12

Harmonic Rhythm

It is helpful to review our conceptions of *meter* and *rhythm* in connection with our study of musical phrase structure. Meter is simply measurement, a means of regulating the passage of musical time by grouping pulses into countable units called measures or bars. Rhythm implies something more than meter, something that includes the possibility of unequal beats and unequal durations which contrast with pulses.

The metric organization of pulses into regular measures of equal length does not mean that all pulses within the measure have the same metric stress. The most useful convention, which has been referred to as the "tyranny of the barline," defines the first beat, with the barline placed immediately to the left of it, as the strongest beat in the measure, and the other beats as variously weak or weaker. Obviously, the first beat of a measure should be dynamically accented only when the music calls for it, and not because it happens to be the first beat.

Probably the most important concept in rhythm is the *agogic stress*, in which tones that are longer in duration are perceived as stressed with respect to those of shorter duration. The relative value of the agogic stress always depends on the musical context. A tone on the weak beat of a measure is unstressed relative to the measures; but the same tone can be perceived as stressed relative to a shorter tone that follows it within the beat. At the same time, we sense these agogic stresses on a background of countable, regular meter. Even if the rhythm is not regular, it nevertheless coincides with the meter at important points, and we can sense both rhythm and meter as contrasting with each other.

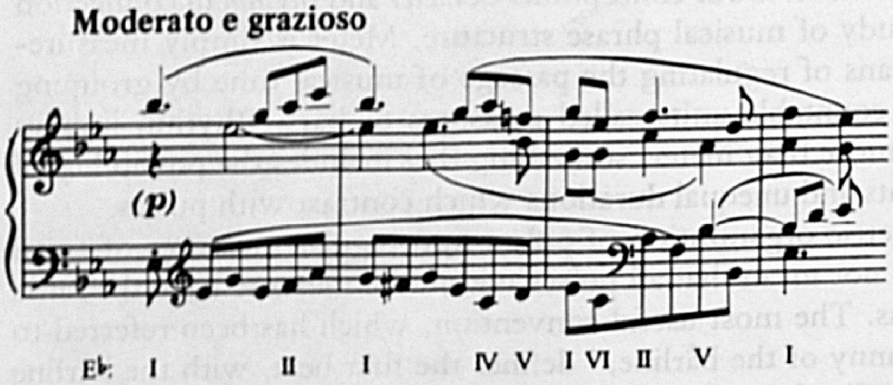
In our study of the structure of melody we recognized the importance of rhythm as an element of melodic shape, both in the motive

and in the phrase. We also saw that nonharmonic tones have rhythmic values of their own, in that they are perceived as rhythmically strong (appoggiatura) or weak (passing tone, neighbor note) relative to the tones that precede or follow them. We will now consider rhythm and meter more generally as elements of overall musical texture, and specifically as a component of harmony.

Rhythmic Texture of Music

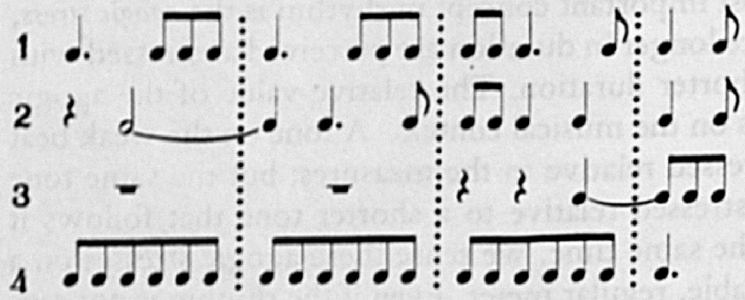
In its total effect on the listener, the rhythm of music derives from two main sources, melodic and harmonic. The following example shows these two kinds of rhythm:

EXAMPLE 12–1: Beethoven, *Sonata*, Op. 31, No. 3, III



The combined melodic rhythms in this example may be indicated thus:

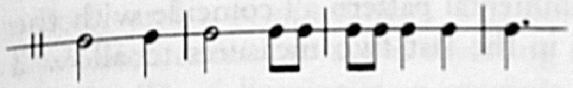
EXAMPLE 12–2



Clearly, the four patterns do not all have the same agogic stresses, nor do they all coincide with the meter at the same points.

Using roman numerals to indicate the root changes in the phrase, we can represent the pattern of the harmonic rhythm thus:

EXAMPLE 12–3



From this limited, quantitative notation of rhythm, two significant observations can be made:

