

# Bass Lines and Harmonic Structure

In Chapter 2 we examined aspects of upper-voice melody; in this chapter we shall consider the nature of the lowest voice, and its relationship to harmonic structure. The bass differs from other voices because of the particular role it plays in supporting and defining harmonic motion. It does so at levels ranging from immediate, chord-by-chord events to the larger harmonic organization of an entire work.

Schenker's conception of harmonic structure is based in part on the theory of *scale steps*, from the German word *Stufe* (the plural is *Stufen*). The simplest way to think of a scale step is as a chord built on one of the degrees of the scale. The possibilities—represented by Roman numerals in the progression by falling fifths—are I–IV–VII–III–VI–II–V. In principle a *Stufe* is a triad, though it may be represented by chromatically altered chords (such as II<sup>#</sup> or seventh chords derived from the triad). It is also possible for *Stufen* to occur as two notes forming an interval belonging to the triad or even by a single note—the root of the harmony.

A scale step may occur as a single chord or be prolonged over longer spans. As single chords, they tend to “cluster” toward the conclusions of tonal motions, particularly at half and authentic cadences; characteristic motions include IV–V–I, II–V–I, and VI–II–V–I. In general, fewer scale steps characterize the beginning and middle stages of harmonic motions, because one or more intervening chords—arising through contrapuntal means—frequently expand individual *Stufen* after an initiating tonic. And because tonal frameworks are hierarchical in nature, a chord that appears as a *Stufe* at one level may function contrapuntally at another. For instance, consider the progressions III–IV–V and I–VI–I. In the first pattern, IV fulfills a passing function between III and V; in

the second, VI arises from neighboring motion in the expansion of tonic harmony. Yet locally both represent individual scale steps.

For Schenker, the most fundamental scale steps are I and V, that is, the chords built on the first and fifth scale degrees; indeed, the motion from I to V represents the most essential progression in tonal music. Other scale steps—such as II, III, IV, and VI—elaborate this basic progression, sometimes over large stretches of music, but they function subordinately to I and V in this fundamental harmonic framework.<sup>1</sup>

A practical way of evaluating harmonic structure is through a general framework that will help you determine how individual chords function—through contrapuntal means—within broader *classes* of harmonies. The framework we use throughout this book is symbolized “T–Int–D–T,” in which “T” stands for tonic class, “Int” for intermediate class (dominant prefixes), and “D” for dominant class. Consider the simple progression I–I<sup>6</sup>, which literally contains two chords, yet both represent the same class: T harmony. The succession I–VII<sup>6</sup>–I<sup>6</sup> is a further elaboration; VII<sup>6</sup> arises from a passing tone in the bass that connects the root and third of the tonic. We can begin to appreciate how elements of counterpoint serve to *prolong* and *expand* underlying classes of harmonies.

This same line of reasoning applies to the other harmonic classes, Int and D. In the motion IV–II<sup>6</sup>–V, the dominant prefixes are part of the same Int class. These explanations illustrate the expansion of a single harmonic class. Another way of elaborating the framework is through the development of *space between* harmonic classes, as in the motion I–VI–IV. In this case the intervening VI chord connects I with IV (T moving to Int) and in so doing creates breadth in the harmonic structure.

These examples begin to reveal the distinction between “chord” and “harmony,” a significant aspect of Schenker’s ideas. The use of Roman numerals and figured-bass symbols, therefore, is only a first step in analysis; ultimately the analyst must consider the broader means of harmonic organization in which individual chords function.<sup>2</sup>

### *Tonic Harmony (T Class)*

The opening of the second movement from Mozart’s Piano Sonata K. 545 (Example 3.1a) illustrates various kinds of chord functions. Tonic harmony influences a large portion of the phrase, from bar 1 to bar 6. The V<sub>3</sub><sup>4</sup> on the third beat of bar 1 provides harmonic variety, yet it also serves to expand (or prolong) the initial tonic harmony. Melodically the bass note A (beat 3) is a neighbor; hence the contrapuntal motion G–A–G supports the local chord progression I–V<sub>3</sub><sup>4</sup>–I (bars 1–2), and represents an expansion of T class harmony.

In Chapter 2 we saw ways in which a tone can be prolonged or extended by means of other tones. Here we see the prolongation of tonic harmony by means of a different chord. The stepwise voice leading and neighbor motion in the bass minimize harmonic contrast, and reinforce the continuity of the harmonic progression. Consider the difference in effect between the inverted V<sup>7</sup> in bar 1 and the root-position V that occurs in the cadence at the end of the phrase (bar 8). This V serves as the goal of the preceding harmonic motion, and is elaborated by

a cadential  $\frac{6}{4}$  on the first beat. Thus the dominant chords in bars 1 and 8 have markedly different functions that are determined by the context in which they occur.

Like the  $V_3^4$  in bar 1, the chords in bar 3 also embellish tonic harmony. They do so through double-neighbor motions, as shown by lines connecting the tones D–E–C#–D and B–C–A#–B in the inner voices (Example 3.1b). These linear motions create a neighboring  $\frac{6}{4}$  and a common-tone diminished seventh chord over a stationary bass. Chords formed through either passing motion or, as in Example 3.1, through neighboring motion (including the use of *incomplete* neighbors) are called *contrapuntal* chords. The contrapuntal chords in bars 1 and 3

### Example 3.1

(a) Mozart, Piano Sonata, K. 545, II, bars 1–16; (b) analytical interpretation, bars 1–8

(a) Andante

③

⑦

### Example 3.1 *continued*

(b)

③ ④ ⑤

IN IN P P

N I I I N I

⑥

VI

I — I<sup>6</sup> IV <sup>6</sup> V<sup>6-5</sup><sub>4-3</sub>

serve to prolong tonic harmony; contrapuntal chords can also form part of a motion from one harmony to another.

The return to I in bar 6 (after another neighboring  $V_3^4$ ) is followed by a descent in the bass through E to B, supporting VI and  $I^6$ .<sup>3</sup> As indicated in Example 3.2, this descending sixth inverts the rising third that would typically support a motion from I to  $I^6$ . The larger descending interval is subdivided into two smaller leaps by the tone E, which supports VI. Here, the prolongation of tonic harmony (I– $I^6$ ) involves leaps, in contrast to the stepwise bass line of bars 1–5.

Tonic harmony, therefore, is prolonged in the first six bars of the Andante. Other chords provide variety in various ways, but function within this governing harmony or harmonic “space.” Integration of the related chords with the primary harmony is achieved through contrapuntal motion and close harmonic relationships, such as that of dominant and tonic, or the common-tone association of I and VI. These chords function in a more “local” way than does the tonic harmony that governs bars 1–6.

The prolongation of tonic harmony is followed by a motion to the dominant in bars 7–8. In the bass, the motion to B (bar 6) is followed by the tones C and D, supporting the IV and V chords. (As shown in Example 3.1b, the leap to E on the third beat of bar 7 is a local detour that does not disrupt the stepwise

### Example 3.2

Expansion of tonic harmony through interval inversion

becomes                      and

I — I<sup>6</sup>                      I — I<sup>6</sup>                      I    VI    I<sup>6</sup>

motion from IV to V.) Example 3.3 represents the bass and harmonic structure of the phrase in two stages: I–IV–V becomes I–I<sup>6</sup>–IV–V.

