7

Harmonic Progression

THE chord structures explored in Chapter 6 are like individual words. As the full significance of words is realized when they are joined with other words in sentences, the full significance of chords is realized when they are joined with other chords in progressions.

Harmonic progression, like harmonic structure, is characterized by unlimited freedom in twentieth-century music. The prohibitions of traditional harmony texts and the principles scrupulously observed by composers of the common practice period are not valid for contemporary styles. Early in the century music reached a point where every harmonic relationship as well as every chord structure was allowed and accepted. This chapter is concerned with harmonic progressions that depart from tradition in logical ways which yield to analysis.

To understand and appreciate the change of attitude regarding harmonic relationships, the old and the new must be compared. During the period when much of the familiar music literature was composed, major-minor tonality and the concepts of chord inversion and fundamental bass (codified by Jean-Philippe Rameau in 1722) dominated musical thinking. Major-minor tonality implies rather strict adherence to two seven-tone scale patterns with certain triad and seventh-chord structures associated with each scale degree. The variety inherent in the three forms of minor was reduced by the preference for the harmonic form which borrowed the critical leading tone feature from major. These scales and the principles associated with them determined the basic chord structures and functional relationships. Any others occurred incidentally and in supporting roles.

A strong sense of tonality was fostered during the tonal period by emphasis upon chord root movements in fourths and fifths, the relationships most conducive to tonality. Limitations are never apparent in a masterpiece. One is not conscious of the fact that Mozart was working

within what would now be regarded as the confines of the major-minor system. It is a tribute to his genius that he created such monumental works with so few resources and perhaps a recognition of our own limitations that motivates our perpetual quest for new ones.

Even during the relatively stable tonal period, harmonic concepts were evolving continually, if slowly. The process accelerated during the romantic era, and just before the turn of the century the revolution began.

To facilitate comprehension of contemporary harmonic progressions, they are considered here in various categories and in connection with the simpler chord structures. In actual usage no such isolation exists, and all of the progressions and relationships are possible with sophisticated as well as with simple structures.

Modal Quality

In matters of harmony, as of melody, modern composers have not overlooked the modes in their search for fresh resources. Since the earlier uses of modal materials were largely melodic and contrapuntal, their harmonic possibilities were not exhausted, and at the beginning of the century the modes provided a ready means for extending the horizons of tonal organization. Some passages are purely modal, while others merely display evidence of modal influence.

The modes do not make available any chord structure not found in major and minor. The differences are in the relationships between chords and in their functions. In the major-minor system chromatic notes and altered chords traditionally resolve in prescribed ways. The result is that voice leading and harmonic progressions become stereotyped. These traditions no doubt stem from conditioning more than from any inherent inclination, but they constitute a force that must be reckoned with in writing for audiences indoctrinated with tonal practices. By making the same sounds available with diatonic notes, the modes provide an effective antidote for tonal conventions and release harmonic progressions from onerous encumbrances.

Each mode offers a different set of diatonic harmonic values, thereby multiplying the number of subtle harmonic relationships possible without resorting to chromatic alteration and submitting to its attendant restrictions. Use of the modes additionally tends to negate the tyrannical dominant-tonic relationship of tonal music, especially in modes having a minor dominant. In each mode there are three major triads, three minor triads, and one diminished triad, but the order is different. The following

table gives the disposition of the various triad qualities in the seven diatonic modes.

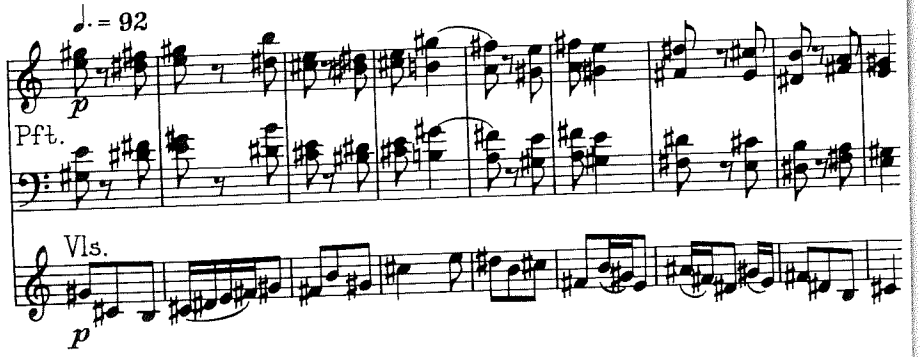
TRIAD QUALITY IN THE MODES

Mode	*Tonic*	*Supertonic*	*Mediant*	*Subdominant*	*Dominant*	*Submediant*	*Subtonic*
Ionian	major	minor	minor	major	major	minor	diminished
Dorian	minor	minor	major	major	minor	diminished	major
Phrygian	minor	major	major	minor	diminished	major	minor
Lydian	major	major	minor	diminished	major	minor	minor
Mixolydian	major	minor	diminished	major	minor	minor	major
Aeolian	minor	diminished	major	minor	minor	major	major
Locrian	diminished	major	minor	minor	major	major	minor

Just as each mode has a distinctive pattern of triad relationships, each has a unique arrangement of seventh chord qualities and all other harmonic structures. The following examples illustrate some of the ways modal resources have been tapped by contemporary composers. The primary concern at this point is to show a variety of relationships in chord quality through the use of the modes, but observe that freedom also extends to the root relationships.

In Example 148 the violin melody, which is a fugue subject, is pure Dorian on C-sharp. The A's in the piano part are natural rather than sharp, making its mode Aeolian. The octave B-sharps which occur in the sequential third measure are foreign to the mode but normal leading tones in harmonic minor.

Ex. 148 BARTOK: *Piano Concerto No. 3* (1943) p55



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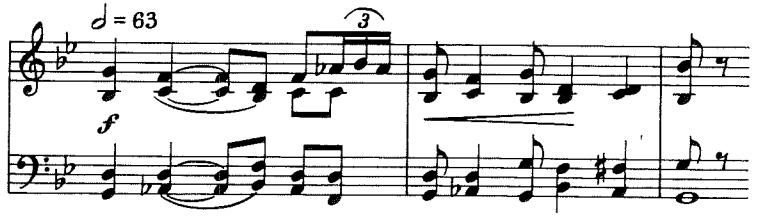
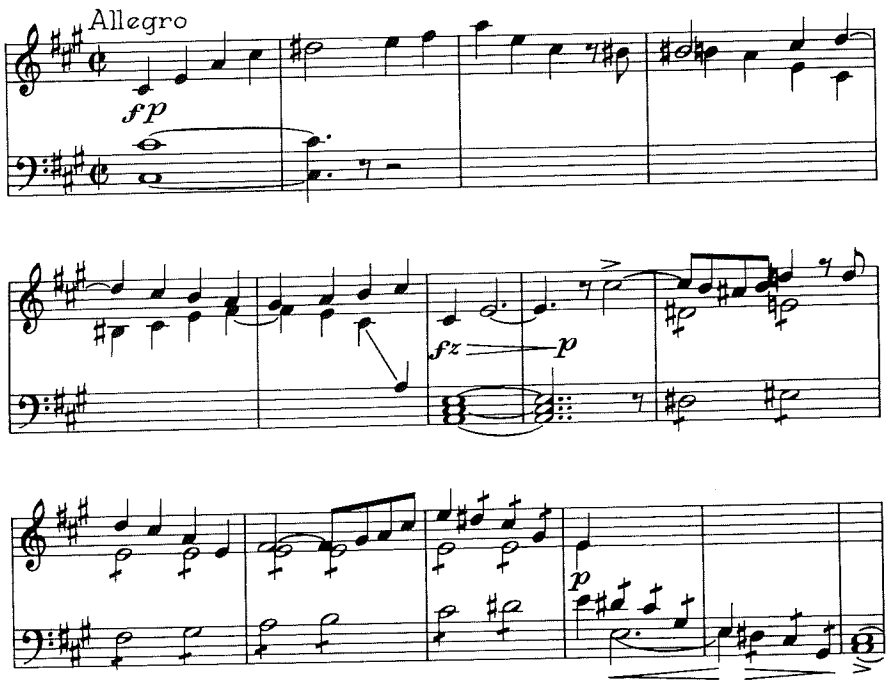
The Phrygian mode on G is illustrated in Example 149. The mode is pure except for the F-sharp in the penultimate chord, and even there the characteristic minor second degree of the scale, A-flat, is retained.

Ex. 149 DEBUSSY: *String Quartet* (1893) p1



Because the Lydian mode is similiar in effect to major, it is difficult to isolate. The characteristic augmented fourth degree of the Lydian scale occurs so frequently as a chromatic note in major that differentiation between them is problematical. Example 150 is typical. The tonal center is A, and both D-sharp and D-natural are used. Ignoring the key signature, either could be regarded as the diatonic scale tone. The repeated D-sharps in measure 9 and in the descending figure in measures 12–14 impart a Lydian flavor to the passage, and the D-naturals can be explained in each case as chromatic nonchord tones.

Ex. 150 SIBELIUS: *Symphony No. 4 in Am* (1911) p38



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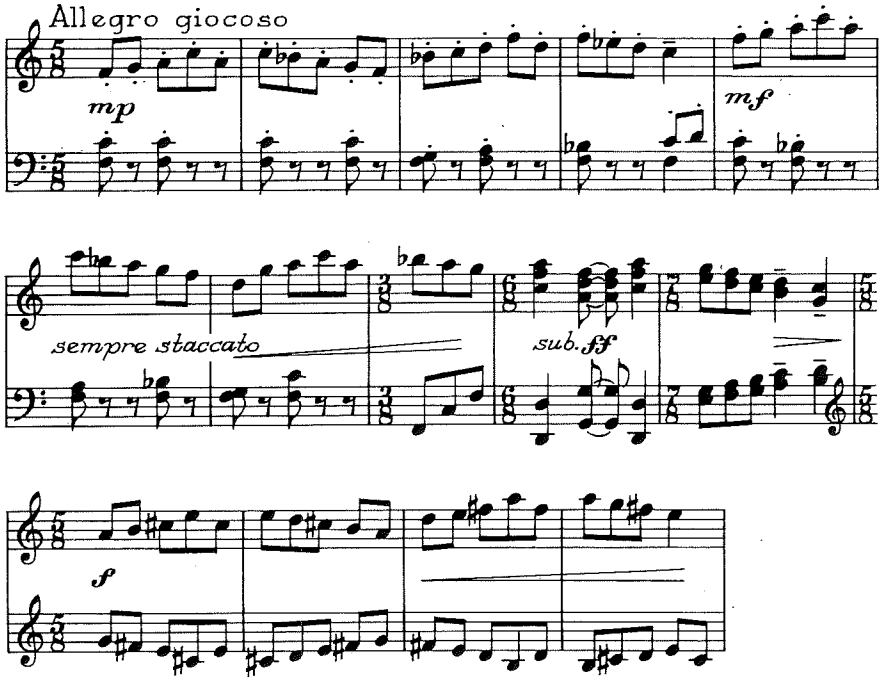
Unlike Lydian, the Mixolydian mode with its characteristic minor seventh degree and minor dominant is readily distinguished from major, as it is in Example 151. Adler's *Capriccio* for piano has no key signature, but the B-flats and E-flats required for Mixolydian on F are added consistently. The 6/8 and 7/8 measures are modulatory. The restatement of the first phrase a third higher with its mirror is again pure Mixolydian.