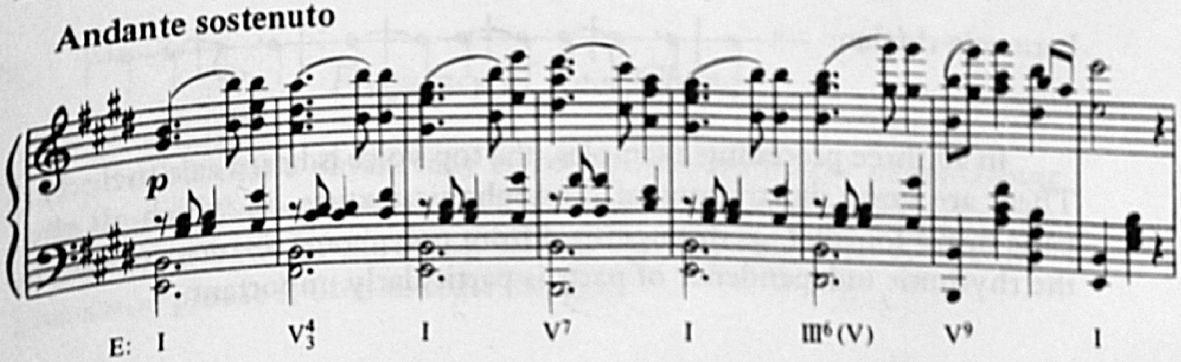
a. The pattern of harmonic rhythm, although differing from each pattern of melodic rhythm, results from the combination of all of them. This is an excellent corroboration of the often-stated principle that chords are made by moving voices. It does not matter that the composer may have had a particular harmonic succession in mind in planning the melodic working-out of the phrase, because the harmonic and melodic coherence are interdependent.
b. The root changes, which provide the pattern of the harmonic rhythm, are not regular in time, nor are they of equal rhythmic value. Both of these aspects of harmonic rhythm, frequency of root change and the quality of that change, must receive attention in a study of common-practice harmony.

Harmonic Rhythm and Melodic Rhythm

There need not be as much diversity in patterns as that found in the Beethoven example above. It is true that rhythmic independence of melodic lines is the mark of good counterpoint, but music is not always notably contrapuntal, and the complexity of its texture varies widely.

Changes of harmony occurring at regular intervals, like a regular meter, are characteristic of much music of the eighteenth and nineteenth centuries.

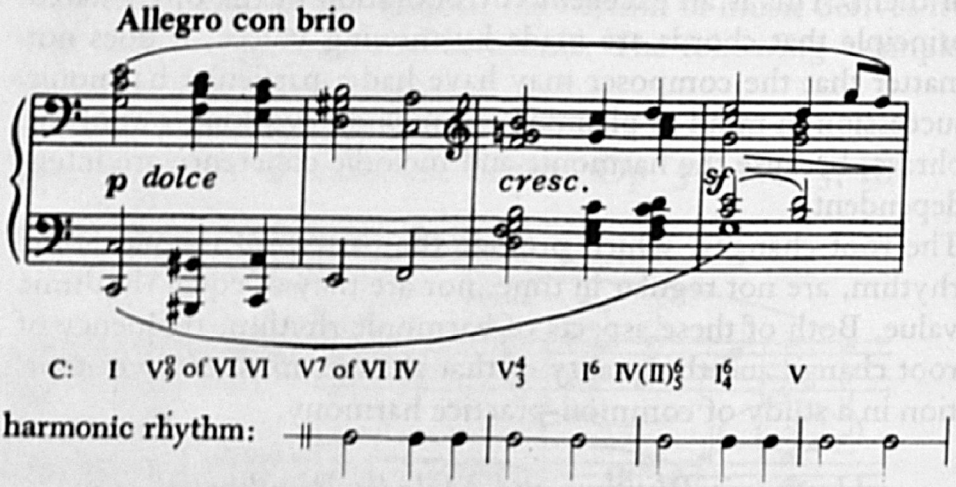
EXAMPLE 12–4: Brahms, *Waltz*, Op. 39, No. 1



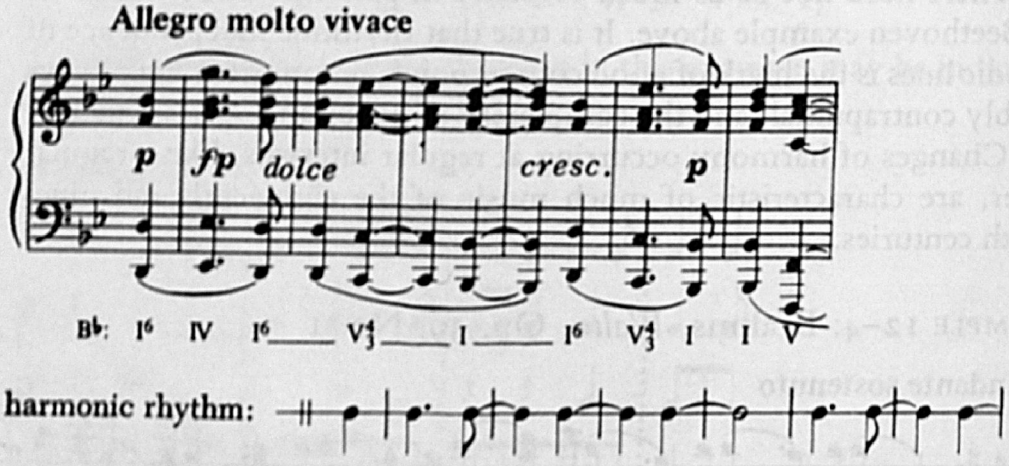
In the example above, the harmonic changes, the rhythmic motive of the melody, and the accompanimental pattern all coincide with the regular meter, with a departure in the last two measures to allow a cadence.

The rhythmic outline of all the voices may coincide, in which case the resultant harmonic rhythm will be in agreement with the melodic rhythm, although not necessarily with the meter.