We observed above that the  $\frac{6}{4}$  chord on the downbeat of bar 8 is a contrapuntal chord that elaborates dominant harmony. As we will discuss later in the section on dominant harmony, the cadential  $\frac{6}{4}$  chord typically intensifies (through suspensions or accented passing tones) the dominant to which it resolves. For this reason cadential  $\frac{6}{4}$  chords will be represented by the symbol  $V\frac{6}{4}$ , instead of the more literal  $I\frac{6}{4}$ .<sup>4</sup> In general, roman numerals serve to indicate harmonic functions in Schenkerian analysis, rather than to identify the spelling of individual chords. They are used sparingly in graphs, as will be seen in later chapters.

Minor changes occur in the consequent phrase, such as the use of  $II^6$  (Int class) instead of IV over the bass C in bar 15; furthermore, the cadential  $\frac{6}{4}$ , intermediate  $II^6$ , and dominant harmonies are compressed into one bar (compare bars 7–8 with bar 15). This recomposition ensures that the tonic will arrive in bar 16, thereby maintaining two symmetrical eight-bar phrases. Fundamentally, however, the motions I–(I<sup>6</sup>)–IV–V and I–(I<sup>6</sup>)– $II^6$ –V–I represent parallel harmonic progressions with different but complementary cadences.

Reflect for a moment on your own experiences playing and listening to tonal music. Have you felt a sense of motion and progression, both within individual phrases and in complete works? If so, have you thought about what creates that movement? Like literature and drama, Western music traditionally incorporates some kind of progression (melodic and harmonic) from a point of departure to a goal. In this case, the phrase moves from the initial tonic to the perfect authentic cadence in bar 16. The bass line characteristically plays an integral role in harmonic motion, forming the basis and support for the succession of chords and the larger harmonic framework they create.

### Example 3.3

Mozart, Piano Sonata, K. 545, II, bars 1–8: bass and harmonic structure

becomes

I    IV    V                      I    I<sup>6</sup>    IV    V  
T    Int    D                      T            Int    D

In simplest terms, the motion I–V–I illustrated in Example 3.4 forms the structural harmonic framework that other chords serve to expand and elaborate. One reason why the I–V–I relationship is so essential in tonal structure is that the dominant tone is the first independent pitch (after the octave) in an overtone series above a given note. Moreover, the dominant tone—the root of the V chord—is also the fifth of the tonic chord. Thus the bass of I–V–I can be regarded as an *arpeggiation* of the root and fifth of the tonic (notice how the *vertical* triad is expressed as an arpeggiation in Example 3.4). Just as melodic continuity is based on stepwise motion, so the disjunct motion I–V–I forms the most fundamental harmonic motion of tonal music.

The bass line is the support and organizing influence for a succession of chords, and is therefore fundamentally different in character from the types of melodic lines discussed in Chapter 2. In most compositions, however, this “foundation” bass is elaborated, which makes it more melodic in character. In other words, as we move from the framing I–V–I closer to the musical “surface” (or the moment-to-moment events), we may observe a series of stages that successively embellish this essential harmonic progression.

Example 3.5a presents the bass and soprano lines for the first phrase of the chorale “O Ewigkeit, du Donnerwort.” (The complete phrase is given in Example 2.1.) Like Example 3.1, the chorale begins with a prolongation of I. Here the VII<sup>6</sup> (bar 1, beat 2) is used as a passing chord between I and I<sup>6</sup>: notice that passing motion occurs in both soprano and bass, which move in parallel tenths from the first to the third beat of the first complete bar. As mentioned earlier, the progression I–VII<sup>6</sup>–I<sup>6</sup> represents an expansion of T class harmony. The prolongation of tonic harmony continues with a return to a root-position I on the fourth beat of the bar.

### Intermediate Harmonies (Int Class)

The IV chord on the next downbeat functions as part of the authentic cadence (IV–V–I) that ends the phrase. Like the IV chord in bar 7 of Example 3.1, this subdominant chord connects the initial tonic prolongation with the dominant. Chords that connect the initial tonic (prolonged or otherwise) with the structural dominant are called *intermediate* (or *pre-dominant*) *harmonies*. (In Example 3.1, both the IV in bar 7 and the II<sup>6</sup> in bar 15 are intermediate harmonies.) Among the many chords that can function in this manner are II, IV, VI, and III (the II and IV chords often appear also in inversion). Intermediate harmonies are perhaps

#### Example 3.4

Linear expansion of vertical triad

becomes

I                    I–V–I

the most frequently encountered elaborations of the structural harmonic motion I-V-I. Because they appear with such great frequency in structural bass-line patterns, we consider intermediate harmonies (as already suggested) as part of the structural harmonic framework itself: T-Int-D-T, indicated in Example 3.5b.<sup>5</sup>

The leap of a fourth in the bass from the initial I to the IV of the cadence is filled in (compare Examples 3.5a and 3.5b), resulting in a motion that leads mainly by step to the V of the cadence. (The return to F on the fourth beat is a consonant skip that embellishes the stepwise motion of the bass.) Notice that the designations “VII<sup>6</sup>” and “I<sup>6</sup>” appear on a separate level beneath the staff, indicating that they expand T class harmony. We will sometimes use different levels of roman numerals to distinguish contrapuntal and prolonging chords from the more fundamental classes of the harmonic structure. The brackets, incidentally, point out a beautiful motivic relationship between the outer voices: the broader ascent from F to C in the bass is anticipated in the soprano (and highlighted by the repetition of C) as part of its octave ascent. These symbols, called *motivic brackets*, are often used in Schenkerian graphs to indicate various kinds of motivic relationships.

Example 3.6a-d shows important possibilities for single intermediate harmonies embellishing the tonic-dominant framework. Notice that the bass in Example 3.6d arpeggiates the notes of the tonic triad, with III dividing the motion from I to V into two thirds (a pattern occurring very frequently in the minor mode). In Example 3.6e, IV is transformed into II<sup>6</sup> through a contrapuntal 5-6 motion (the parentheses indicate that the II<sup>6</sup> in this case belongs to the subdominant *Stufe*). In the following pattern, II is related similarly to the previous

### Example 3.5

- (a) J. S. Bach, Chorale, “O Ewigkeit, du Donnerwort,” bars 1–2, bass and soprano lines;
- (b) harmonic structure

(a)

VII<sup>6</sup> I<sup>6</sup>

I IV V I  
authentic cadence

(b)

I IV V I  
T Int D T

### Example 3.6

#### Progressions with intermediate harmonies

(a)  $IV \quad V$   
 $II^6$

(b)  $II \quad V$

(c)  $VI \quad V$

(d)  $III \quad V$

(e)  $IV^5 \overline{(II)}^6 \quad V$

(f)  $IV \quad II \quad V$

(g)  $IV \quad V_5^6 \quad V$   
 $VII^7$

(h)  $IV \quad +^6 \quad V$

(i)  $IV \quad \frac{6}{4} \quad +^6 \quad V$

IV but now appears in root position; such “intermediate pairs” are a common means of expanding subdominant and supertonic harmonies ( $II-II^6$ ).

Intermediate harmonies (and their expansions) are by no means restricted to diatonic chords. Raised scale degree  $\hat{4}$  (often appearing in the bass) is the basis of a group of chords we can refer to as *chromaticized intermediates*. Example 3.6g, for instance, shows raised  $\hat{4}$  supporting  $V^6$  or  $V_5^6$  of V (both of which represent a chromatically altered II); a related possibility is  $VII^7$  of V (an altered IV). Notice that the applied chord develops as a chromatic *transformation* of the initiating, diatonic harmony. The technique of beginning an intermediate “area” diatonically and ending chromatically not only expands the underlying *Stufe*, it also increases the intensity of the motion toward V. The patterns in Example 3.6h and i show additional possibilities for chromatic elaboration: IV is expanded by motion to an augmented sixth; in the final pattern, a chromatic stepwise bass further elaborates the progression from the subdominant to the augmented sixth chord (in both cases,  $\sharp\hat{4}$  would appear in an upper voice).