Ex. 151 ADLER: *Capriccio* (1954)



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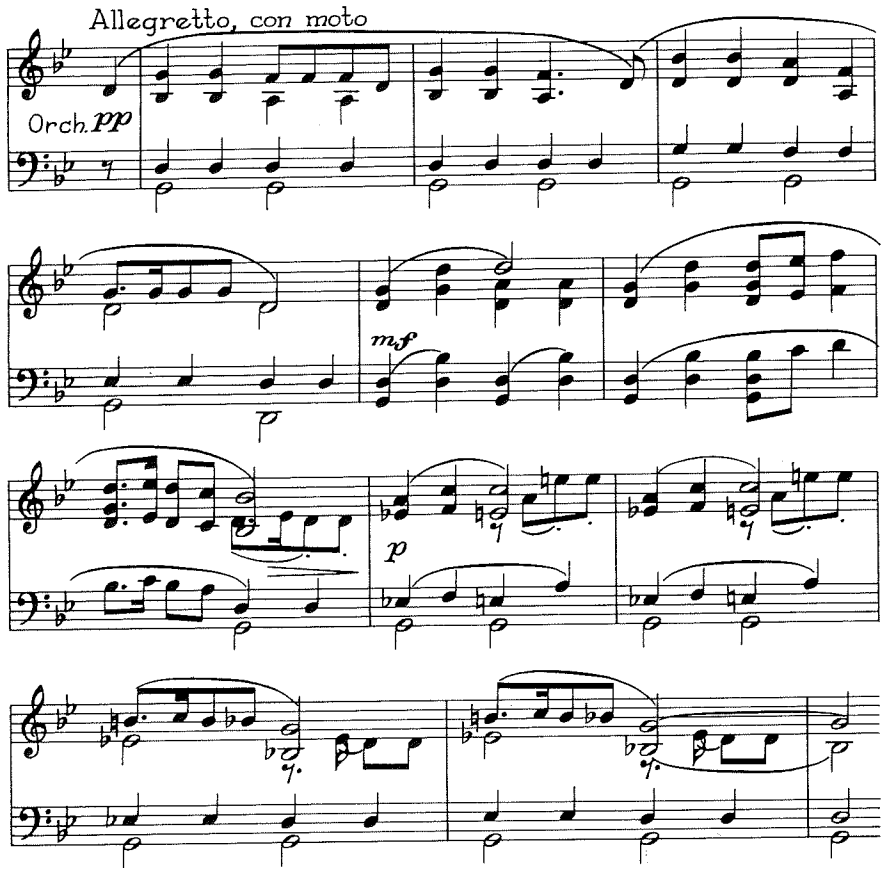
The Aeolian mode exists in conventional music theory as natural minor, but it is rarely used in the music of the common practice period. Whether the mode of Example 152 is identified as Aeolian or natural minor is of no consequence. The E-naturals in measures 8 and 9 are used in a way that suggests borrowing from Dorian rather than melodic minor.

Ex. 152 MENOTTI: *The Medium* (1946) p48



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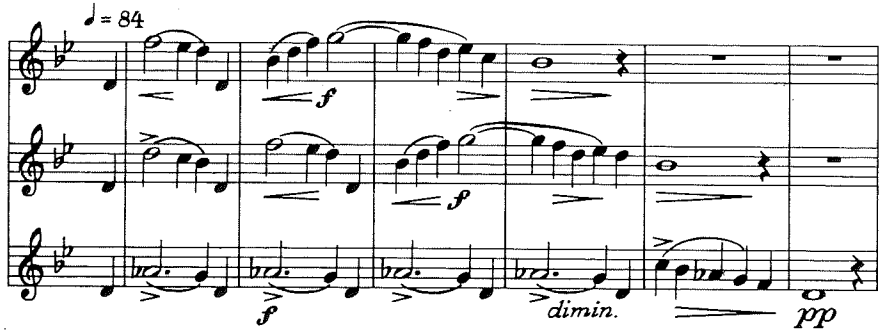
Melodies in the Locrian mode are rare, and because of the diminished quality of its tonic triad, harmonies in this mode are even rarer. Example 153 is an instance of Locrian if D is accepted as the tonal center. The problem of the diminished tonic triad is solved by dropping the upper voices and cadencing on D alone. G may be heard as the tonal center, in which case the mode is Phrygian.

Ex. 153 BRITTEN: *A Ceremony of Carols, No. 8* (1942)



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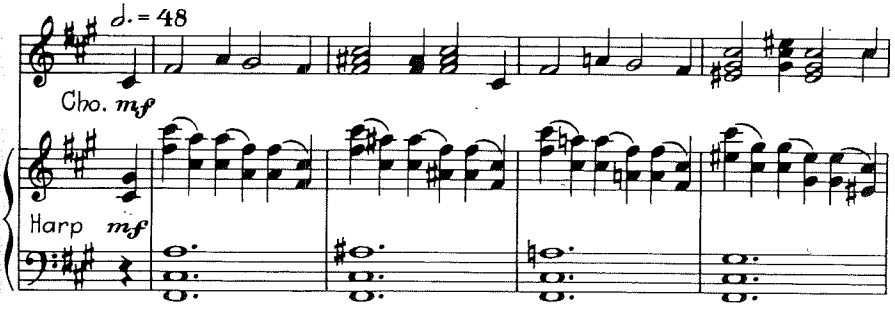
The quality relationships available within the individual modes are only the beginning. When the chord qualities of major, minor and all of the modes are used interchangeably, the potential for variety becomes almost infinite.

Change of Mode/Free Quality and Root Relationships

The substitution of chord forms from the parallel minor or major is a time-honored custom in tonal harmony. Altered chords commonly used in major, such as the diminished seventh chord on the leading tone, are borrowed from minor. In minor keys the major dominant is standard, and the Picardy (major) third in cadential tonics is an enduring convention. A contemporary usage of alternating minor and major tonic triads is shown in Example 154.

Ex. 154 BRITTEN: *A Ceremony of Carols, No. 4b* (1942)



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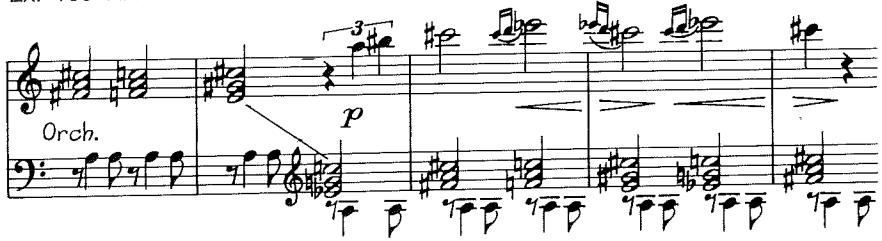
If the principle of mode change is extended to embrace harmonies on all scale degrees and in all modes, each structure becomes available on every scale degree through substitution of mode without becoming subject to the restrictions implicit in chromatic alteration. A glance at the table of modal triads in this chapter will confirm that all three triad qualities—major, minor, and diminished—occur on every degree of the scale in one or more of the modes.

The progressions of Example 155 do not yield to conventional analysis, but they are readily accounted for by the change of mode theory. Because of its prominence as a pedal tone in the bass, A is somewhat arbitrarily taken as the tonic for purposes of chord and mode identification.

Ex. 155 KHACHATURIAN: *Violin Concerto* (1940) p5



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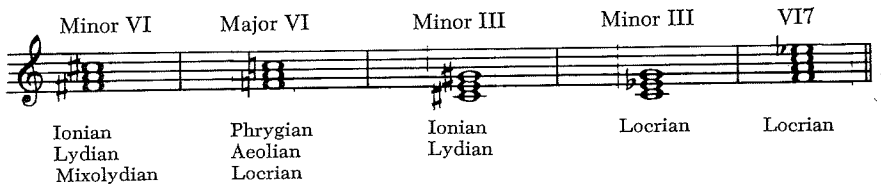
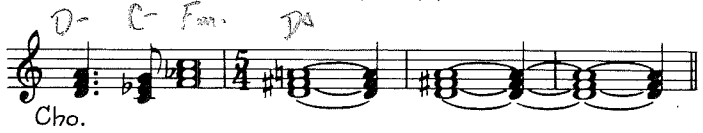


In his book *The Diatonic Modes in Modern Music* (revised edition, Curlew Music Publishers, 1974) John Vincent explores in detail change of mode with reference to triads and seventh chords. Obviously the principle can also be applied to other chord structures. Though the freedoms afforded by interchanging the modes are exercised extensively, there is no necessity in practice to classify chords according to their derivation. The following examples illustrate how contemporary composers have exploited free quality relationships between simple chord structures. The same procedures and relationships are equally feasible with complex chord formations.

The final cadence in the *Lament for Beowulf* consists of parallel, root position triads from different modes. In modern practice there are no taboos against cross (false) relations like those between the F minor and D major triads. On the contrary, cross relations are often featured in passages involving free quality relationships.

Ex. 156 HANSON: *Lament for Beowulf* (1925) p44



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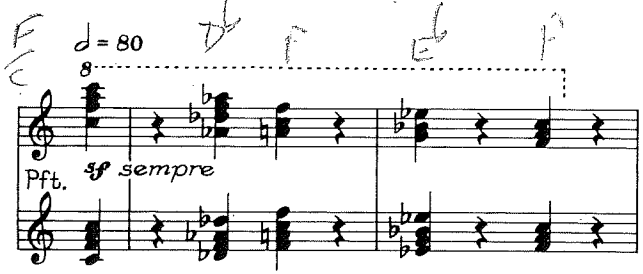
D-flat and E-flat major triads are interposed between F major triads in Example 157, which has both contrary and parallel motion.

Ex. 157 STRAVINSKY: *Symphony of Psalms* (1930) p46



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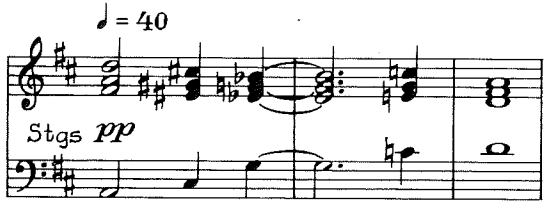
The following is another example of major triads with contrary motion between the outer parts in three of the four progressions. The root relationships—down a minor second, up a diminished third, down a minor third, and up a major second to the initial chord—are as interesting as they are unusual.

Ex. 158 BRITTEN: *Serenade—Sonnet* (1943)



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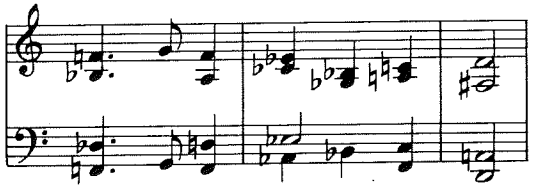
In the next example four minor triads are followed by two major triads. The interval between the chord roots—a major third, a tritone, a perfect fourth, a major second, and a minor third—is different in each progression.