EXAMPLE 12–5: Beethoven, *Sonata*, Op. 53 ("Waldstein"), I



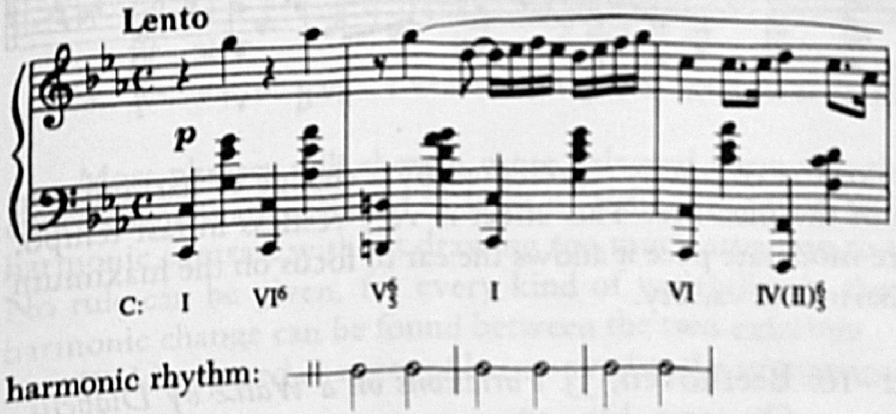
EXAMPLE 12–6: Schumann, *Symphony No. 1* ("Spring"), I



In all three preceding examples, the top voice is heard as a melody. These are good illustrations of homophonic texture, in which all the parts move together, as distinguished from polyphonic texture, in which the rhythmic independence of parts is particularly important.

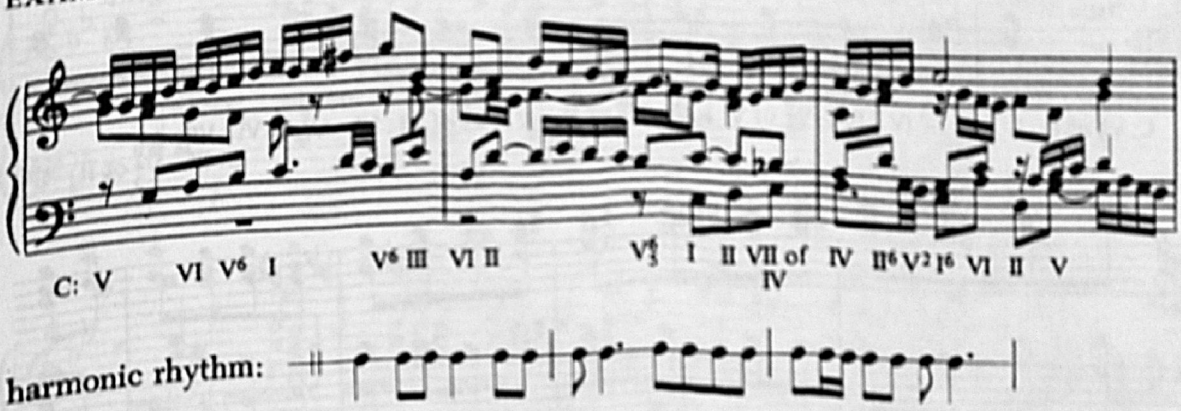
When one melodic line predominates over everything else we have melody and accompaniment. The accompaniment is often lacking in rhythmic interest, to avoid diverting the listener's attention from the melody. The following is an example of flexibility in melodic rhythm combined with a perfectly regular harmonic rhythm.

EXAMPLE 12–7: Chopin, *Nocturne*, Op. 48, No. 1



For vitality of rhythmic contrapuntal texture over a clear harmonic background, the works of J. S. Bach remain models of perfection.

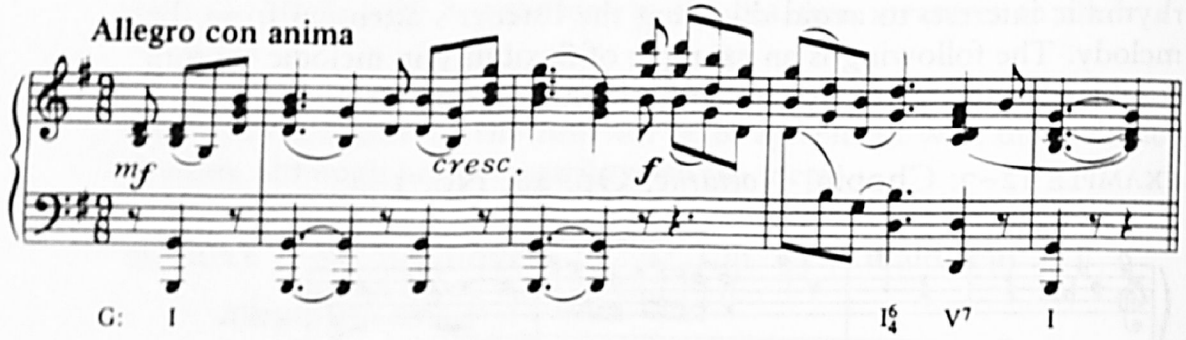
EXAMPLE 12–8: Bach, *Well-Tempered Clavier, I*, Fugue No. 1