In Example 2.2, we discussed some characteristics of the melody in the first phrase of Chopin’s Etude, Op. 10, No. 3 (the phrase concludes with a half cadence). In the second phrase (Example 3.7), Chopin increases the chromaticism in the drive toward V, leading sequentially to VI, which is then expanded by  $V_3^4$  of V and a French augmented sixth. These chromatic intermediate chords intensify the motion to the cadential  $\frac{6}{4}$  that forms the marvelous climax to the entire first section of the Etude.

We have begun to discover that principles of harmony (like those of melody) work hierarchically in tonal structures. In Example 3.5, the motion  $I-VII^6-I^6$  expands a single underlying harmony, the tonic scale step. Such *subordinate progressions* may include intermediate chords that do not belong to the



## Example 3.7

Chopin, Etude in E major, Op. 10, No. 3, bars 13–17

broader harmonic framework.<sup>6</sup> Consider Example 3.8a, from the opening of Bach's chorale "Wach' auf, mein Herz." The opening tonic leads to IV (bar 2), which might initially be perceived as the intermediate harmony of the framework. This IV, however, leads to  $V_2^4$  instead of V in root position (the bass of IV is held over as a suspension). With the stepwise resolution into the inverted tonic, the structural cadence is evaded; the  $I^6$  represents the final chord in the prolongation of the initiating tonic.

Some features of the different levels in Example 3.8 warrant comment. Even though the bass descends in the music, in the graph (reductions *b* and *c*) we have presented the initial tonic note in two registers to clarify the role of the expanded tonic and its relationship to the structural intermediate harmony of the cadence. (The "understood" low  $B^b$ , like the E at the end of "Greensleeves," is shown in parentheses.) In Example 3.8c, notice that the bass line almost completely fills in the melodic space between scale degrees  $\hat{1}$  and  $\hat{5}$  ( $B^b$ -D-E $b$ -F): it is for this reason that the implied low register has been suggested for the initial  $B^b$ . Finally, Example 3.8d illustrates the evaded cadence and the function of the chords leading from I to IV.

The IV in bar 2, therefore, is not the intermediate harmony of the fundamental bass-line structure. Such an internal progression that appears to lead toward a cadence and then "backs off," often through the motion  $V_2^4$ - $I^6$ , is called an *evaded cadence* and is one way in which a phrase can be extended. The evaded cadence also explains why we must regard the  $II_5^6$ , and not the IV, as the principal intermediate harmony: the  $II_5^6$  leads to a *root-position* V in an authentic cadence that achieves closure (finality) in the harmonic progression of the phrase, with the

### Example 3.8

(a) J. S. Bach, Chorale, "Wach' auf, mein Herz," bars 1–4; (b–d) levels of bass structure

(a)

I VI IN IV  $V_2^4$   $I^6$   $II_5^6$   $V^{4-3}$  I

(b)

I  $II_5^6$  V I

(c)

I  $II_5^6$  V I

(d)

VI IN IV  $V_2^4$   $I^6$   $II_5^6$  V I

T Int D T

characteristic leap from dominant to tonic in the bass. In a broader sense, therefore, the individual chords in bars 1–4 serve in the expansion of the T class in the underlying harmonic framework.<sup>7</sup> Finally, in Example 3.8b, notice the crossing slurs that bind the structural I,  $II_5^6$ , and V of the phrase; Schenker used this special notation often in his analyses (see the Appendix for a more detailed explanation of this method of representing harmonic structure).

The final example of this section begins to reveal the extent to which an intermediate harmony may be prolonged by intervening chords (in ways similar to the expansions of tonic harmony discussed in previous examples). Example 3.9a presents the opening phrase from the beginning of the second movement of Mozart's Piano Sonata, K. 311. In bar 3, with the sudden appearance of the forte marking, the intermediate subdominant scale step is established; notice that  $IV^6$  moves to IV through a voice exchange filled in with a passing chord (Example 3.9b).

The reduction illustrates that IV in bar 3 does not really return to I before V at the half cadence—at least not in a harmonic sense. The local tonic chord

### Example 3.9

(a) Mozart, Piano Sonata K. 311, II, bars 1–4; (b) reduction

(a)

(b)

(not harmony) results from contrapuntal passing motion between the soprano and tenor voices of this polyphonic texture (the F# and G in bar 4 momentarily sound as the lowest voice but continue motion clearly belonging to the tenor line). Such *apparent tonics* (signified by “I”) are a common means of expanding intermediate harmony and may shape quite large spans of music; in this case, the tonic note supports a passing tone in the upper voice. We will see this technique again in our discussion of Example 7.20.

### Dominant Harmony (D Class)

In the first movement of Beethoven’s first piano sonata (Example 1.7) we indicated the significance of the dominant in the structure of the exposition and development sections: V is the endpoint of the large-scale arpeggiation of the tonic triad (its upper fifth). In general, the dominant is the goal toward which harmonic motion leads before a section or composition concludes in the tonic. In this section we explore the role of the dominant in greater detail. The V triad contains scale degrees  $\hat{2}$  and  $\hat{7}$ , the tones required in the penultimate bar of a species counterpoint exercise (refer to Example 2.7). The V triad, as a *harmonic* entity, combines these tones and consequently acquires the forward impetus of a cadence in species counterpoint. More than any other chord, the dominant embodies the strongest tendency to move toward and establish the tonic.

Let us consider the role of the dominant in a local context. The harmonic motion of a phrase most often moves toward V, which may or may not lead to the

tonic. If V moves to I *as the goal*, then the phrase concludes with an *authentic* cadence, the strongest key-defining motion in tonal music. On the other hand, when V itself is the conclusion of a phrase—known as a *half cadence* or *semicadence*—the listener is in a sense left “hanging,” because the tendencies of  $\hat{2}$  and  $\hat{7}$  are unfulfilled.

In music, as in life, expectations are often postponed and only later completed. In many period constructions, for instance, the antecedent phrase concludes with a half cadence on V. The consequent phrase starts over and subsequently retraces and completes the motion left incomplete by the unresolved V of the antecedent. In this case, resolution (in both a musical and a psychological sense) occurs not at the beginning of the consequent, but *at its conclusion*.<sup>8</sup> We can explain this process metaphorically by saying that the harmonic motion of the antecedent is incomplete or *interrupted* before the consequent phrase achieves closure through an authentic cadence. We will see that this aspect of dominant harmony holds far-reaching ramifications for longer spans of compositions.

The expansion and intensification of the dominant holds significant ramifications for form and structure on both small and large scales. Example 3.10 shows the development of the cadential<sup>6</sup><sub>4</sub>, the most common intensification of V, particularly at the conclusion of tonal motions and near points of formal articulation. This chord arises (over the root of the dominant in the bass) either through suspensions, accented passing tones, or their combination (Example 3.10 a–c). In eighteenth- and early nineteenth-century music, perhaps no other

### Example 3.10

#### Development of cadential<sup>6</sup><sub>4</sub>

(a) I V<sup>7</sup> I

(b) Susp. V

(c) Apt V

(d) I IV V I

5 4 3 2 1

chord so strongly signals the imminent arrival of an authentic cadence as does the cadential<sup>6</sup><sub>4</sub>. Indeed, on the grandest scale, its expansion (through a delay of its resolution into V) forms the basis of elaborate cadenzas in Classical concertos. Example 3.10c also clarifies a structural role for this intensification of V. In Example 3.10d, the line from  $\hat{5}-\hat{1}$  is harmonized only with tonic, intermediate, and dominant harmonies, which leaves one of the tones unsupported. The inclusion of  $V^6_4$ , however, permits a completely supported descent from  $\hat{5}$ ; in later sections we will examine the significance of this pattern for deeper levels of tonal structure.