Ex. 159 HARRIS: *American Ballads, No. 1* (1947)



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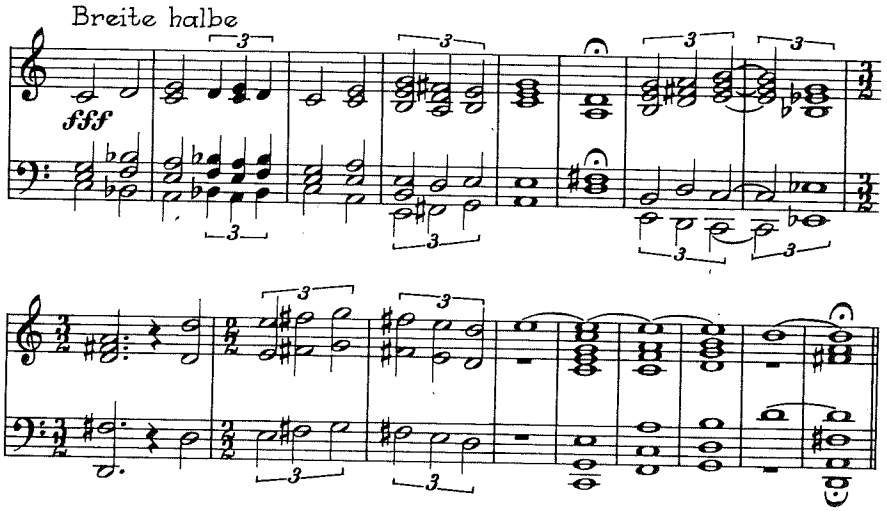
Free chord quality relationships are strikingly illustrated in the concluding section of *Mathis der Maler*. Some of the octave doublings have been omitted in the example and the pitches have been transposed up a semitone from the original to facilitate reading and playing on the piano. It is noteworthy that this thoroughly modern work ends with seventeen measures in which there are only major and minor triads, two seventh chords, and one nonchord tone. These simple harmonies produce a powerful effect when they are played triple forte by the full brass choir as scored.

Ex. 160 HINDEMITH: *Mathis der Maler* (1934) p89



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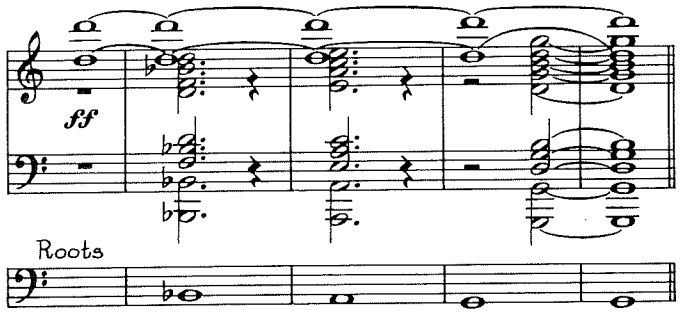
The free interchange of modal chord qualities and de-emphasis of fourth and fifth root movements leads inevitably to a relaxation of tonal influence on harmonic relationships and a more contemporary idiom. In the commentary relating to the following examples only root movements are mentioned, but the qualities of the chords built on the roots and the nonfunctional nature of the progressions are also factors in the style of the excerpts, which is uncomplicated but modern.

Approaching the final cadence in the first movement of *Mathis der Maler*, Hindemith uses root movements in seconds in lieu of a traditional cadence formula. A pedal tone on the fifth degree of the scale is sustained while the moving parts expand. Chord roots, which in this instance coincide with the bass, are shown on a separate staff directly beneath the chords.

Ex. 161 HINDEMITH: *Mathis der Maler* (1934) p32



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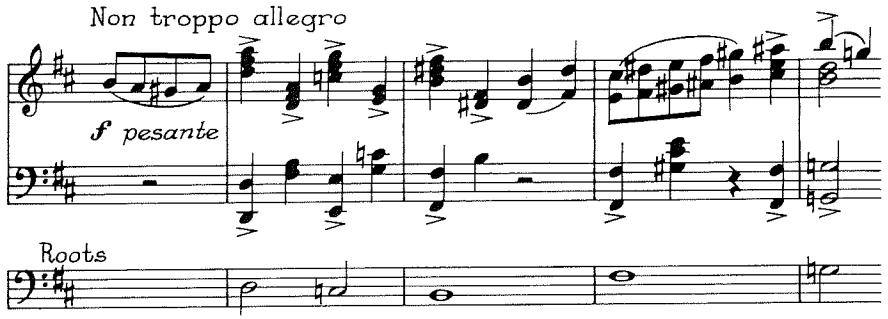
Example 162 begins with major triads on roots descending stepwise. The root, third, and fifth of the triads in turn are in the bass, producing an ascending bass line in contrary motion with the soprano. The ascending minor second root progression at the end sounds like a deceptive cadence in B minor.

Ex. 162 PROKOFIEV: *Classical Symphony in D* (1917) p41



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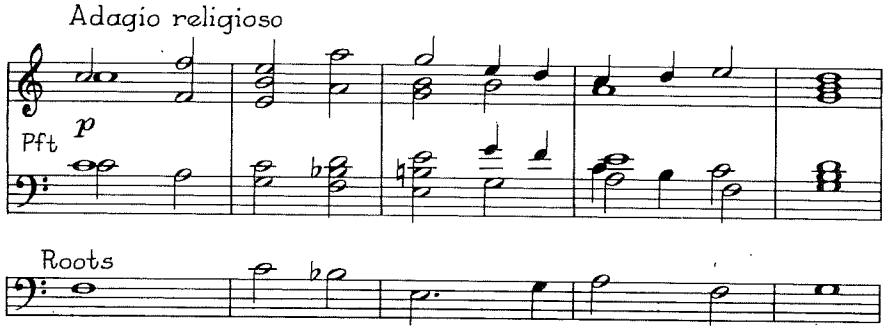
The root movements are varied in Example 163. The perfect fifth (fourth), tritone, ascending minor third, descending major third, descending major second, and ascending major second are represented in its five measures.

Ex. 163 BARTOK: *Piano Concerto No. 3* (1945) p32



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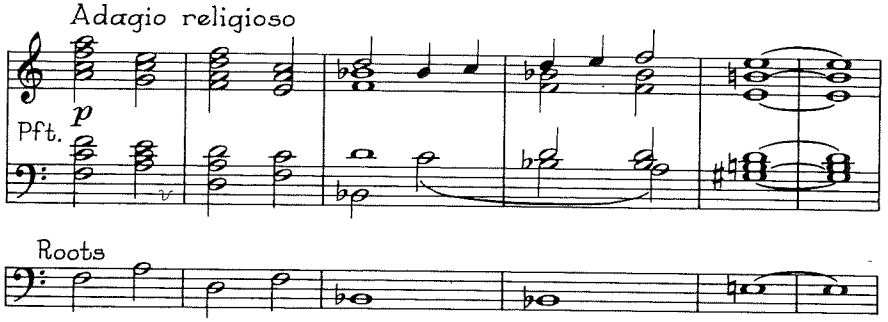
The beginning of the melody in Example 164 is a mirror inversion of that in Example 163. In this setting the intervals between roots are thirds and perfect fifths alternately until the final tritone progression.

Ex. 164 BARTOK: *Piano Concerto No. 3* (1945) p32



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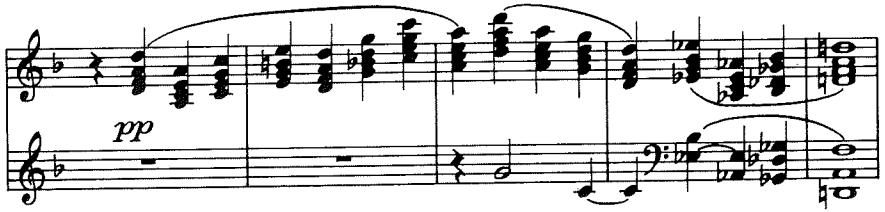
Parallelism

Consecutive thirds, sixths, octaves, and first inversion triads were permitted during the common practice period, but parallelism involving other intervals and chord forms was studiously avoided until the advent of impressionism. Pioneered by Debussy and Ravel, parallelism has virtually become their hallmark. In the first part of the century it played a vital role

in the liberation of voice leading and in the emergence of new concepts of tonal organization. Parallel motion tends to reduce the functional value of chords and to emphasize the coloristic aspect of harmony.

Parallelism can be implemented in several ways. One of the simplest is illustrated in Example 165 where the melody is doubled in octaves, and the octaves are filled in to form root position triads. The effect of these same chords connected in accordance with traditional principles would be quite different. Major and minor triad qualities are used, but diminished and augmented are avoided, making all of the fourths and fifths perfect.

Ex. 165 DEBUSSY: *Piano Preludes, Book II No. 10—Canope* (1913)



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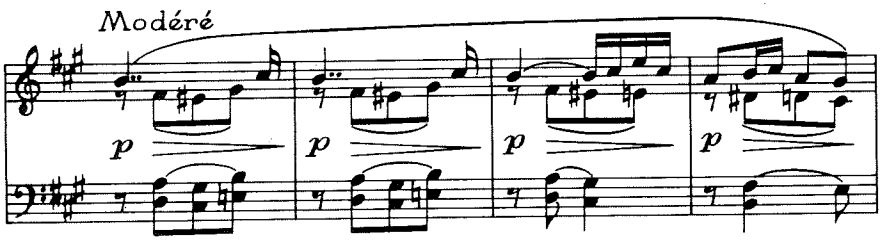
Ravel uses parallel triads with emphasis on the major quality to accompany an independent melody in his *Piano Sonatine.*

Ex. 166 RAVEL: *Piano Sonatine* (1905) p2



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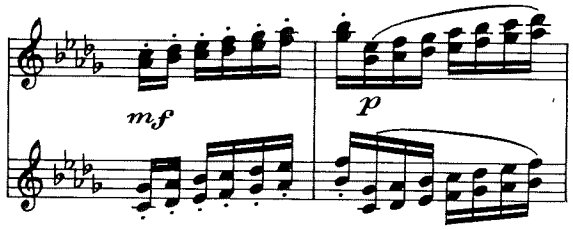
Parallelism is not a device of impressionism or triads exclusively. Stravinsky uses it with first inversion seventh chords with the fifth omitted

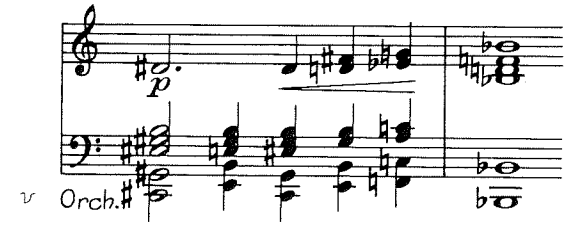
and then with complete seventh chords in root position. All of the notes are in D-flat major, so every diatonic seventh chord is heard in the scalewise progressions.

Ex. 167 STRAVINSKY: *Firebird Suite* (1910) p40



In the next two examples parallel motion between ninth chords is illustrated. All of the ninth chords have the root in the bass and the ninth in the soprano, which is the most usual arrangement.