Frequency of Root Change

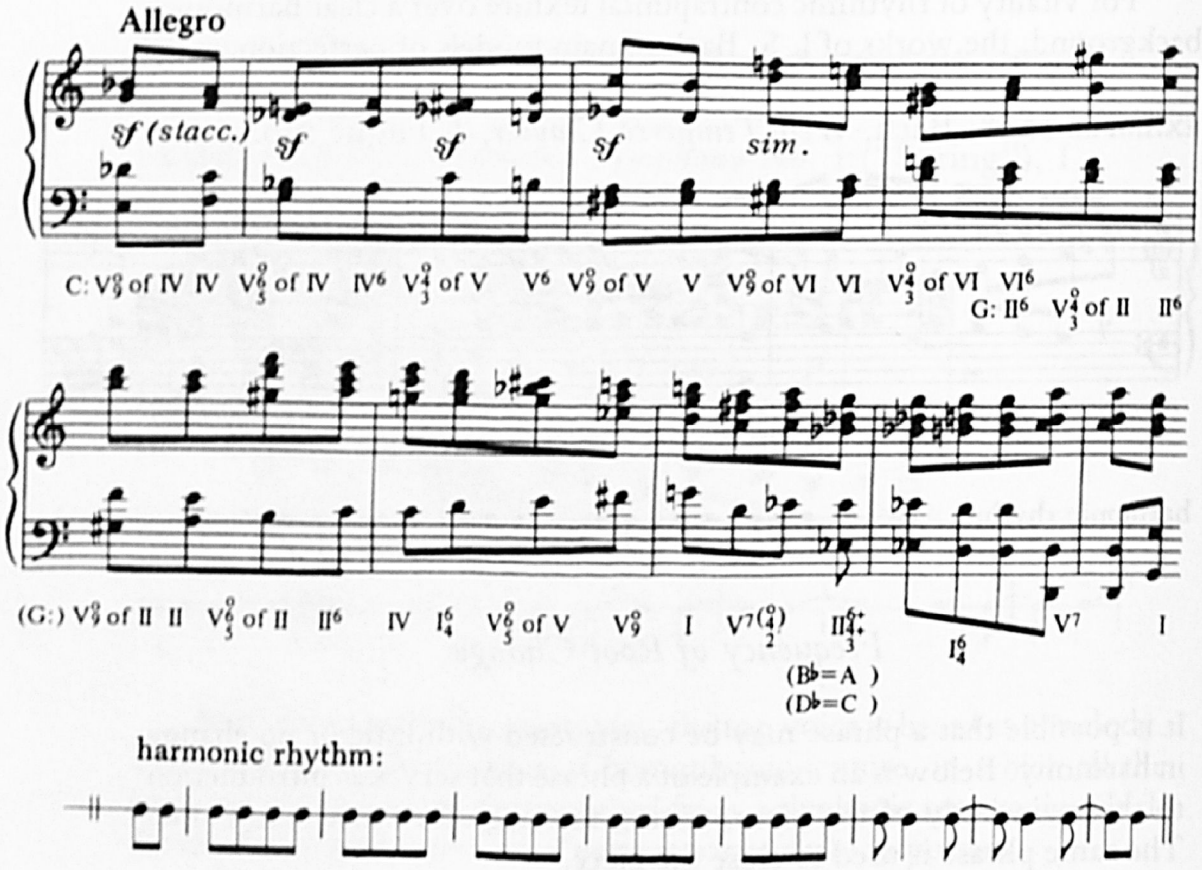
It is possible that a phrase may be constructed with little or no change in harmony. Below is an example of a phrase that serves as introduction to the main body of the piece, setting the stage for what is to come. The same phrase is used to close the piece.

EXAMPLE 12–9: Mendelssohn, *Songs Without Words*, Op. 62: No. 4, *Morning Song*

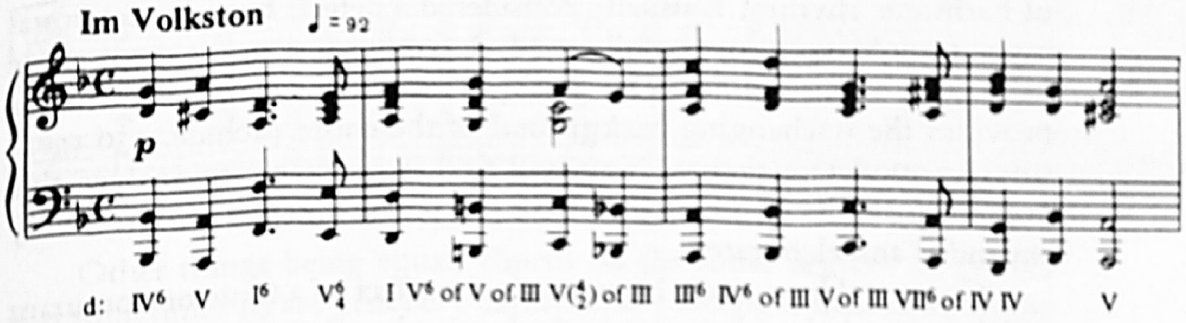


The opposite extreme is represented by a change of harmony on every pulse of the measure. This effect is very restless in fast tempo, but at a more moderate pace it allows the ear to focus on the maximum richness of harmonic variety.