The patterns in Example 3.11 show other means by which dominant harmony may be expanded; some of them not only function locally, but also can shape extensive spans of music, even entire formal sections. In the first and second progressions, the V triad is intensified through the addition of the seventh, which intensifies the motion toward I; both  $V^{5-7}$  and  $V^{8-7}$  are common motions.<sup>9</sup> Example 3.11c shows the seventh appearing in the bass as a passing tone, which necessitates a resolution to  $I^6$ . The progression  $V-V^4_2-I^6$  is commonly used to expand the length of a phrase by evading an authentic cadence; the resulting extension consequently extends the influence of the tonic that initiates the motion. The structural V is thus postponed until near the end of the phrase or passage. In such cases, the first V can be interpreted as a divider (discussed in Example 3.14).

### Example 3.11

Intensification of V through the addition of the seventh

(a)  $V^{8-7}$   $V^{5-7}$   $V \frac{4}{2} I^6$

(d) Prep  $V$  (IV)  $V^7$   $V$  (VI) (IV)  $V^7$   
N N N

The image displays five musical examples, (a) through (e), illustrating the intensification of the dominant chord (V) through the addition of the seventh. Each example is shown in a grand staff with treble and bass clefs. Example (a) shows a progression from  $V^{8-7}$  to  $V^{5-7}$  to  $V \frac{4}{2} I^6$ . Example (b) shows a progression from  $V^{5-7}$  to  $V \frac{4}{2} I^6$ . Example (c) shows a progression from  $V$  to  $V^4_2$  to  $I^6$ . Example (d) shows a progression from  $V$  to (IV) to  $V^7$  to  $V$  to (VI) to (IV) to  $V^7$ , with a 'Prep' label above the first (IV) and 'N' below the first (IV) and (IV) chords. Example (e) shows a progression from  $V$  to (VI) to (IV) to  $V^7$ , with 'N' below the (VI) and (IV) chords.

All of the dominant expansions discussed thus far involve quite literal retentions of the root of V. As in expansions of tonic and intermediate harmonies, however, other scale steps, appearing at more local levels, may prolong dominant harmony. In Example 3.11d, IV participates in the transformation of V to V<sup>7</sup>. From a voice-leading perspective, IV—a chord built on a lower neighbor—provides consonant support for F, the *preparation* of the seventh of V<sup>7</sup>. The final pattern shows VI and IV as upper and lower neighbors to V. In this case they do not represent intermediate scale steps (because V is already established) but, rather, local *Stufen* that function contrapuntally (for this reason we place the Roman numerals in parentheses). Such expansions of V by subordinate scale steps frequently underlie the B sections of binary forms and development sections of sonata forms.

Example 3.12, from the beginning of Beethoven's Piano Sonata, Op. 26, illustrates how V functions in different ways in a short span of music (the analysis is based on a reading by Schenker in *Free Composition*.)<sup>10</sup> As the bass reduction in Example 3.13 reveals, the inversions of V in bars 1–3—representing contrapuntal chords, because they are built on a passing tone and an incomplete neighbor—work locally to expand tonic harmony. The V in bar 4, however, is different, because it appears in root position and articulates the conclusion of a four-bar group (Example 3.14); in the larger harmonic motion, however, V is left unresolved, for the second part of the phrase begins (bar 5) with an intermediate IV<sup>6</sup>.

The harmonic analysis in Example 3.14 clarifies that the V in bar 4, though locally stable and serving as intermediate goal from the beginning tonic, functions *within* the broader motion from I to the intermediate IV<sup>6</sup>. The upper fifth of the tonic triad is the most “natural” dividing point of the major and minor scales, because of the inherently close relationship of the tonic and dominant.

### Example 3.12

Beethoven, Piano Sonata, Op. 26, I, bars 1–8

Andante con Variazioni

The musical score consists of two systems of piano and bass staves. The first system (bars 1-4) shows a piano introduction with a dynamic of *p*. The bass line features a series of chords in the right hand and a melodic line in the left hand. Dynamics include *cresc.*, *sf*, and *p*. The second system (bars 5-8) begins with a circled number 5, indicating the start of a new phrase. Dynamics include *p cresc.* and *p*.

**Example 3.13**

Beethoven, Piano Sonata, Op. 26, I: expansion of initial tonic

The notation shows a bass line in G major. The first part is a simple tonic expansion: I (G), I<sup>6</sup> (B), I (G). The second part, labeled "becomes", shows a more complex expansion: I (G), V<sub>3</sub><sup>4</sup> (D), I<sup>6</sup> (B), V<sup>6</sup> (F), I (G). Above the second staff, the letters "P" and "IN" are placed over the first and last notes respectively. Below the first staff, the letter "T" is written under the first note.

**Example 3.14**

Beethoven, Piano Sonata, Op. 26, I: chordal reduction

The notation shows a piano passage in G major. The first staff is the treble clef with notes 5, 8, 6, 6, 10, 10, 5. The second staff is the bass clef with notes -, 4/3, 6, 6. Below the bass staff, the chordal reduction is shown: I (G) for the first measure, and I [V] (G F) for the last measure. A horizontal line connects the I and I [V]. Below this line, the letter "T" is written under the first measure.

The notation shows a piano passage in G major, starting with a circled number 5. The first staff is the treble clef with notes 6, 6, 10, 10, 10, 10, 5. The second staff is the bass clef with notes 6, 4/2, 6, 6. Below the bass staff, the chordal reduction is shown: IV<sup>6</sup> (C) for the first measure, IV<sup>6</sup> ("I") (C) for the second measure, and V (F) for the last measure. A horizontal line connects the IV<sup>6</sup> and IV<sup>6</sup> ("I"). Below this line, the letter "Int" is written under the first measure, and "D" is written under the last measure.

The V in bar 4, therefore, *divides* the space governed by the tonic; the V in brackets in Example 3.14 indicates the divisive role of the local V and its function within the underlying expansion of the tonic. Schenker uses the term *Teiler* (“divider”), though this concept is not fully explained in his writings or clarified by his graphs. In general, one can think of a dividing dominant as representing the upper fifth of the tonic at various levels of structure. The upper fifth (realized as a V triad) serves to define the “space” (*Tonraum*) governed by a tonic.

## Larger Contexts

Our next example, Bach’s figured-bass chorale “Ihr Gestirn, Ihr hohen Lüfte” (Example 3.15), illustrates some distinctive qualities of the minor mode. Bach’s setting of the chorale melody uses various techniques of prolongation, many of which we have already seen in earlier examples. Bars 1–8 are summarized below (compare with the outer-voice reduction in Example 3.16).

### Example 3.15

J. S. Bach, Chorale melody with figured bass, “Ihr Gestirn, ihr hohen Lüfte,” BWV 453

The musical score for Example 3.15 is presented in three systems. Each system consists of a treble clef staff (melody) and a bass clef staff (figured bass). The key signature is one flat (G minor) and the time signature is 3/4. The first system (bars 1-3) features a trill (tr) on the first bar and a circled '3' above the second bar. The second system (bars 4-8) features a trill (tr) on the eighth bar and circled numbers 6 and 9 above the first and second bars of the system. The third system (bars 9-16) features circled numbers 12 and 16 above the first and eighth bars of the system. The figured bass notation includes various accidentals and figures such as 4 #, 6 ♭, 6 ♭, 5 2, 6 5, 4 3, 6, 6 7, 7 4, 3, ♭, 6 6, 6 5, 6 4, and 5 #.