Ex. 168 DEBUSSY: *Pelleas and Melisande* (1902) p14



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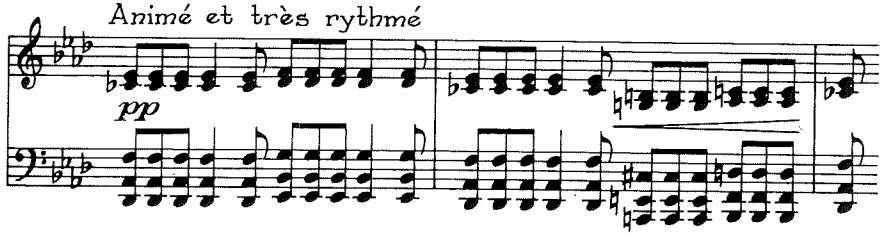
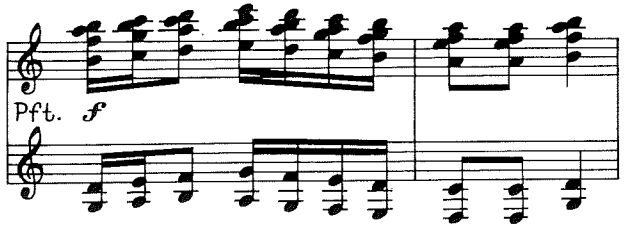
Ex. 169 DEBUSSY: *Nocturnes—Fêtes* (1899)



Stravinsky's use of parallel ninth chords in *Petrouchka* is similar to but more varied than his use of parallel seventh chords shown in Example 167.

Ex. 170 STRAVINSKY: *Petrouchka* (1911) p52



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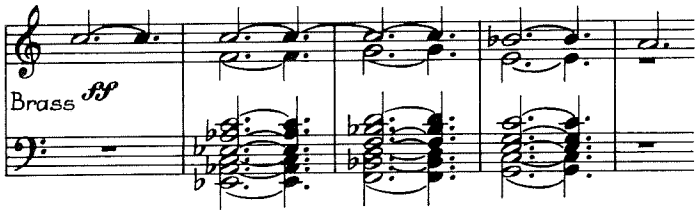
In Example 171 the chords in the bass clef are major triads in the second inversion ascending stepwise. The F and G in the treble clef are added sixths. The C in the third measure can be analyzed as an added second, as a pedal tone, or as a suspension which resolves down to the B-flat in the next measure.

Ex. 171 HINDEMITH: *Mathis der Maler* (1934) p62



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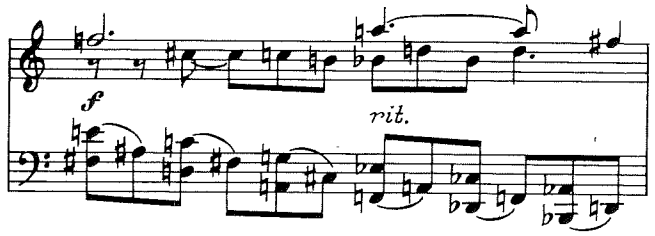
Parallelism is not a feature of Schoenberg's style, but Example 172 is one instance where he used parallel seventh chords. This example demonstrates that the device can be adapted to diverse styles and that it can appear in more subtle forms than block chords moving in uniform rhythms. The right-hand part is rhythmically and harmonically independent. The left-hand part outlines root position seventh chords in a pattern that shifts in relation to the meter.

Ex. 172 SCHOENBERG: *Three Piano Pieces, Op. 11 No. 2* (1910)



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In the first part of the century parallelism was a fresh, new device for which composers found many uses, and numerous works employing it endure as staple concert fare. Emphasis in more recent times has shifted away from the type of harmonic thinking that led to parallelism, and now it has little appeal for serious composers. Parallel motion is prevalent, however, in the current pop and rock music.

The harmonic resources of the common practice period considered as isolated chord structures and individual root movements can be summed up in a page or two, but extensive courses in traditional harmony are devoted to a systematic study of these limited materials. An equally exhaustive investigation of contemporary harmony would require volumes and years, but such thoroughness is impractical and unwarranted. The foregoing introduction to early twentieth-century harmonic practices provides an adequate foundation for exploring subsequent developments. Additional analysis and synthesis is recommended to improve one's understanding of and skill in handling new harmonic resources. Composers instinctively adopt materials and methods compatible with their musical ideas, and their personal styles emerge as ideas and resources are fused into a unified creative expression.

Suggested Assignments

1. Locate examples of modal harmony in twentieth-century music. Identify the modes and describe their influence on the chord qualities and relationships.

2. Write appropriate modal settings for the modal melodies composed previously.
3. Determine the tonal centers and do a chord and mode analysis of Examples 156, 157, 158, and 160 using the format of Example 155 as a model.
4. Compare the chord root relationships in Examples 148 and 149 with those customary in tonal music.
5. Analyze the root relationships in the third movement of Prokofiev's *Classical Symphony.*
6. Provide accompaniments featuring free quality and root relationships for original or assigned melodies.
7. Locate and analyze examples of parallelism in Debussy's *Piano Preludes.*
8. Write an exercise in which parallel progressions predominate.
9. Starting from the isolated chord structures written as assignments for Chapter 6, write effective resolutions and/or progressions of three or four chords. Strive for a consistent, homogeneous effect within each progression and for variety between progressions.
10. For supplementary reading see *Twentieth-Century Harmony* by Vincent Persichetti (W. W. Norton, 1961) and *Contemporary Harmony* by Ludmila Ulehla (The Free Press, 1966).

8

Tonality

WHEN tones are sounded in orderly melodic successions or harmonic progressions, tonality ordinarily results. The tendency for one tone to emerge as the center of sound complexes is a phenomenon observable in music from a wide range of periods and styles. Only when consciously avoided is this tendency absent, but it exists in many degrees. In straightforward major and minor keys tonality is the basis for the strong functional relationships, and it exerts a decisive influence on every phrase and progression. The bonds of conventional key feeling are weakened by the use of modes, exotic and synthetic scales, dissonant harmonies, free quality and root relationships, and parallel motion, but a tonal center is usually discernible at cadence points and critical junctures in the form in all but deliberately atonal music. As long as tonal centers serve as focal points no matter how indecisively and can be perceived no matter how fleetingly, the music has tonality in the broad and inclusive sense of the term intended in this chapter. One distinct advantage of preserving some vestige of tonality is that without it, modulation is impossible.

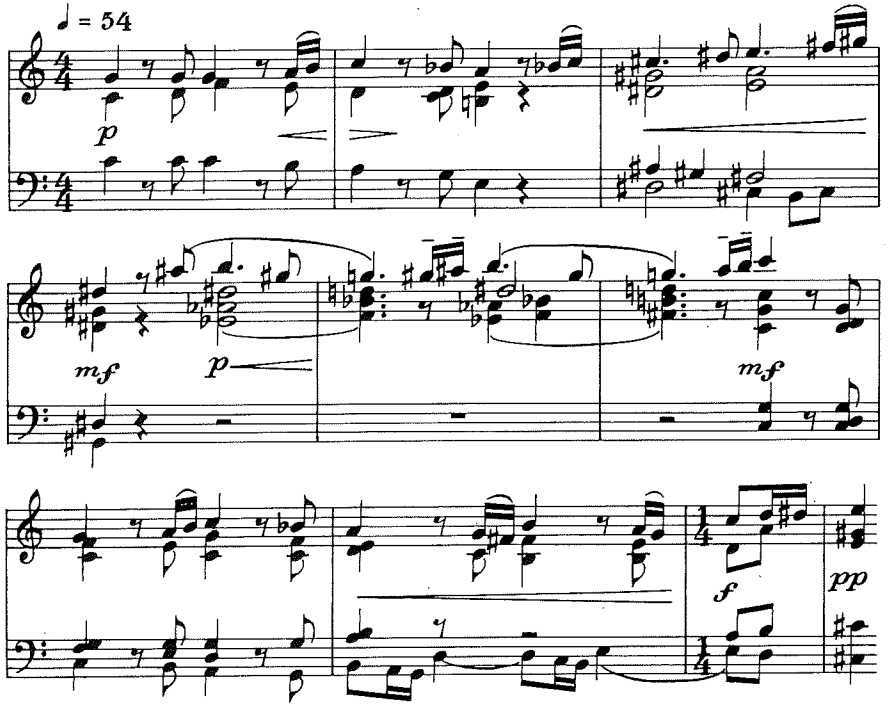
Modulation and Transposition

Tonality is a prime source of both variety and unity in all music which has it. Modulating from one tonality to another provides variety; returning to the original tonality provides unity. Before the acceptance of equal temperament and the perfection of valves, compositions for many instruments were restricted by practical considerations to a small group of related keys. Even when remote keys became accessible, their full potential was not exploited immediately. It remained for contemporary composers, unhampered by mechanical imperfections or conventions, to explore routinely the far corners of the tonal universe. In twentieth-cen-

tury styles no tonality is too remote to be reached by direct modulation within or between phrases or to be used in the transposition of themes in the larger forms.

Hindemith, whose music is frankly tonal, uses modulations and transpositions to foreign keys with consummate skill, and almost any page of his scores will provide examples. Those in *Mathis der Maler* are typical. The following excerpt from the beginning of the second movement starts in C. The cadence at the end of the first phrase is on G-sharp. The first chord of the second phrase is G-sharp minor, though some notes are spelled enharmonically as shown in the reduction. This two-measure phrase leads back to the opening motive at the original pitch but with octave doublings and shifted from the first beat of the measure to the third. The end of the phrase is changed to cadence this time on a C-sharp minor chord, which is also the beginning of a contrasting transitional passage. Within the first ten measures of the movement there are transient modulations from C to G-sharp, back to C, and then to C-sharp.

Ex. 173 HINDEMITH: *Mathis der Maler* (1934) p33



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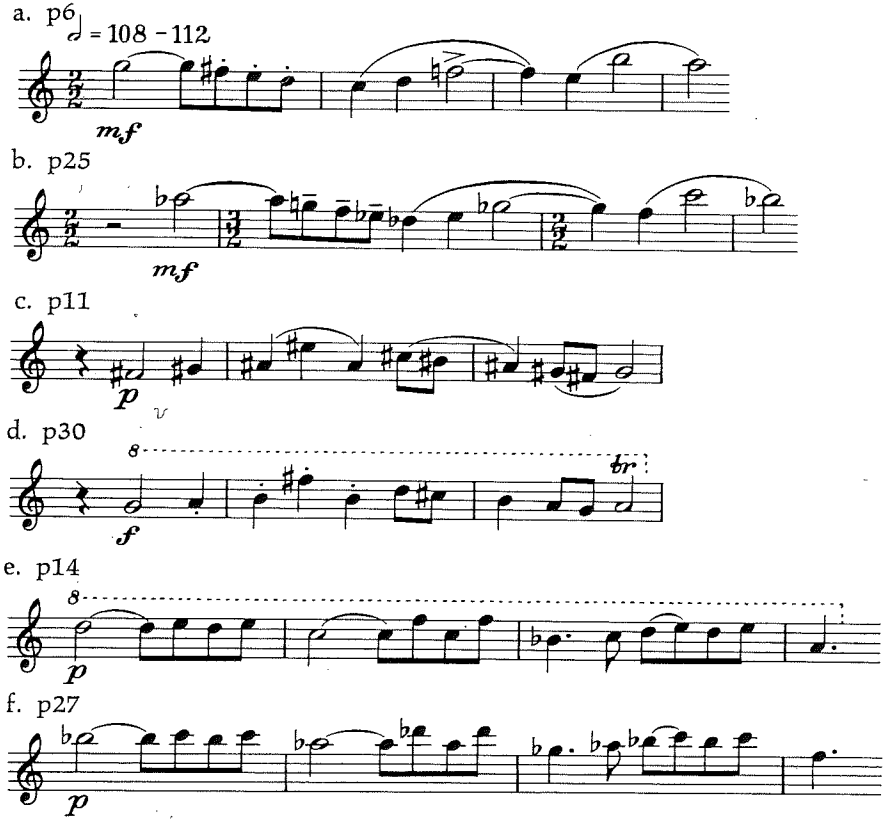
The tonal relationships of the theme are characteristic of the movement as a whole. When the theme given above returns to complete a ternary form, it begins a step lower in B-flat and ends in F-sharp major. The movement which starts in C concludes, after a coda, in C-sharp major.