EXAMPLE 12–10: Beethoven, *33 Variations on a Waltz by Diabelli*, Op. 120, No. 28



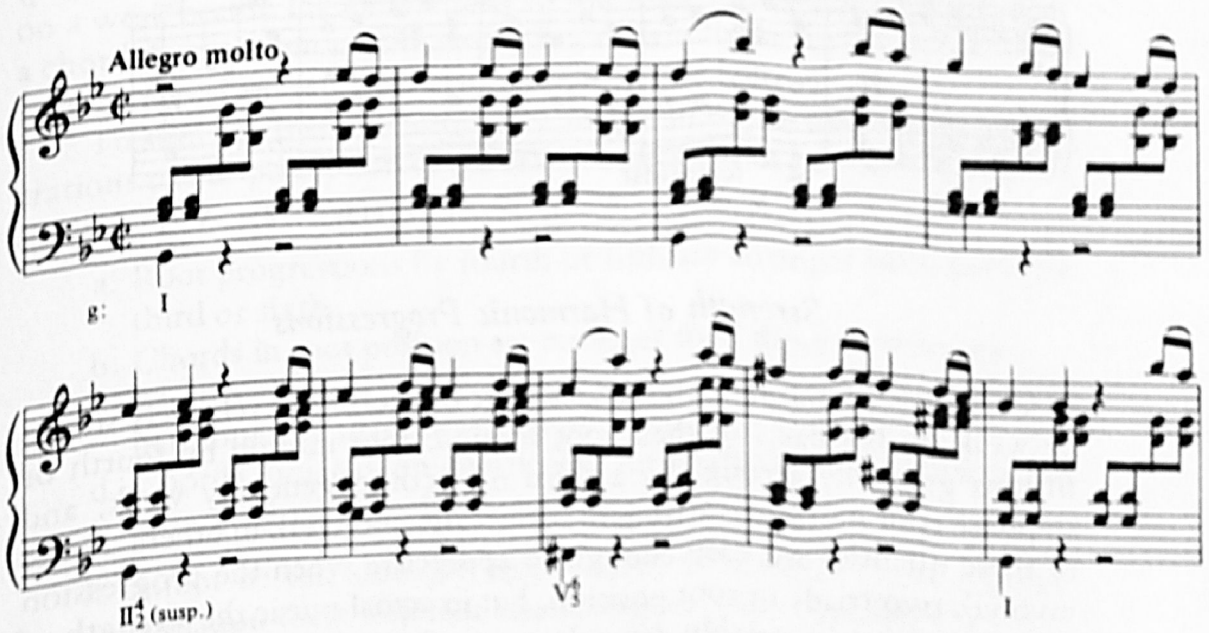
EXAMPLE 12–11: Schumann, *Album for the Young*, Op. 68: No. 41, *Northern Song*



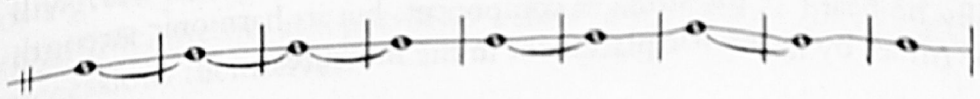
Most phrases will show a more balanced harmonic rhythm. The chord changes are designed to assist melodic movement and to provide harmonic contrast without drawing too much attention to themselves. No rule can be given, for every kind of variability in the amount of harmonic change can be found between the two extremes.

Widely spaced changes of harmony give the impression of breadth and relaxation.

EXAMPLE 12–12: Mozart, *Symphony No. 40*, K. 550, I



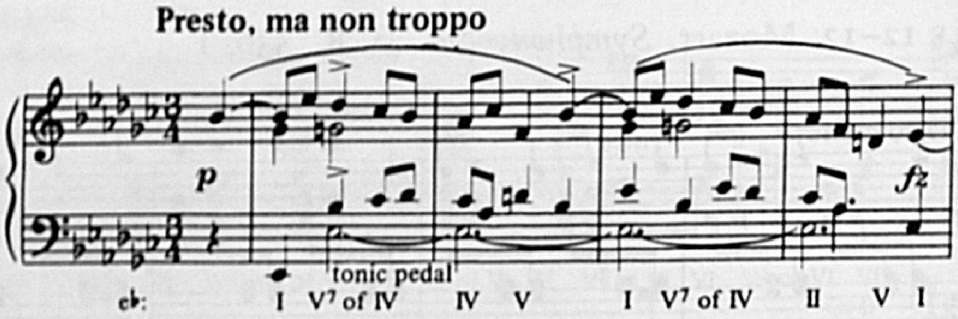
harmonic rhythm:



There are instances of complete absence of harmonic rhythm throughout whole sections of a composition. Static harmony, or absence of harmonic rhythm, is usually considered a defect, but in exceptional cases it can be very successfully used. A famous instance is the prelude to Wagner's music-drama *Das Rheingold*, where the chord of E♭ major provides the unchanging background of the entire prelude, 136 measures in moderate tempo. You will find it profitable to analyze this prelude from its beginning as a single pitch which is progressively expanded and elaborated.

Comparable to static harmony is the effect of a tonic or dominant pedal, particularly when it is in the bass, where it is strong enough to establish its own harmonic identity. The pedal in the bass tends to overpower the sense of harmonic progressions above it, and may cause them to be heard more as melodic tones above a single root. In the analysis of such a passage, it is customary to note the presence of the pedal function side by side with the harmonic functions.