**Example 3.16**

(a) J. S. Bach, "Ihr Gestirn, ihr hohen Lüfte": melodic and harmonic interpretation;  
 (b) transformation of III

(a) ④

V I VII<sup>°6</sup> I<sup>6</sup> VII<sup>°6</sup> I I<sup>6</sup> V<sup>6</sup> V<sup>7</sup> F: I<sup>6</sup>

I ————— [V] ————— I

I

⑨ ⑪

II<sup>6</sup><sub>5</sub> V<sup>4-3</sup> I V V<sup>6</sup> V I I<sup>6</sup> IV II<sup>7</sup> V<sup>4-3</sup> I

————— III —————

Int

⑬ ⑯

D: III VII<sup>°6</sup> I<sup>6</sup> V<sup>6</sup> I II<sup>6</sup><sub>5</sub> V<sup>6</sup><sub>4-3</sub> I III<sup>5</sup> V<sup>6</sup><sub>4-3</sub> I

Int D I

1. Bars 1–2 (tonic prolongation): Two root-position tonic chords are connected by a dominant chord in root position. In other words, the prolonged I is elaborated by an octave leap, which is subdivided by A, the root of the dominant chord, into two smaller descending leaps, a fourth and a fifth. Note that the bass leaps, plus the soprano's ascending third, fully outline the tonic triad.<sup>11</sup>

### Example 3.16 *continued*

(b) (13)

F: I<sup>5</sup> — 6 5 — 6

D: III — I<sup>6</sup>

2. Bars 2–3 (continued tonic prolongation): Return to original octave in the bass; motion from I to I<sup>6</sup> via a passing VII<sup>6</sup>.
3. Bar 3 (continued tonic prolongation): Return from I<sup>6</sup> to I by means of a V<sub>3</sub><sup>4</sup>. (Though the figure implies a VII<sup>6</sup> chord, A is sustained in the top voice, so that a V<sub>3</sub><sup>4</sup> chord is actually heard. In figured-bass settings, a “6” is frequently realized as a  $\frac{4}{3}$ .)
4. Bars 3–4: Motion away from prolonged tonic harmony to dominant harmony. Compare the function of the V chord in bar 1 to that in bar 4: the former appears on a weak beat between two tonic chords, and supports a passing tone in the soprano. In contrast, the V chord in bar 4 occurs on the downbeat, and its bass and soprano notes are melodically prominent. However, the chord is not entirely stable: its soprano note is the leading tone, and the subsequent continuation V<sub>2</sub><sup>4</sup>–I<sup>6</sup> connects bars 1–4 with bars 5–8. (The V in bar 4 is another instance of a “dividing” dominant.)
5. Bars 4–6: Return to I; notice the combination of stepwise motion and leaps in the bass. After the stepwise descent A–G–F (V to I<sup>6</sup>), a continued stepwise motion through E to D might have been expected. Instead, the bass leaps to C<sup>#</sup> and A, both of which belong to dominant harmony. These tones substitute for the expected E (which would probably support a VII<sup>6</sup> or V<sub>3</sub><sup>4</sup> chord).

The crossed lines in bars 5–6 indicate a *voice exchange*: the upper and lower voices exchange the tones D and F in the motion from I<sup>6</sup> to I. This exchange of tones associates the I<sup>6</sup> and I<sub>3</sub><sup>5</sup> chords; however, because of the intervening dominant chords, the return to tonic harmony is not fully established until bar 6. In essence, the I<sup>6</sup> chord “looks ahead to” or anticipates the associated root-position tonic chord in bar 6, as indicated by the arrow in the example.<sup>12</sup>

In the soprano, notice the broad ascent through an octave from d<sup>1</sup> in bar 1 to d<sup>2</sup> in bar 5, followed by a continuation to f<sup>2</sup> in bar 6. This stepwise ascent lacks only scale degree  $\hat{6}$  (bar 3) to be completely step-

wise: this tone is replaced by the elaborated motion up to D in that bar. The goal of the ascent,  $f^2$ , occurs as tonic harmony returns in bar 6. Bars 1–6, therefore, represent a T class area in the structural framework.

6. Bars 6–8: Modulation to III. In contrast to the brief tonicizations that we observed in earlier examples, F is established as a key area in its own right. The soprano tone  $f^1$  in bar 8 serves as the melodic goal of the phrase, and also initiates a new melodic ascent in the next phrase.

Modulation creates a temporary change of key center, in which a new pitch is heard as the tonic. Accordingly, it is often said that the piece “changes key.” This is true in a sense, but it is not a sufficient explanation. For example, a modulation to the dominant in a sonata-allegro movement creates a dynamic opposition to the tonic not only because of the contrast of tonality, but also because of the potential of the new “tonic” to function as a dominant again, as it eventually does. In a larger sense, therefore, it remains the dominant, even though it is treated like a tonic for a period of time. Because of this dual characteristic, Schenker described modulation as motion to an “illusory key.” That is, the impression of a new key is ultimately perceived as illusory when viewed from the perspective of the global (or home) tonic.

In listening to the individual phrases of “Ihr Gestirn,” one may perceive a modulation from D minor to F major. In a larger sense, however, F represents III in D minor, and is part of a broader harmonic motion that will continue after the double bar. From this perspective, the modulation can be seen as an extended tonicization of III, an intermediate harmony in the global tonic of D minor. Indeed, from a broad perspective, *every* modulation can be understood as a tonicization within the home key (in a tonal work that begins and ends in the same key).

We have seen the importance of the octave in the bass (as in bars 1–2, 6, and 7). This interval permeates the work, becoming a kind of motive and occurring in a variety of different ways. In the soprano (bars 1–6), a long-range ascent from  $d^1$  to  $f^2$  unfolds essentially through an octave, which is extended to a tenth by the repetition of the opening D–E–F figure from bars 1–2 (see the brackets in Example 3.16). The octave relationship between these two figures is then echoed by the descending leap from  $f^2$  to  $f^1$  in bar 6. Two different registers are thus compositionally related, a technique that we shall encounter frequently.

In bars 13–14 the I chord in F is transformed into a  $I^6$  chord in D; the transformation is shown in Example 3.16b. Such a motion over a chord in  $\frac{5}{3}$  position to one in  $\frac{6}{3}$  position over a common bass note (or, in figured bass terms, simply “5–6”) is very common and is called the *5–6 technique*.<sup>13</sup> By means of this motion, Bach leads from the prolonged key area of the mediant back to the tonic key. Through the raising of the natural seventh degree, which had been employed throughout the prolongation of the mediant, the leading tone of the home tonic is reestablished.

A motion from  $I^6$  to I in bar 14 begins to highlight the return to the home tonic of the piece (note the voice exchange between the outer voices); the definitive confirmation of tonic harmony, however, occurs only at the cadence in bars 15–16. Example 3.17 shows the large-scale bass and harmonic structure for

### Example 3.17

J. S. Bach, Chorale, "Ihr Gestirn, ihr hohen Lüfte": structural bass

①
⑧
⑮
⑯

I            III            II<sub>5</sub><sup>6</sup>            V            I  
 T            Int —————            D            T

the work: I–III–II<sub>5</sub><sup>6</sup>–V–I. The use of the mediant as a secondary key area is characteristic of pieces in minor.

Our next composition is also by Bach, the well-known C-major Prelude from the *Well-Tempered Clavier*, Book I (Example 3.18). The complete work will be studied later; at this point we shall consider the bass line and harmonic structure.<sup>14</sup>

The consistent figuration and rhythm create a continuum of motion from the beginning of the prelude until its end. The work has the quality of an improvisation in which no major sectional divisions occur. Internal articulations are created by the bass and harmonic structure and are reinforced by subtle changes in the arpeggiated patterns. For most of the piece a single chord is arpeggiated in each bar, a feature that is closely related to improvisation. It will be useful to represent the chords in block form (Example 3.19).