Similar remote tonal relationships are exhibited in the first movement of this same work. The design is that of sonata form except that the order of the subordinate and closing themes is reversed in the recapitulation, and the key relationships are atypical. The beginnings of the principal, subordinate, and closing themes are shown in Example 174, first as they appear in the exposition and then as they reappear in the recapitulation. The principal and subordinate themes are both a semitone higher in the recapitulation. The closing theme is a major third lower.

Ex. 174 HINDEMITH: *Mathis der Maler* (1934)



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The first movement of *Mathis der Maler* begins and ends with G as the tonal center. The final cadence is shown in Example 161. The statement of the principal theme, after an introduction, begins over G harmony. Its return in the recapitulation a semitone higher is accompanied by a D-flat major chord, with the D-flat spelled enharmonically as C-sharp. Beginning the recapitulation in a remote key violates a cardinal rule of classic form, but it is quite acceptable by contemporary standards. Reversing the order of the subordinate and closing themes in the recapitulation brings the subordinate theme back near the end of the movement, and transposing it up a semitone brings it back in the key of the movement to complete a perfectly rational tonal design.

The final movement proper of *Mathis der Maler* begins, after a tonally ambiguous introduction, in C-sharp minor. This movement concludes with the passage quoted a semitone higher than actual pitch as Example 160. The final chord, D-flat major, can be explained as the parallel major of C-sharp minor written enharmonically. This parallel relationship is more nearly conventional than the tritone relationship between the first and last movements, the former having G as the tonal center and the latter C-sharp and D-flat. It should be mentioned that the music was conceived originally as part of an opera, not as a symphony, and that the hymn tune *Es sungen drei Engel* is quoted in D-flat in the introduction and again in the development section of the first movement.

These examples from Hindemith illustrate typical explorations of remote tonalities in twentieth-century music. It is obvious that the relationships which were shunned by composers in the past have had special appeal for the tonal composers of this century.

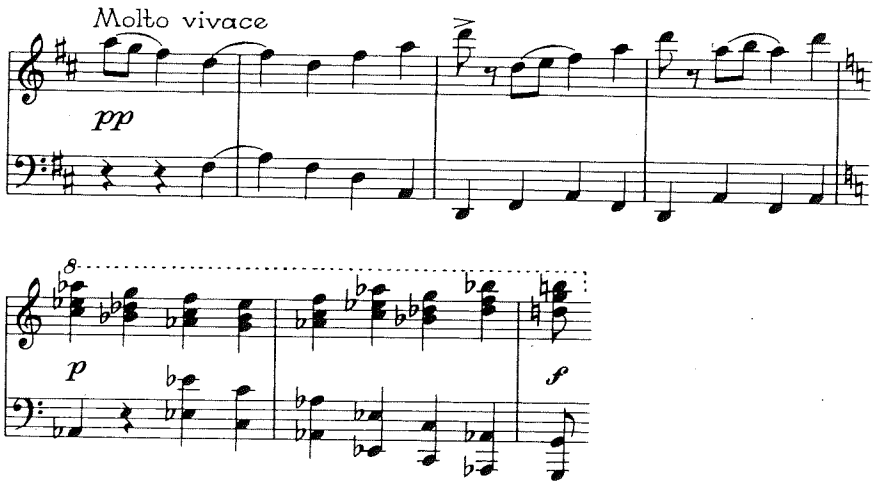
Shifting Tonality

Abrupt change of tonality is a mannerism of certain Soviet composers which has sufficient currency to justify its consideration. Related to modulation in traditional music, shifting tonality contrasts with conventional modulation in three basic respects. Where conventional modulations are prepared with common material and proceed smoothly to a related key, contemporary shifts in tonality are unprepared and move precipitately to a remote tonal region. These procedures are foreshadowed somewhat in the free quality relationships of chords, but free quality relationships may orbit a single tonal center. Shifting tonality implies a sudden displacement of the old center by a new one. Since the surprise

element is crucial, the device is most effective when the harmonic materials are unsophisticated and both tonalities are fairly obvious. As a rule the new key appears unexpectedly at a strategic point in the phrase structure.

The unanticipated tonal shifts in Example 175 are from D to A-flat and then to G.

Ex. 175 PROKOFIEV: *Classical Symphony in D* (1917) p49



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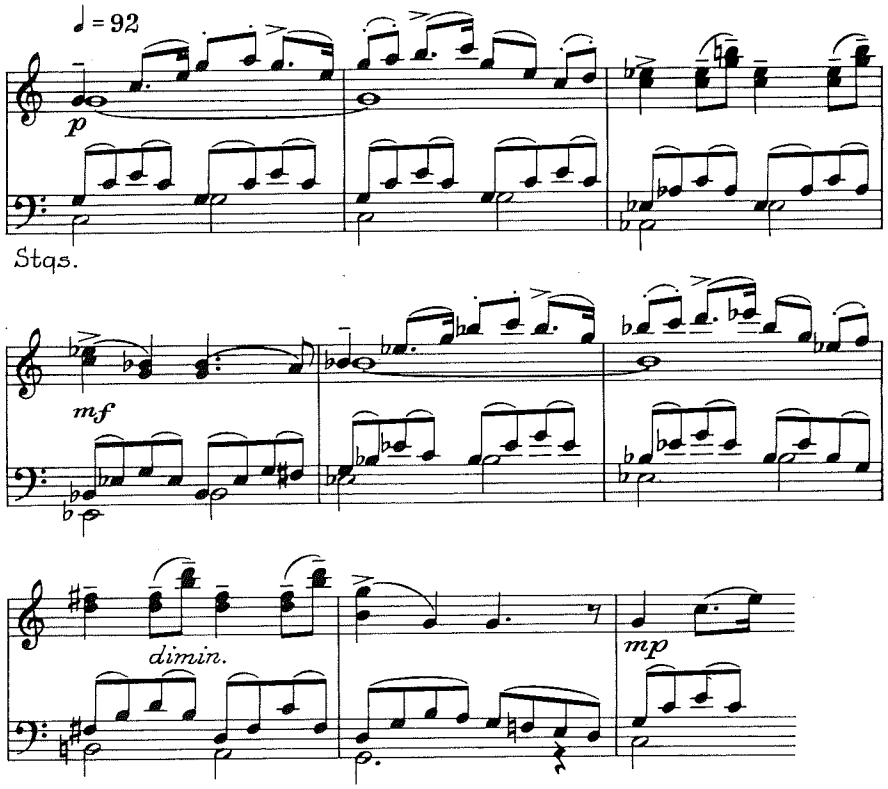
Example 176 has a similar shift of tonality but returns to the original center at the end.

Ex. 176 PROKOFIEV: *Peter and the Wolf* (1936) p1



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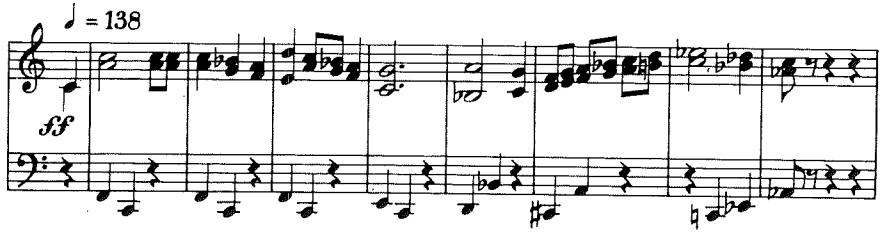
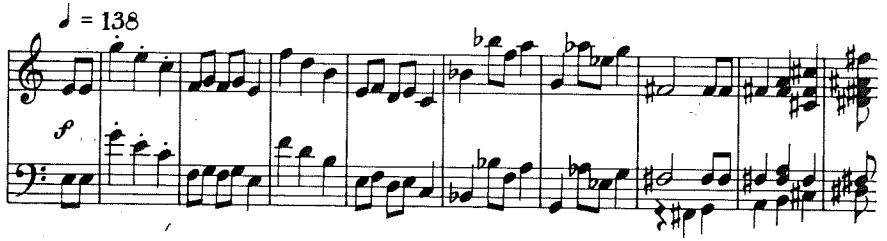
Shostakovich is another Soviet composer in whose music examples of shifting tonality abound. The following, taken from his *Fifth Symphony*, has some chromatic notes before the actual shifts, but the effect is only slightly diminished.

Ex. 177 SHOSTAKOVICH: *Symphony No. 5* (1937)

a. p58



b. p66



Tonal shifts, used judiciously, are an effective adjunct to compositional resources. Used excessively, they become an annoying mannerism.

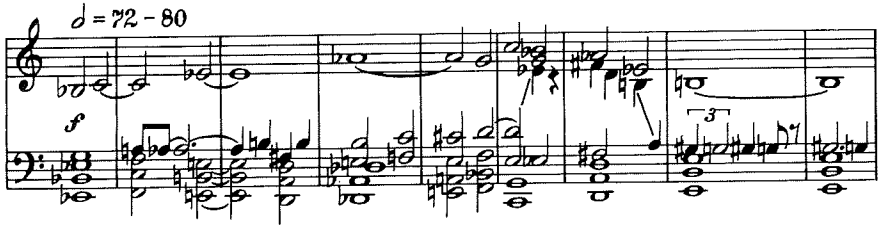
Dual Modality

The possibility of using successive chords from different modes with the same tonal center was explored in the preceding chapter. When material from two modes is used simultaneously, the result is *dual modality*. The special quality of dual modality is most apparent when two inflections of the same note occur together or in close proximity. Though theoretically possible with the ecclesiastical modes, dual modality is common only between major and minor.

Oscillation between major and minor thirds in sustained chords is a characteristic feature of Example 178, where it occurs in five of the nine measures. The minor third of the D-flat chord in measure 4 is spelled enharmonically, as is the minor seventh. The chord on the second beat of measure 2 contains both E and E-flat, but its sound is that of an E

seventh chord with a major third spelled enharmonically as A-flat and a major seventh spelled enharmonically as E-flat.