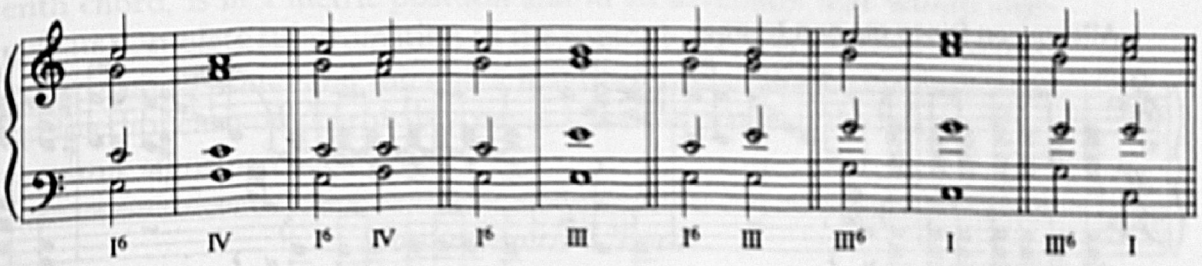
EXAMPLE 12–13: Chopin, *Mazurka*, Op. 6, No. 4



Strength of Harmonic Progressions

In Chapter 3, harmonic progressions were categorized as relatively strong or weak on the basis of their root motion: root motion by fourth or fifth as generally strong, by a third or sixth as generally weak, and stepwise root motion as strong in some cases and weak in others. Some of these qualities are easy enough to appreciate when the progression involves two triads in root position, but in actual music the strength of the progression invariably depends upon other criteria as well. A root-position triad, when in progression with a first-inversion triad, will generally be heard as the stronger component, but its harmonic strength may be offset by its metric placement in the measure.

EXAMPLE 12–14



Other things being equal, chords on the tonal degrees (I, IV, V, and sometimes II) are generally harmonically stronger than those of the modal degrees (III, VI). This generalization does not include secondary dominants having these degrees as roots, as for instance V of II having the same root as VI, because these chords function as dominants and therefore have dominant strength.

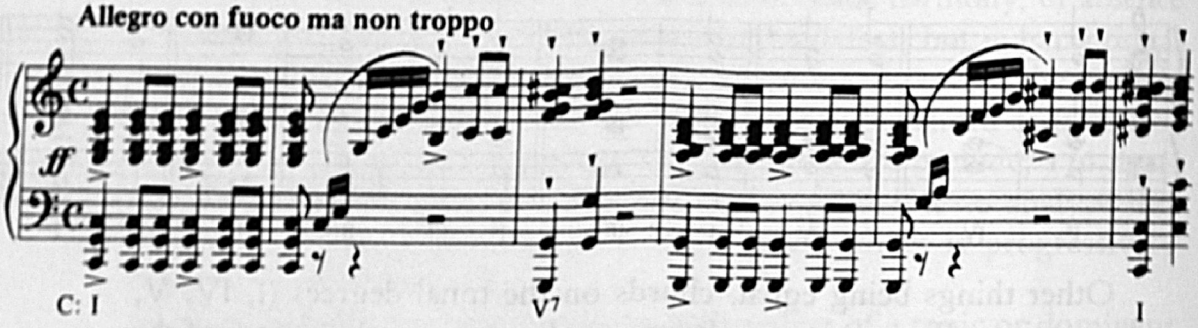
As a rule, a chord that is rhythmically or metrically strong will also be harmonically strong. A weak harmony occurring on a strong beat, or agogically stressed, may tend to be heard more as a substitute for a stronger harmony; that is, it will have a nonharmonic component; we saw several examples in the discussion of III^6 and VI^6 in Chapter 6 (pages 78–82). By the same token, a weak harmony will naturally occur on a weak beat in the measure, or on the weak fraction of a strong beat; a chord that is harmonically strong but metrically or rhythmically weak may be perceived as a nonharmonic chord (see below).

To sum up, then, we can apply any or all of the following considerations to our perception of the relative strength of harmonic progressions:

a. Root progressions by fourth or fifth are stronger than those by third or sixth.
b. Chords in root position are stronger than those in inversion.
c. Chords that are agogically stressed are perceived as stronger harmonically than those that are agogically weak.
d. Chords situated on metrically strong beats are perceived as stronger harmonically than those on weak beats.

It cannot be too strongly emphasized, however, that in a given musical situation these different considerations will often contend with each other. One's perception of the harmonic strength of a given chord or a given passage will inevitably depend on a balance between different rhythmic, metric, and positional values of the chords as well as the root successions themselves.

EXAMPLE 12–15: Schubert, *Fantasy*, Op. 15 ("Wanderer")

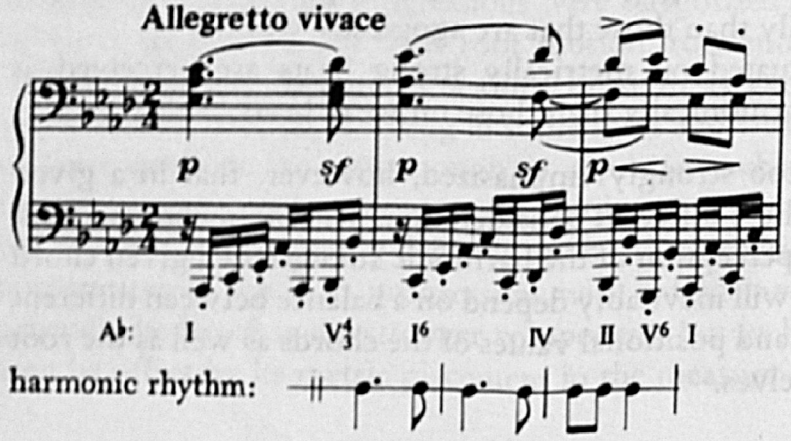


In the example above, the rhythm of the harmonic changes is in distinct contrast to the perceived metric structure of the two three-measure phrases. The preponderance of dominant harmony, situated between two shorter durations of tonic harmony, is not felt as a defect. The two phrases are identical in length, rhythm, and melodic shape; the balanced phrase structure is further reinforced by the strong cadences. There is no real feeling of weak–strong or strong–weak in the harmonic rhythm because the tonic and dominant are really of equal strength, and because their progressions complement each other in the phrases.