A four-bar progression establishes the tonic at the beginning of the work. In this quasi-cadential progression all voices move by step or retain common tones; both the II<sub>2</sub><sup>4</sup> and V<sub>5</sub><sup>6</sup> chords function as contrapuntal chords. The dissonances formed by the left hand in bar 2 (C–D) and the diminished fifth between the outer voices in bar 3 (B–F) create tension that is resolved by the return to I in bar 4.

In tonal music continuity and change are often combined, particularly at points of transition. This happens in bars 4–5, where the tonic is transformed, through a 5–6 motion, into an A-minor  $\frac{6}{3}$ . Two chords related by a 5–6 motion are closely associated: the A-minor  $\frac{6}{3}$  chord of bar 6 is related to tonic harmony through two common tones (note that the bass note C is a common bass tone; in other words, the  $\frac{6}{3}$  chord of bar 5 is an outgrowth of the root-position tonic chord).<sup>15</sup> This contrapuntal motion “destabilizes” the tonic of bar 4, and the resulting  $\frac{6}{3}$  chord initiates the descending-fifth sequence in bars 5–8 (which occurs in the variant form  $\frac{6}{3}$ – $\frac{4}{2}$ – $\frac{6}{3}$ , etc.). This sequence leads to V, which is established as an intermediate goal by the cadential pattern II<sup>7</sup>–V<sup>7</sup>–I in G (bars 9–11).

Another sequence begins after the tonicized V, one similar in structure but more chromatic than the sequential pattern in bars 5–8 (the pattern changes from  $\frac{4}{2}$ – $\frac{6}{3}$  to  $\frac{6}{3}$ – $\frac{4}{3}$ ). This second sequence leads to a cadence in the tonic (bars 17–19) that parallels, in transposed form, the cadential motion of bars 9–11.

Bars 1–19, therefore, comprise two broad motions, the first leading to V, the second returning to I. As shown in Example 3.20, the bass descends a fourth from I to V (bar 11) and then continues to I (bar 19). The bass thus descends through an octave, which is subdivided by the arrival on G in bar 11 (another

# Example 3.18

J. S. Bach, Prelude in C major (WTC I)

## Praeludium 1

The first system of the musical score consists of two staves. The upper staff is in treble clef and contains a continuous eighth-note arpeggiated pattern. The lower staff is in bass clef and contains a simple harmonic accompaniment of quarter notes, with a fermata over the final note of each measure.

The second system continues the eighth-note arpeggiated pattern in the upper staff and the quarter-note accompaniment in the lower staff. The melodic line in the upper staff shows a slight change in phrasing between measures 3 and 4.

⑤

The third system begins with a circled measure number '5'. The upper staff continues with the eighth-note arpeggiated pattern, and the lower staff continues with the quarter-note accompaniment. A sharp sign (#) appears in the upper staff at the beginning of measure 6, indicating a key signature change to C minor.

The fourth system continues the eighth-note arpeggiated pattern in the upper staff and the quarter-note accompaniment in the lower staff. The melodic line in the upper staff shows a slight change in phrasing between measures 7 and 8.

⑨

The fifth system begins with a circled measure number '9'. The upper staff continues with the eighth-note arpeggiated pattern, and the lower staff continues with the quarter-note accompaniment. A sharp sign (#) appears in the upper staff at the beginning of measure 10, indicating a key signature change to C major.

The sixth system continues the eighth-note arpeggiated pattern in the upper staff and the quarter-note accompaniment in the lower staff. The melodic line in the upper staff shows a slight change in phrasing between measures 11 and 12.

Example 3.18 *continued* →

(13)

Musical notation for measures 13-16. The right hand plays a continuous eighth-note pattern in the treble clef. The left hand plays a bass line in the bass clef, consisting of quarter notes with eighth-note rests.

Musical notation for measures 15-16. The right hand continues the eighth-note pattern. The left hand continues the bass line.

(17)

Musical notation for measures 17-20. The right hand continues the eighth-note pattern. The left hand continues the bass line.

Musical notation for measures 19-20. The right hand continues the eighth-note pattern. The left hand continues the bass line.

(21)

Musical notation for measures 21-24. The right hand continues the eighth-note pattern. The left hand continues the bass line, with a sharp sign (#) appearing under the first note of measure 23.

Musical notation for measures 23-24. The right hand continues the eighth-note pattern. The left hand continues the bass line.

Example 3.18 *continued*

(25)

(29)

(33)

### Example 3.19

J. S. Bach, Prelude in C major (*WTC I*): chordal simplification

(5) (11)

I    II<sup>4</sup><sub>2</sub>    V<sup>6</sup><sub>5</sub>    I<sup>5</sup>—6    #<sup>4</sup><sub>2</sub>    6    <sup>4</sup><sub>2</sub>    G: II<sup>7</sup>    V<sup>7</sup>    I—

I ————— I ————— [V]—'

(12) (16) (21)

#<sup>4</sup><sub>3</sub>    6    <sup>b</sup>4<sub>3</sub>    6    <sup>4</sup><sub>2</sub>    C: II<sup>7</sup>    V<sup>7</sup>    I    V<sup>7</sup>    IV<sup>7</sup>

I ————— I ————— IV

(22) (27) (32)

V<sup>7</sup>    6    7    7    6    7    <sup>b</sup>7

V ————— V ————— I

(33)

6    7    I

4    4



### Example 3.20

J. S. Bach, Prelude in C major (*WTC I*), bars 1–19: bass structure

(11)
(19)

I                      [V]                      I  
 T                      [D]                      T

dividing dominant). When tonic harmony returns in bar 19, the upper voices are in the same position as in bars 1 and 4 (E over C) but an octave lower.

Bach's C-major Prelude contains several large-scale harmonic prolongations, the first of which, the prolonged tonic of bars 1–19, we have examined in detail. For the sake of context, we point out that a three-bar prolonged subdominant is followed by an eight-bar prolonged dominant; a four-bar tonic then concludes the prelude (these bars unfold over a pedal; the appearance of the structural tonic triad is delayed until the final bar).

The structural harmonic progression I–IV–V–I thus serves as the foundation of Bach's prelude; it is truly remarkable that such a motion can serve as a cadential pattern, the basis of a phrase, or, as in this case, the underpinning of an entire piece (Example 3.21). Schenker referred to such structural harmonic "pillars" as *Stufen* (the English translation is "scale steps"). As described previously, a *Stufe* is a triad that serves in the harmonic foundation of a passage or composition; it may or may not be prolonged, depending on the context.<sup>16</sup> In Bach's prelude, I–IV–V–I are scale steps. Notice that Schenkerians identify scale steps with roman numerals (which refer in the usual manner to the *root* of the harmony). Other chords, such as passing and neighboring sonorities, may also be assigned Roman numerals for identification or other purposes. But in principle, such elaborating chords serve to expand or connect other harmonies, and are not themselves scale steps.

### Example 3.21

J. S. Bach, Prelude in C major (*WTC I*): harmonic structure

(1)
(21)
(24)
(32-35)

I    IV    V    I  
 T    Int    D    T

---

## The Imaginary Continuo

Bach's chorale melody with figured bass (Example 3.15) and Prelude (Example 3.18) share more in common than might appear at first glance. When the chorale melody is performed, the continuo player (on a harpsichord or organ) adds the tenor, alto, and soprano voices, the tones of which correspond to intervals *above the bass* indicated by the arabic numerals. The continuo player is said to *realize* the *basso continuo* provided by the composer. In Example 3.19 we indicate a similar chordal texture that underlies the surface figuration in Bach's prelude; we refer to this representation of the score as the *imaginary continuo*.<sup>17</sup> In principle every tonal piece embodies such a chordal framework; we suggest that the analysis of a tonal piece should begin with the "realization" of the imaginary continuo.