Ex. 178 HARRIS: *Symphony No. 3* (1938) p4



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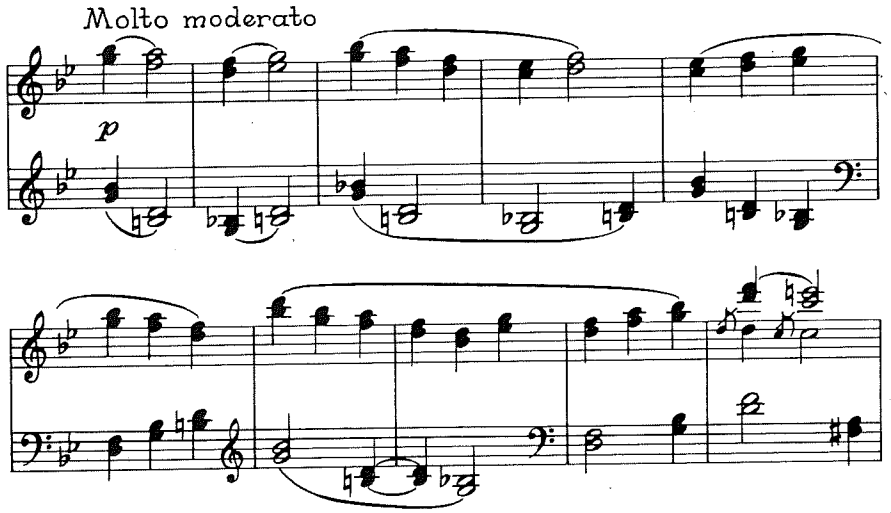
In Example 179 dual modality produces consistent cross relations between sonorities containing either B-flat or B-natural.

Ex. 179 COPLAND: *Piano Sonata* (1941) p5



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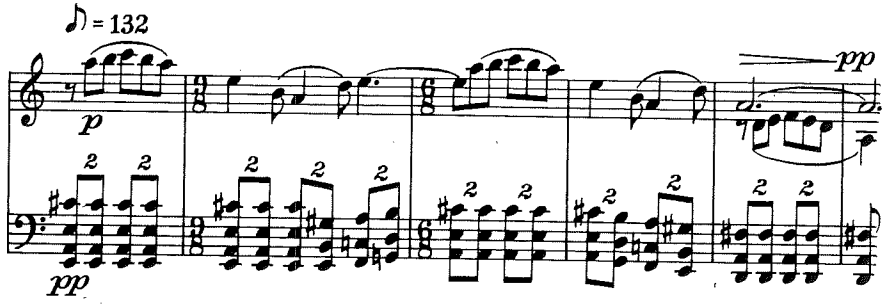
Example 180, with a melody entirely in A minor and an accompaniment essentially in A major, effectively illustrates dual modality between melody and harmony.

Ex. 180 BARTOK: *String Quartet No. 2* (1917) p17



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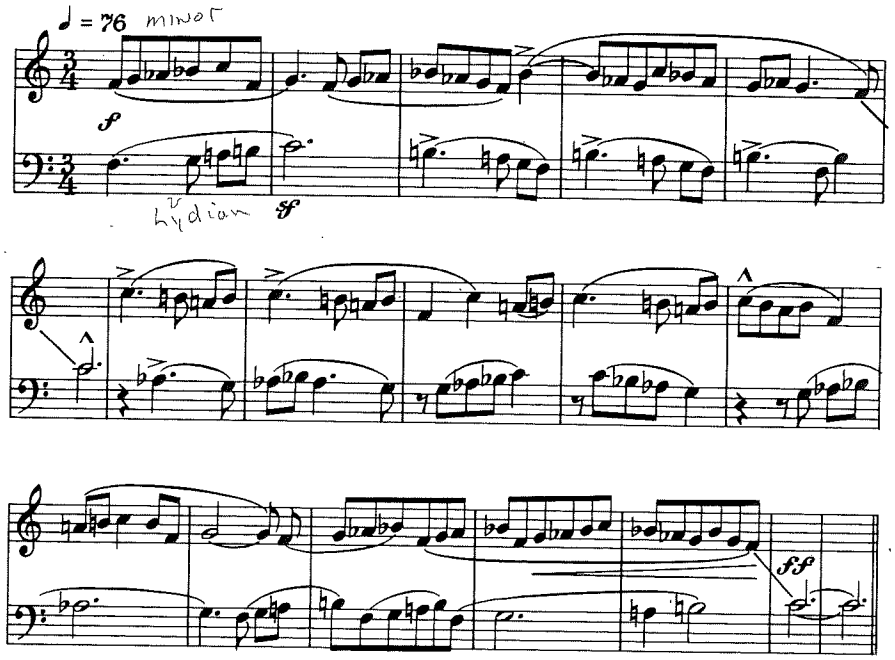
A more extended and systematic use of dual modality is illustrated in Example 181. From the beginning to the first cadence the upper part is drawn exclusively from C minor, the lower part from C major. The modes of the two parts are reversed during the next six measures, after which each part returns to its original mode.

Ex. 181 BARTOK: *Mikrokosmos, No. 59—Major and Minor* (1926–37)



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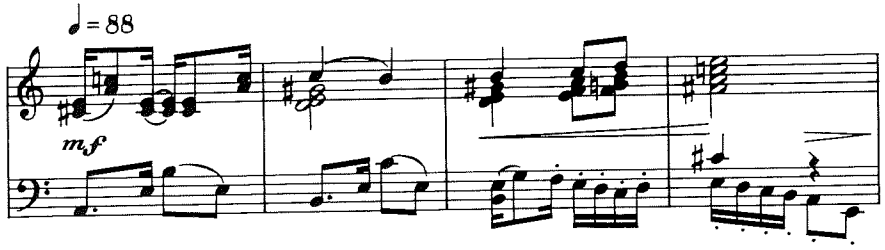
Elements of A major and A minor are distributed between the two hands in the dance for piano from which Example 182 is taken. The conflicting notes in the two modes occur both simultaneously and in succession.

Ex. 182 MILHAUD: *Saudades do Brazil, No. 8—Tijuca* (1921)



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Dual modality is a specialized effect with limited applications, but one capable of providing delightfully pungent sounds with resources not far removed from the familiar major and minor.

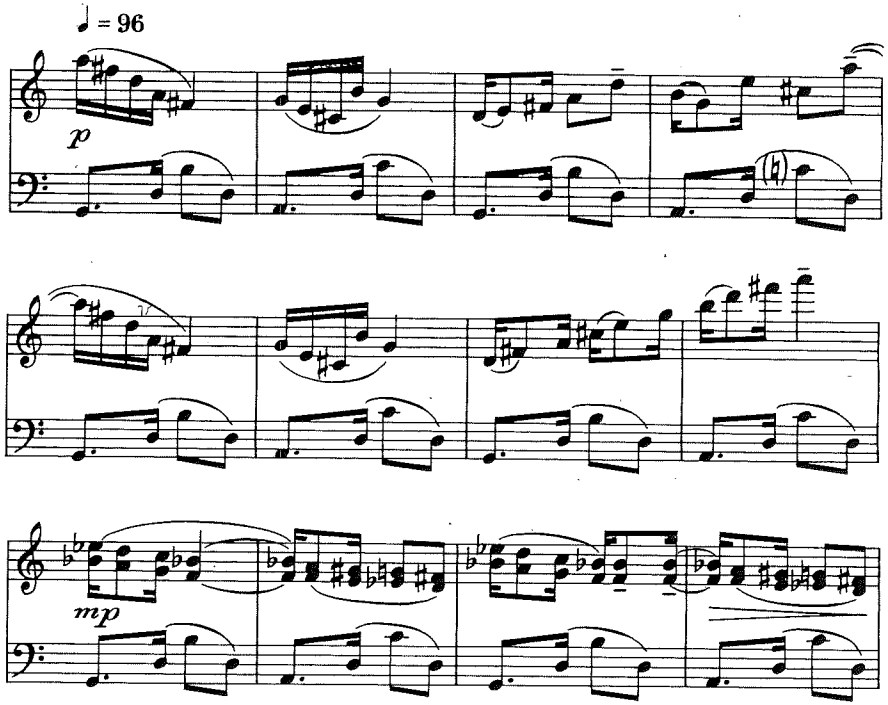
Polytonality

It is but a short step from the use of two modes to the use of two tonalities. This is known as *polytonality*. Strictly speaking, *bitonality* would be a more accurate designation, since more than two tonal centers at the same time are rare, but polytonality is the more prevalent term. Revolutionary as the idea of polytonality may seem, it is not unprecedented. Incipient polytonality can be detected in strongly tonal music. For example, the answer and countersubject in the exposition of a real fugue may suggest different keys briefly when played separately even though they are perceived as being in the same key when played together. The countersubject by itself may continue to imply the tonic key (of the subject) until distinctive material of the new key such as its leading tone is introduced. The answer enters meanwhile directly in the dominant key. This is not conceived as a polytonal effect. It results spontaneously from the preponderance of common tones between the two keys. In contrast with this are the calculated exploitations of remote polytonal relationships in modern music.

Dissonant harmony and counterpoint frequently have polytonal implications, but the term is usually reserved for passages in which two or more tonal centers are rather clearly apparent. In this respect it should be noted that they often are more obvious to the eye than to the ear. Listeners are perfectly capable of appreciating the effect even when they are not able to isolate the two keynotes. For polytonality to be consciously perceived, the two keys must be relatively pure and adequately separated in register or timbre.

Milhaud was an early exponent of polytonality, and it can be detected in many of his works. The following example illustrates polytonality, and also dual modality to which it is related. The accompaniment outlines tonic and dominant seventh chords in G major while the melody is in D major for the first eight measures. Then the melody shifts abruptly to G minor while the accompaniment continues its pattern in G major.

Ex. 183 MILHAUD: *Saudades do Brazil, No. 7—Corcovado* (1921)



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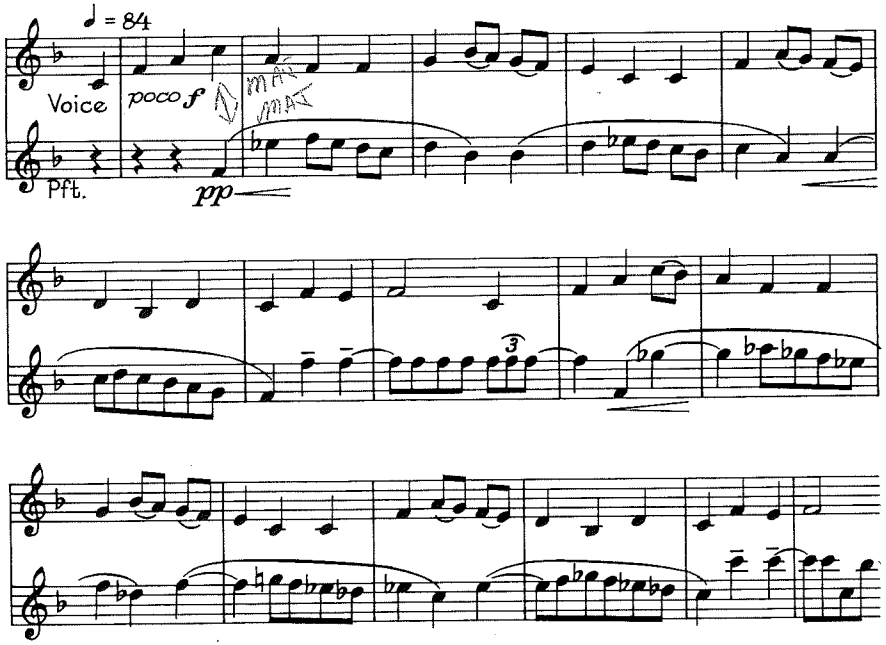
The polytonality in Britten's setting of *The Ash Grove* is particularly interesting because of the key change in the counterpoint on the repetition of the melody. Against the folk song in F, the added part is first in B-flat and then in D-flat, except for the one G-natural.