Dynamic Indications

Directions for nuances of loud and soft, *crescendi* and *diminuendi*, accents, *sforzandi*, and the like, are of course not elements of harmonic rhythm. Ordinarily, they help to confirm and accentuate the natural rhythmic feeling already present in the music, although sometimes the composer may employ them in a contrary sense for a particular expressive purpose.

EXAMPLE 12–16: Beethoven, *Sonata*, Op. 31, No. 3, II



Cf. Ex. 6–27

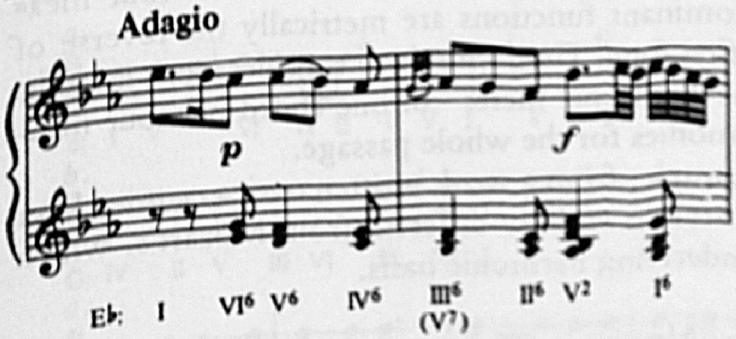
In the example above, the second chord, although a dominant seventh chord, is in a metric position and in an inversion that would suggest its complete subordination to the tonic chord, the soprano and bass being passing tones and the alto a neighbor note. The accent indicated by Beethoven would probably never have occurred to the player if no dynamic signs had been given.

Nonharmonic Chords

The question raised by the Beethoven example (12–16), of whether a vertical combination of tones is an independent chord or just some melodic tones that happen to form a chord at the moment, is open to differing interpretations. Such problems will often be decided on the basis of rhythm and metric placement, that is, they will be aspects of harmonic rhythm, but one may also need to take into account the general pace and musical character of the piece.

In a slow tempo the ear has time to fix on every chord change and to hear its harmonic value, even in a passage like the following, where the parallel writing and the absence of root position give the impression of passing motion.

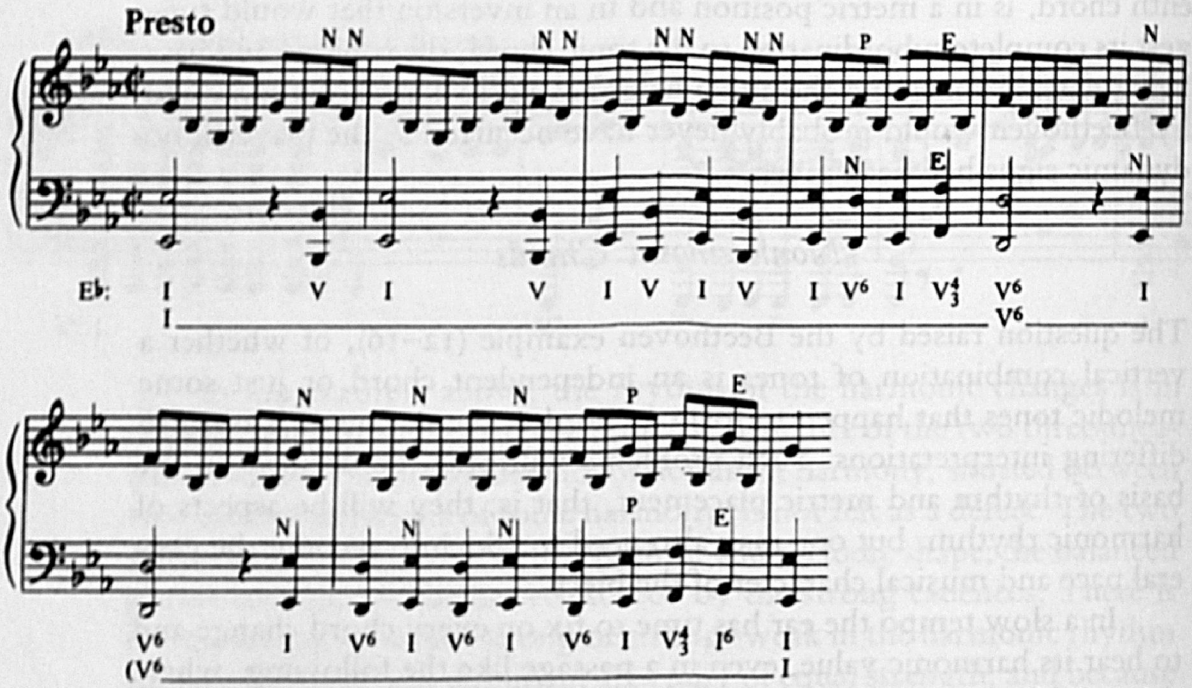
EXAMPLE 12–17: Haydn, *Sonata No. 29*, II



The example above is comparable in construction, but quite opposite in effect, to Example 6–12, from Beethoven's *Sonata*, Op. 2, No. 3. In that example the first-inversion chords between I and IV were transient and melodic, not harmonic. The difference between the two examples is in their harmonic perception, which in turn is due entirely to the great difference in tempo.