Consider Example 3.22, which presents the score and an analysis of bars 1–5 from Bach's Prelude in G major, *WTC I*. This piece, in contrast to the C-major Prelude, exhibits a virtuosic and complex musical surface: rapid sixteenth-note arpeggiations in the right hand connect a higher with a middle register. In Example 3.22b we present a *figural reduction*, a step that helps simplify the musical surface. Example 3.22c further simplifies the passage by representing the arpeggiations as block chords, but it preserves the interplay of register. Notice how the stepwise line D–E–F#–G—a fourth-progression—"rises" between the soprano and alto voices (the line is divided in different registers).

Example 3.22d completely normalizes the progression in a single octave. The fourth-progression D–G is shown as an alto line that ascends beneath and finally joins the soprano; the chordal reduction also highlights the neighbor figure G–A–G as belonging to an "upper" voice, a motion otherwise embedded and hidden in Bach's intricate surface figuration. Both reductions also reveal that the bass in bar 3 represents motion from the bass to the tenor register (Example 3.22c). Because the suspended seventh (bar 4) resolves literally in the bass, in Example 3.22d we show the C# (the tone of resolution) as an inner-voice tone and sustain the bass E throughout the measure. This imaginary continuo, like previous block-chord reductions, illuminates the stepwise underpinning of the upper voice. We can also determine that apparent outer-voice tones—such as e<sup>2</sup> in bar 1 and f# in bar 3—may belong *conceptually* to one of the inner voices of the tonal framework, though they appear momentarily in an outer-voice position.

The following guidelines should help you in constructing an imaginary continuo.

1. In general, the continuo representation can move freely between three and six voices; the number depends on how many tones are needed to clarify the voice leading of, and distinction between, outer and inner voices.
2. You should generally indicate "pure" voice leading; in other words, sevenths should resolve by step, leading tones should not be doubled, parallel fifths and octaves should not occur, and so forth. In instrumental textures, apparent exceptions to strict vocal procedures—for instance,

### Example 3.22

(a) Bach, Prelude in G major, *WTC I*, bars 1–5; (b–d) figural reduction and imaginary continuos

(a)

The image displays four systems of musical notation, each consisting of a grand staff (treble and bass clefs).  
 System (a) shows the original score for the first five bars of Bach's Prelude in G major. The right hand features a continuous sixteenth-note figure, while the left hand has a simple bass line with rests.  
 System (b) is a figural reduction of the original, where the right hand's sixteenth-note figure is simplified to a series of eighth notes.  
 System (c) is another figural reduction, showing a different simplification of the right-hand part.  
 System (d) is an imaginary continuo, where the right hand part is further reduced to a single melodic line, and the left hand part is simplified to a few notes.

(2)

(3)

(4)

transferred resolutions, indirectly prepared dissonances, and augmented intervals—may be indicated to preserve characteristic features of voice leading.

3. In general, strive for stepwise motion in the right hand (sometimes with small leaps). Often the upper voice at the surface of the music will change positions before the harmony changes (resulting in leaps). In illustrating the block-chord succession, indicate the top-voice tone that forms the *closest* connection to the upper voice of the following chord. Observing these principles will enable you to distinguish structural outer from inner voices.

Example 3.22 *continued*

(b)

(c)

(d)

- Use figured-bass symbols to specify the construction of each chord. It may also be helpful to use some Roman numerals to indicate the underlying harmonic structure of the passage.

We cannot overemphasize the benefits of this approach as a first step in analysis. Particularly in instrumental textures, which often incorporate complex figuration and wide-ranging changes of register, the imaginary continuo can clarify harmonic prolongations and stepwise melodic associations in a tonal framework.

## Chord Prolongation: Summary

In this chapter we have discussed the notion of *chord prolongation*: that is, the expansion of a chord (or scale step) by means of one or more other chords. We

have also seen that, just as a single chord can be prolonged, so the motion between two different chords can be expanded.

Chord prolongation occurs in a variety of different ways. Typically the melodic and contrapuntal motion of one or more voices forms the basis of the prolongation. A variety of different types of prolongation is illustrated in Example 3.23; the patterns are drawn from examples presented in this book.

Like the examination of melody and voice leading presented in Chapter 2, this investigation into the nature of bass lines and harmonic structure is an introduction. All aspects of the music must be considered in a detailed analysis, and how we explain one facet of a piece is often influenced by how we interpret other features. Thus melody, harmony, and rhythm as well as texture and instrumental setting play a role in what Schenker called *composing-out* (*Auskomponierung*), the expansion of a structure through prolongations and motions of various kinds.

### Example 3.23

A. *Bass arpeggiation expanding a triad by moving from one inversion to another* (Example 3.15, bars 9–10; see also Example 3.1, bar 7; Example 3.5, bar 1, beats 3 and 4)

### B. Neighbor motion

1. *In the bass* (Example 3.1, bars 4–6; Example 6.1, bars 1–4)

**Example 3.23** *continued*




2. In the inner voices (Example 3.1, bars 1–4)

3. Alternating in upper voices and bass (Example 3.19, bars 1–4)

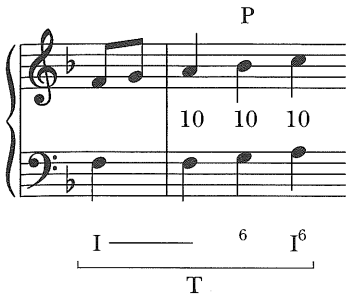
**C. Passing motion**

1. In the bass (Example 3.15, bars 3–4)

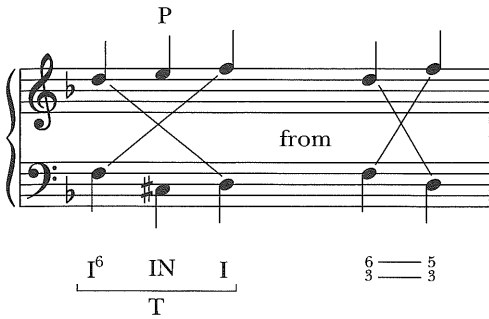
2. In the upper voices (Example 3.19, bars 24–27)

**Example 3.23** *continued* 

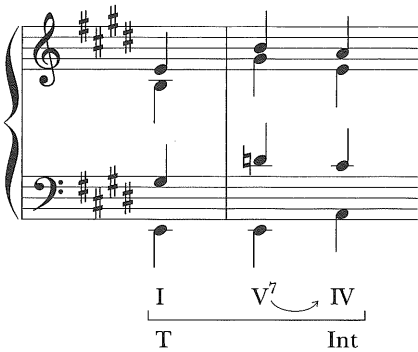
**3. Parallel tenths (Example 3.5, bar 1)**



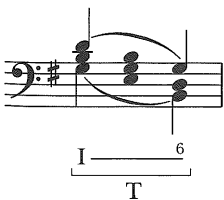
**D. Voice exchange between the outer voices (Example 3.15, bar 14)**



**E. Applied dominant chord (Example 3.7, bars 13–14)**



**F. Leaps in bass (Example 3.1, bar 6).** In this example the bass motion from I to I<sup>6</sup> is inverted from an ascending third to a descending sixth. The resulting sixth is subdivided by E into two descending leaps of a third and a fourth. A typical example of this type of prolongation is motion in descending thirds; I–VI–IV, for instance, can prolong the motion from I to IV.



### Example 3.23 *continued*

G. *Prolongation through transformation* (Example 3.14, bars 19–21). The prolongation includes the addition of  $b7$ , which transforms the initial prolonged tonic triad into  $V^7$  of IV. This type of prolongation also includes 5–6 motions (Examples 3.18 and 3.19, bars 4–5).

I —  $b7$  — IV  
T Int

H. *Elaboration of a chord* (Example 3.1, bar 8; Example 3.19, bars 31–35)

$V^6_4 = \frac{5}{3}$        $V^4_3$

$V^7$      $I^{b7}$  ——— I  
Pedal point  
D    T                    T

I. *Elaborating motions* (Example 3.12, bars 5–7: passing motion in the bass). Other types of elaborating motions may include chordally supported passing motion in an upper voice. See Example 3.8, bars 1–2: I–VI–IV becomes I–VI–(III)–IV, where III supports the tone A in the upper voice. Consider also motion in thirds, as in the progression I–(VI)–(IV)–II.

$IV^6$      $\frac{6}{4}$      $\frac{6}{5}$      $\frac{4}{2}$     6     $IV^6$



Through the diminutions that develop from level to level, "All the manifold experiences of the lines—which are none other than our experiences—are transformed into song . . . [and] music itself organically lives, sings, and speaks."<sup>18</sup>

In later chapters we learn to examine works in a comprehensive way and relate the concepts that you have learned in these introductory discussions. We initially examine excerpts from longer compositions (occasionally interspersed with some complete works). We then undertake the analysis of whole movements and compositions.

## Pieces for Analysis

1. Mozart, Piano Sonata, K. 570, II, bars 1–4
2. Beethoven, Piano Sonata, Op. 10, No. 2, I, bars 1–12
3. Beethoven, Piano Sonata, Op. 14, No. 2, I, bars 1–8
4. Brahms, Waltz, Op. 39, No. 2 (complete)
5. Beethoven, Piano Sonata, Op. 10, No. 3, II, bars 1–9
6. Mozart, Piano Sonata, K. 333, III, bars 1–16
7. Beethoven, Piano Sonata, Op. 14, No. 2, II, bars 1–20
8. Bach, *St. Matthew Passion*, Aria, "Erbarme dich," bars 1–8
9. Beethoven, Piano Sonata, Op. 26, III, bars 1–21
10. Handel, Keyboard Suite No. 7 in G minor, Sarabande (complete)

## Notes

1. See the Appendix for a description of Schenker's use of Roman numerals in his later analyses.
2. The notion of harmonic class is comparable to Schenker's concept of harmonic steps (*Stufen*), which he elaborates in *Harmony* (1906). An important characteristic of a harmonic class (or *Stufe*) is its potential for prolongation.
3. With the freedom characteristic of instrumental idioms, Mozart allows the seventh, C, to return up to D in the top voice, rather than to resolve downward in the customary manner. The resolution is transferred into an inner voice: notice that the C is doubled in the tenor, where it resolves normally.
4. The cadential  $\frac{6}{4}$  defines the beginning of the dominant "space" (signaled by the dominant tone in the bass, which is normally doubled in the cadential  $\frac{6}{4}$ ), even though the upper notes of the dominant triad or seventh chord are delayed. The two most common ways in which the fourth and sixth enter are either by suspension or accented passing tone (or a combination of both). For example, in the progression  $IV-V\frac{6}{4}$ , the fourth may be held over as a suspension while the sixth enters as an accented passing tone.
5. From a theoretical point of view, intermediate-harmony chords are not on the same structural level as the fundamental harmonic progression I–V–I. Nevertheless, they often participate in cadential motions. Informally, therefore, they may be regarded as forming an integral part of structural harmonic progressions such as I–IV–V–I, I–II<sup>6</sup>–V–I, etc. The role of intermediate-harmony chords on higher levels of structure will be discussed more fully in subsequent chapters.
6. For more on subordinate progressions, see *Harmony and Voice Leading*, p. 177.
7. The initial motion from I down to III, which prolongs the tonic through the first bar, is subsumed by the evaded cadence and consequently by the I–I<sup>6</sup> that governs bars 1–2. In

other words, the broader I-I<sup>6</sup> is structurally “higher ranking” than the I-III of bar 1 that also prolongs tonic harmony on a different, more immediate level.

8. It might seem accurate to regard the V of an antecedent phrase as resolving to I at the beginning of the consequent. The progression V-I is a common aspect of tonal “grammar.” This does not mean, however, that all V-I motions should necessarily be understood in this way. One refers to a “half” cadence (or *semicadence*) precisely because the V is the *goal*; if the tonic is the goal, then the progression involves an authentic cadence. In most period constructions, the tonic at the beginning of the consequent is not the goal of a cadential motion, but the beginning of the second phrase. The tonic that decisively resolves the tensions of the V (of the antecedent) is the tonic that *concludes* the consequent phrase.
9. In keyboard textures, the two patterns are virtually indistinguishable; we will see in later chapters, however, that the approach to the seventh—either from  $\hat{5}$  or  $\hat{2}$ —may be significant for the details of formal sections governed by the prolongation of V.
10. *Free Composition*, Figure 56/1c.
11. The figures “4 #” in bar 1 indicate a suspension into the leading tone.
12. Such an anticipation of a later harmony (including the intervening dominant chords) is called an *auxiliary cadence*, a concept that is discussed later in this book.
13. The 5–6 motion occurs in second species counterpoint (see Chapter 2), and is the basis of the “5–6” sequence that we discuss in Chapter 4.
14. Bach’s C-major Prelude is a piece that has been studied by generations of musicians. Schenker found it a treasure of the tonal literature and used examples in several of his published works. We use it in different contexts in this book. Hence, we present aspects of it here and a more detailed analysis in Chapter 8. See especially Schenker’s analyses in *Five Graphic Music Analyses* and *Free Composition*, Figs. 49/1; 62/5; 95/e3; 115/1a; 118/1; 133/2.
15. Compare this 5–6 motion with the chromaticized figure in bars 13–14 of Example 3.15. In both cases the 5–6 motion initiates harmonic change: in Example 3.15 it leads from the mediant key area back to the tonic, while in the present example it begins motion away from the tonic.
16. In principle, a scale step can be any one of the seven triads of the scale. Scale steps need not appear in root position, even though in the purest form of the concept of *Stufen* the representations are root-position triads. Schenker made a distinction between the actual bass of a composition and the progression of scale steps, an ideal or abstract entity consisting of harmonic roots—an entity that sometimes coincides with the structural notes of the sounding bass and sometimes is a kind of imaginary presence underneath the actual bass.  
Special conditions exist with diminished triads in root position: thus the diminished II in minor is used sparingly, but this scale step readily appears as II<sup>6</sup>, II<sup>6</sup><sub>5</sub>, II<sup>7</sup>, etc. Similar conditions hold for the VII scale step when it supports a diminished triad, as in the major mode. If chromatically altered to become major or minor triads (bII, bVII, etc.), these chords can of course readily be prolonged. Root movements will frequently proceed by fifth (e.g., I-IV-VII-III-VI-II-V-I), by third (e.g., I-VI-IV-II), and by second (e.g., IV-V, I-II, VI-VI). For more information about scale steps, see Schenker’s *Harmony*, Part I, Division II, Section I, “Theory of Scale Steps.”
17. The term *imaginary continuo* was first used by William Rothstein. See his article in Cadwallader, *Trends in Schenkerian Research*, pp. 87–113.
18. *Free Composition*, p. 98.

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