Ex. 184 BRITTEN: *Folk Songs of the British Isles, Vol. I No. 6* (1943)



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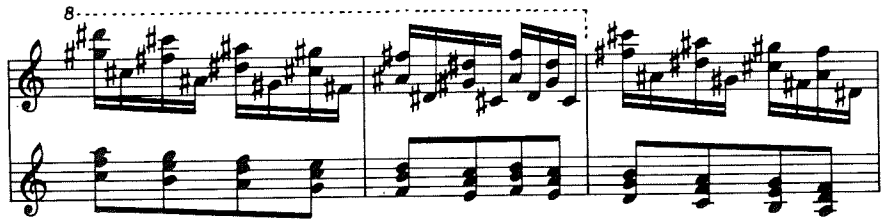
The black key-white key polytonality shown in Example 185 is a favorite in music for piano.

Ex. 185 MILHAUD: *Violin Sonata No. 2* (1917) p14



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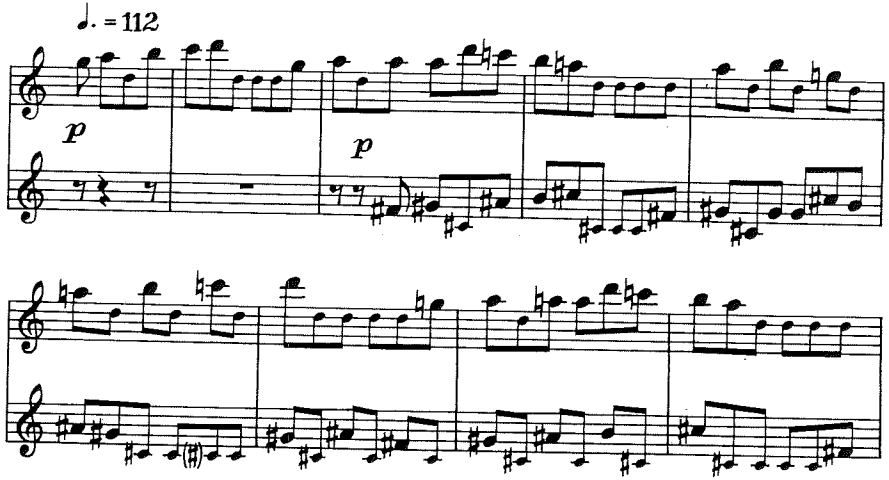
In Example 186 strict canonic imitation at the interval of a minor ninth produces dissonant polytonal polyphony. The mode is pure Dorian on D and C-sharp. The note heads are reproduced in two sizes as they appear in the original notation.

Ex. 186 HOVHANESS: *Allegro on a Pakistan Lute Tune* (1952)



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In the foregoing examples each tonality was founded on a major, minor, or modal scale, but other scales can figure in polytonal textures. Example 187 is based on the two whole-tone scales used in a manner which produces constant melodic doubling in minor thirds. This, like any uniform interval doubling, has polytonal implications (see Chapter 4).

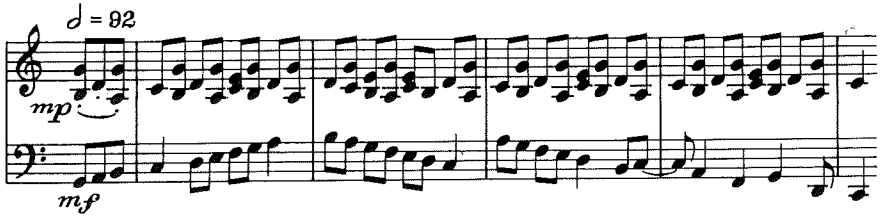
Polytonality can be used in both contrapuntal and homophonic styles and between closely related and remote keys to produce many degrees of dissonance and complexity. Drawing material from two recognizable tonalities simultaneously is another way concepts of tonal organization have been expanded in the twentieth century.

Pandiatonicism

Pandiatonicism is a term coined by Nicolas Slonimsky to describe music which, in reaction to excessive tonal chromaticism and atonality, reverts to the resources of the diatonic scale. Only the absence of characteristic

melodic and harmonic functions sets it apart from conventional diatonic music, so pandiatonicism is used sparingly by contemporary composers. Traditional chord progressions, melodic patterns, and cadence formulas are avoided to preserve a somewhat modern, if quaint, flavor. The following pandiatonic passage is typical.

Ex. 187 COPLAND: *Appalachian Spring* (1944) p51



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In this chapter ways of adapting tonality to contemporary requirements have been explored. The alternatives are simply to abandon tonality or to substitute something else in its place, possibilities examined in Chapter 14.

Suggested Assignments

1. Locate and describe a twentieth-century example of each of the following:
   a. Modulation or transposition to a remote key
   b. Shifting tonality
   c. Dual modality
   d. Polytonality
   e. Pandiatonicism
2. Write a concise original exercise which modulates or shifts to a remote tonality.
3. Compose a minor melody with an accompaniment in the parallel major key.
4. Write a polytonal two-part counterpoint exercise.
5. Write a passage for piano featuring black key-white key polytonality.
6. Compose a short piece which is at least partially pandiatonic.
7. For additional reading on tonality see Rudolf Reti's *Tonality in Modern Music* (Collier Books, 1962).

9

Cadences

SINCE cadences in the periods preceding our own were constructed from a limited number of stereotyped formulas, expansion of the cadence concept in the present century was inevitable. However, certain considerations peculiar to cadence points restrain the renunciation of traditional patterns. Listeners thoroughly conditioned to perfect authentic cadences are disturbed by radical departures from their preconceived configurations. Furthermore, the dissonant harmonies which dominate contemporary music and serve admirably in building tension within phrases are deficient in the repose quality required to conclude them. For these reasons cadences in contemporary idioms pose special problems. Composers in their quest for fresh cadential materials seek tonal combinations which will be perceived as cadences, because the aural perception of cadences is essential to the comprehension of music, especially in matters of form.

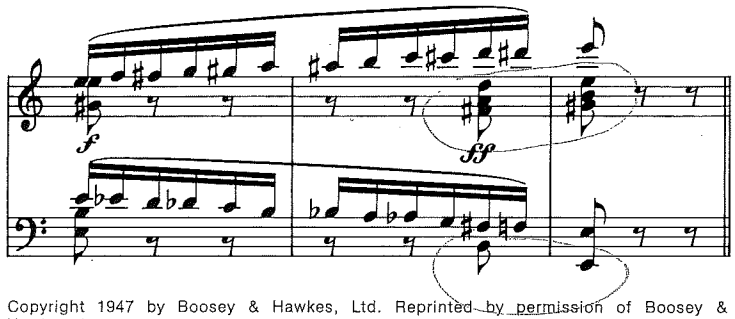
Representative contemporary cadence procedures are illustrated. For the sake of uniformity the examples have been selected from final cadences ending works or movements, but the same types are found within movements providing both complete and incomplete cadence functions. The distinctions between complete and incomplete cadences formerly made on the basis of chord structures and progressions are no longer valid. Cadential resources are too varied to be classified on that basis, but they do not introduce chord structures or progressions that have not been studied previously. Rather, they show these materials serving cadential functions. Since cadences are completely meaningful only in connection with the entire musical idea they bring to a close, the passages preceding the examples should be examined whenever possible.

Modified Dominants

In conventional music the formula for a complete cadence ordinarily consists of a progression from dominant to tonic. Not only does the dominant have a specified structure and stand in a fixed relationship to the tonic, but the movement of the individual voices is regulated by tradition. The only facet of this formula honored consistently by contemporary composers is the progression of an active sound to a less active or repose sound, and even this has its exceptions. The contemporary cadences, which have most in common with convention are those which keep the dominant-tonic function intact and modify only the structure of the dominant and/or its relationship to the tonic.

Example 188 has the traditional fifth relationship between the dominant and tonic and differs from tradition only in the use of the minor dominant and the upward resolution of its seventh. The diverging chromatic lines contribute to the cadential effect. The D-sharp and F-natural in the chromatic lines are heard as chromatic passing tones against the D-natural and F-sharp of the chord.

Ex. 188 BARTOK: *Piano Concerto No. 3* (1945) p91



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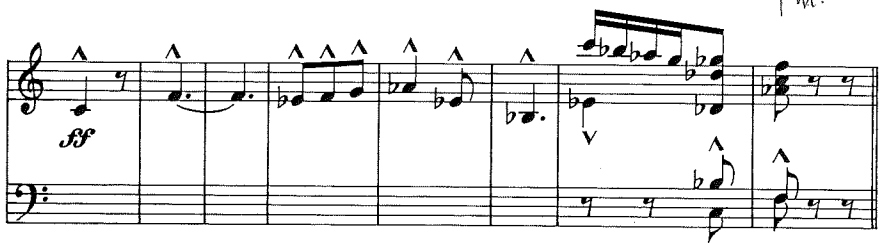
The fifth relationship is preserved, but the structure of the dominant in Example 189 represents a further departure from convention.

Ex. 189 BARTOK: *Concerto for Orchestra* (1943) p28



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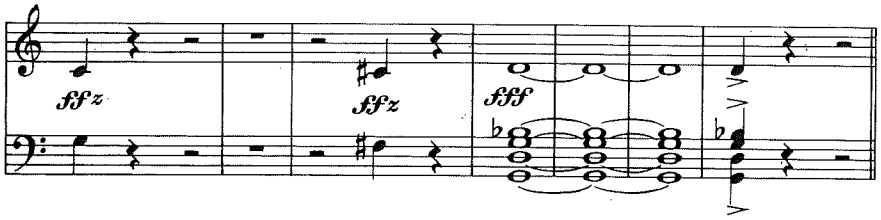
The interval of a perfect fifth on the leading tone provides the dominant function in Example 190.

Ex. 190 HARRIS: *Symphony No. 3* (1938) p103



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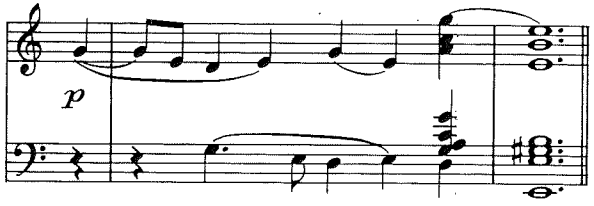
The final chord of Example 191 is preceded by a sonority which sounds like a D7 chord with an unresolved 4–3 suspension. Because of the G-naturals in the imitation just before, the G-sharp in the cadence chord has a Picardy third effect.