In the following example the speed of the music justifies a broader view of the harmony than would be indicated merely by the visible root changes.

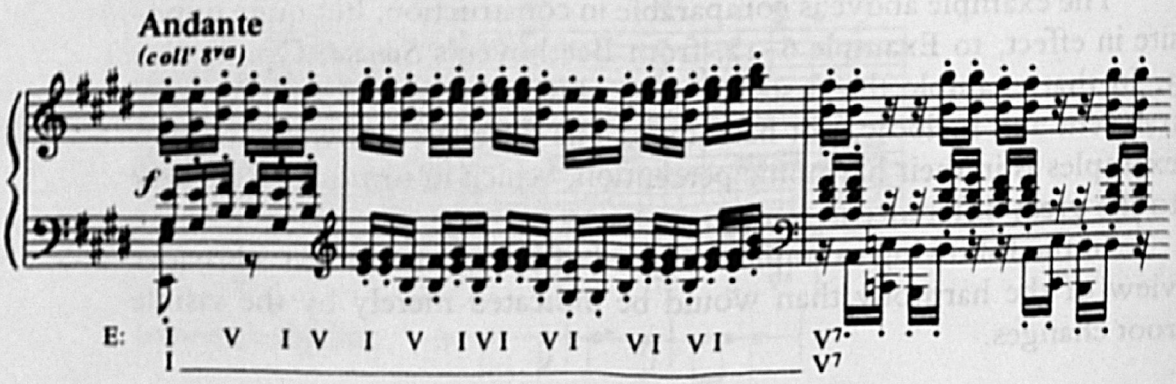
EXAMPLE 12–18: Mozart, *Piano Concerto*, K. 271, III



In this example, although the dominant harmonies in the first three measures are all in root position, they are rhythmically weak with respect to the tonic; moreover, the upper part of the dominant harmony forms a double neighbor surrounding the tonic note. In the last four measures, the tonic and dominant functions are metrically the reverse of what they were in the first four. Thus with these considerations it seems reasonable to invoke a "harmonic meter" of one chord per four measures, or only two harmonies for the whole passage.

Here is another example, from a work written over a century later by a composer whose style is entirely different from Mozart's, which shows a comparable underlying harmonic basis.

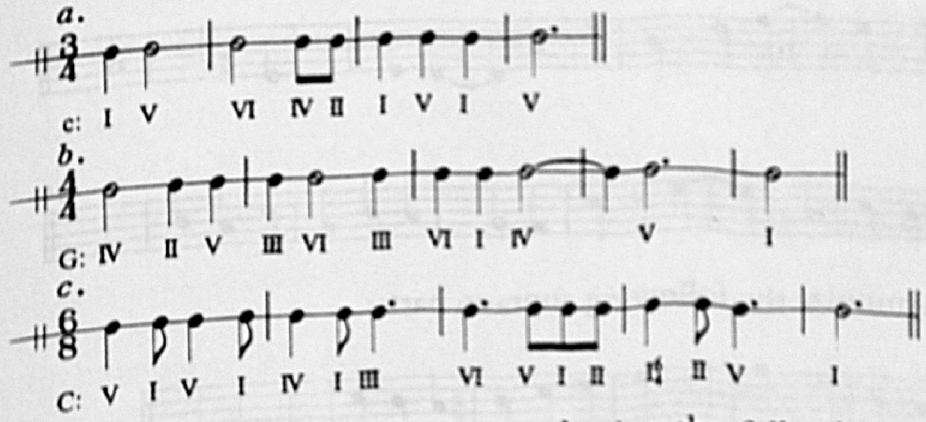
EXAMPLE 12–19: Lalo, *Namouna*, Thème varié



The way we have interpreted these examples suggests that just as there are nonharmonic tones, there may also be nonharmonic chords, triadic sonorities that arise from combinations of nonharmonic-tone motions in simultaneous voices. We have already seen that it was possible to interpret certain dissonant chords in this way, such as VII^6 and the passing and auxiliary six-four chords. In those cases, the dissonant chords were assessed as having weak rhythmic value, and now we have done the same for consonant triads, even those in root position. In the Mozart example above, the root of the root-position V is not considered as a nonharmonic tone like a passing tone or neighbor note, but rather as an arpeggiated tone extending or anticipating the tonic harmony.

EXERCISES

1. Construct phrases in four parts, having the following patterns of harmonic rhythm and employing the harmonies indicated by the given numerals. Use root position or first inversion except where otherwise specified. Write two versions of each pattern, one in moderate tempo with no note-values shorter than an eighth note in the added parts, and the other in slow tempo, including sixteenth notes in the added parts.



2. Write phrases in four parts, having the following patterns of harmonic rhythm and employing optional harmonies: