{4}$ V VI II | V I { VI II VI IV | V I ||

CHAPTER NINE

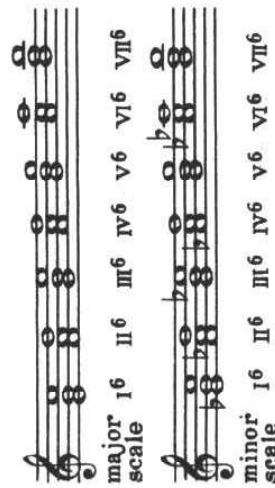


CHORDS OF THE SIXTH— THE FIGURED BASS

TRIADS in the first inversion are called chords of the sixth, the characteristic interval being the sixth caused by the inversion of the third.

Adopting the method of musical shorthand widely used by composers in the early eighteenth century, most theorists designate inversions of chords by Arabic numerals showing the intervals made between the bass and the upper voices. Thus a triad in first inversion would be represented by the figures $\frac{6}{3}$, or simply $\frac{6}{3}$, the third being understood. With Roman numerals identifying the roots, any chord in any inversion can be shown symbolically by this method.

EX. 147



DOUBLING

In triads in root position the general rule is to double the root, to obtain a fourth tone for four-part writing. This is not the practice with triads in first inversion.

The choice of a tone to double is not dependent on whether the triad is major, minor, augmented, or diminished. Nor does it appear