Ex. 191 BARTOK: *Piano Concerto No. 3* (1945) p48



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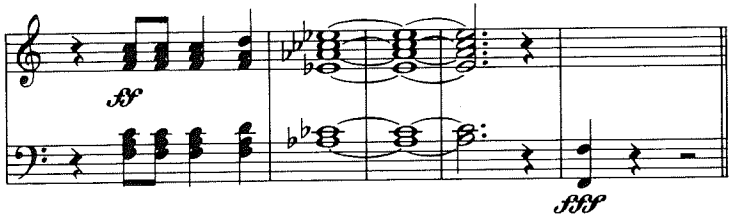
Typical dominant function is missing in Example 192 where the passing D's and the A-flat minor triad come between the major tonic triad and the final tonic note, F.

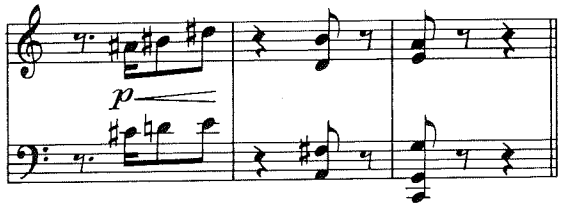
Ex. 192 SHOSTAKOVICH: *Symphony No. 1* (1925) p92



Modified Tonics

Notes can be added to cadential tonic triads without distorting them beyond recognition. In Example 193 the C tonic with an added sixth is approached from an inverted B minor seventh chord.

Ex. 193 STRAVINSKY: *Histoire du Soldat* (1918) p6



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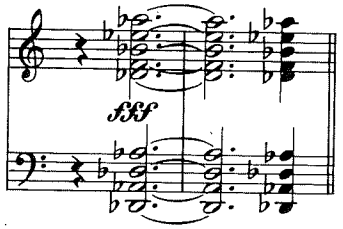
The final chord of Stravinsky's *Symphony in Three Movements* has an added sixth and an added second.

Ex. 194 STRAVINSKY: *Symphony in Three Movements* (1945) p120



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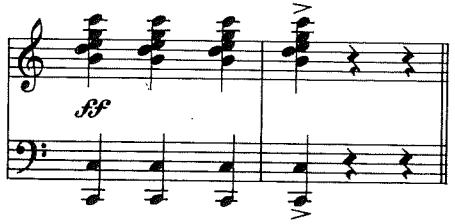
All of the notes of the tonic and dominant triads in C major are combined in the final chord of Prokofiev's *Third Piano Concerto.*

Ex. 195 PROKOFIEV: *Piano Concerto No. 3* (1921) p180



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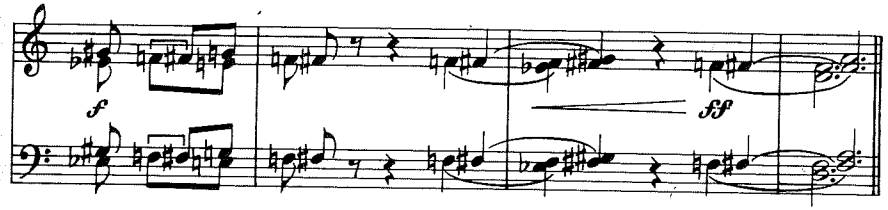
In Example 196 dual modality is carried over to the concluding tonic, which has both major and minor thirds.

Ex. 196 BARTOK: *Mikrokosmos, No. 108—Wrestling* (1926–37)



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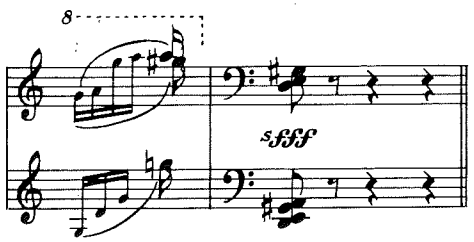
The net effect of *The Rite of Spring*'s final sonority, with its dissonant elements and close spacing in a low register, is percussive. Neither this chord nor the way it is approached bears any resemblance to a traditional cadence, but they serve the purpose admirably in this particular work.

Ex. 197 STRAVINSKY: *The Rite of Spring* (1913) p139



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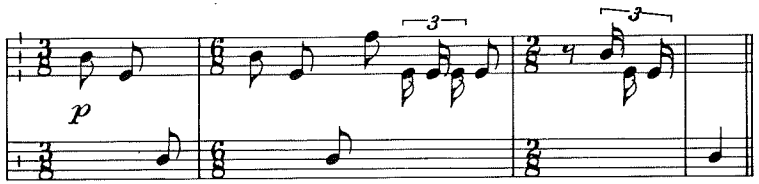
The next step after using a percussive sonority for a cadential tonic is using unaccompanied percussion instruments to make a cadence, as Stravinsky does in the following example.

Ex. 198 STRAVINSKY: *Histoire du Soldat* (1918) p68



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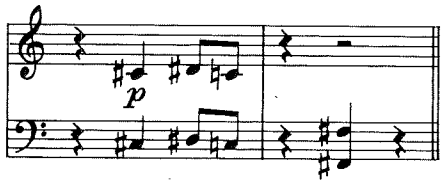
Linear Cadences

The motion of the individual voices is always of primary importance at cadence points. Linear motion is more decisive in some cadences than harmonic progression. This is necessarily the case when a composition ends like *Petrouchka* with a single line. The dominant-tonic relationship is established between the C-sharps and F-sharps in spite of the intervening D-sharps and C-naturals.

Ex. 199 STRAVINSKY: *Petrouchka* (1911) p171



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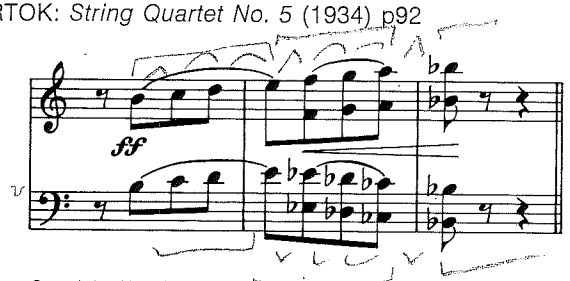
The diverging lines of Example 200 are reminiscent of those in Example 188, and they expand to an octave as did the outer parts in many prebaroque cadences. The stepwise approach to the tonic note with two voices in contrary motion is a venerable cadence device.

Ex. 200 BARTOK: *String Quartet No. 5* (1934) p92



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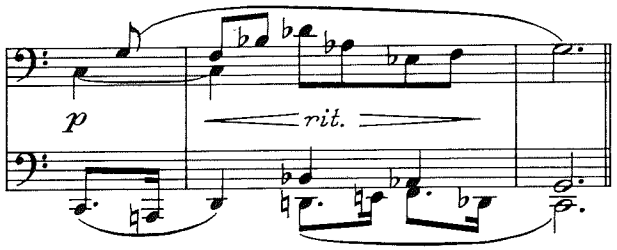
The outer parts in Example 201 expand by step to an open fifth, C-G. The penultimate chord, a D-flat major triad, is the Neapolitan chord in the key of C. Neapolitan chords traditionally are used in the first inversion preceding the dominant in cadence progressions. Only in more recent times have they been used in root position as dominant substitutes, a function illustrated in the following example. Though the key of the fugue is A-flat as indicated in the title, it ends (atypically for this work) on C.

Ex. 201 HINDEMITH: *Ludus Tonalis—Fuga Septima in A-flat* (1943)



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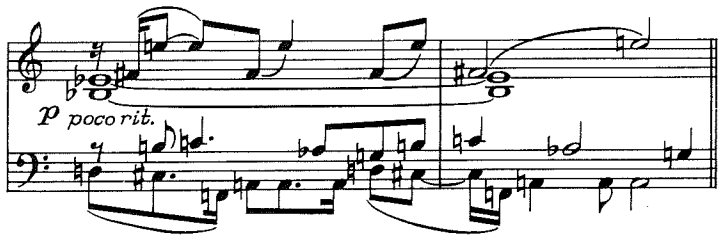
Noncadential Endings

Some compositions end without any approximation or reasonable facsimile of a traditional cadence. The active-repose elements or strong linear motion long considered essential are lacking. Endings of this sort—the word cadence hardly seems appropriate—are associated with atonal and, more particularly, twelve-tone music like the next two examples from Schoenberg. The last two measures of his *Fourth String Quartet* contain all twelve notes in an order derived from the series on which the quartet is based. Five of them are still sounding at the end.

Ex. 202 SCHOENBERG: *String Quartet No. 4* (1936) p107



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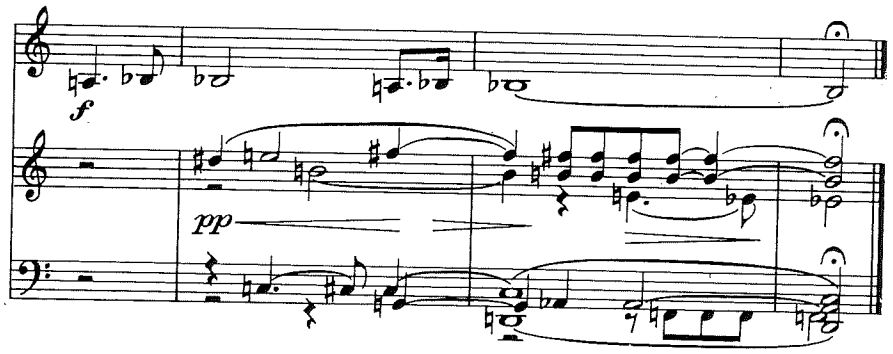
The solo part in the following ending suggests B-flat as the tonal center, but this tonality is not substantiated in the other parts. As in the preceding example all twelve notes appear, and this time eight of them are sustained in the fermata which ends the movement.

Ex. 203 SCHOENBERG: *Violin Concerto* (1936) p28



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In noncadential endings and cadences which tend to be ambiguous, tempo and dynamics assume added importance. Cadences which otherwise might be unconvincing are made believable by ritardandos, diminuendos, fermatas, and the like. Repetition also helps to establish cadential function. Observe the repetition in the top part of both Schoenberg examples. Harmonic progression, melodic line, rhythm, tempo, and (in performance) phrasing are factors capable of contributing to the cadential effect. When some of these elements are obscure or missing, the others must compensate for cadences to be successful. Interpretation is especially important at internal cadence points in unfamiliar idioms.

In contemporary composition it is neither possible nor desirable to adhere to ready-made cadence formulas. A suitable cadence—one appropriate to the style and medium and fulfilling the structural requirements—is devised for each cadence point in modern works. This makes composition, performance, and perception more difficult, but also more interesting and challenging.

Suggested Assignments

1. Analyze several final cadences in contemporary compositions and classify them according to the headings in this chapter.
2. Examine the cadences in your previous composition exercises and change any that can be improved using the devices introduced in this chapter.
3. Write a short exercise ending with a cadence having a modified dominant and/or tonic.
4. Compose some phrases for two melodic instruments which end with modern, linear cadences.