

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.

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-I⁶, which literally contains two chords, yet both represent the same class: T harmony. The succession I-VII⁶-I⁶ is a further elaboration; VII⁶ 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-II⁶-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.¹

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_3^4 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_3^4 –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^7 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 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 .² 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.

EXAMPLE 3.1:

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

(a) **Andante**

3

7

11

EXAMPLE 3.1 *(continued)*

(13)

(b)

(3) (5)

I — I — I — I —

(6)

I — I⁶ IV 6 V⁶⁻⁵₄₋₃

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 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–I⁶–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. 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 $I\frac{6}{4}$.³ 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 II⁶ (Int class) instead of IV over the bass C in bar 15; furthermore, the cadential $\frac{6}{4}$, intermediate II⁶, 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–(I⁶)–IV–V and I–(I⁶)–II⁶–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.

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

EXAMPLE 3.2:

Expansion of tonic harmony through interval inversion

becomes and

I — I⁶ I — I⁶ I VI I⁶

EXAMPLE 3.3:

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

becomes

I IV V I I⁶ IV V
T Int D T Int D

EXAMPLE 3.4:

Linear expansion of vertical triad

becomes

I I—V—I

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 VII⁶ (bar 1, beat 2) is used as a passing chord between I and I⁶: 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–VII⁶–I 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

EXAMPLE 3.5:

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

(a)

(b)

dominant are called *intermediate* (or *pre-dominant*) *harmonies*. (In Example 3.1, both the IV in bar 7 and the II⁶ 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 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.⁴

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 “VII⁶” and “I⁶” 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 3.6 presents the first phrase of the chorale “Wach’ auf, mein Herz.” While the large-scale harmonic structure in this phrase is similar to those in some of the previous examples, differences in its elaboration and, consequently,

EXAMPLE 3.6:

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

(a)

I VI IN IV V₂⁴ I⁶ II₅⁶ V⁴⁻³ I

(b)

I II₅⁶ V I

(c)

I I⁶ II₅⁶ V I

(d)

VI IN IV V₂⁴ I⁶ II₅⁶ V I

T Int D T

in the bass melody begin to illustrate the almost limitless number of ways in which the fundamental tonal pattern T-Int-D-T can be varied.

The framing harmonic pattern I-V-I, including the intermediate harmony, is shown in Example 3.6b. Even though the bass descends in the music, in the graph (reductions *b* and *c*) we have represented the initial tonic note in two registers to clarify the role of the expanded tonic and its relationship to the intermediate harmony before the cadence. (The "understood" low B^b, like the E at the end of Example 2.6, "Greensleeves," is shown in parentheses.)

The primary elaboration of this progression is achieved through a prolongation of the initial tonic that extends to the I⁶ on the third beat of bar 2 (Example 3.6c). It is significant that the bass note of this chord and the intermediate II₅⁶ almost completely fill 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.

Like the tonic prolongation in bar 6 of Example 3.1, the overall motion is from I *down* to I⁶ (the final beat of bar 2). Levels *a* and *d* of Example 3.6, however,

show many more intervening chords than in bar 6 of Mozart's sonata. In Bach's chorale, the initial tonic B^b moves through G to D, which supports a mediant chord. (The mediant triad shares two common tones with the tonic and can substitute for a I^6 in a prolongation of the tonic.) The bass then rises to E^b on the next downbeat before D, the bass of I^6 , enters in bar 2. As indicated in level *d*, therefore, the bass motion within the prolonged tonic consists of two descending thirds, B^b-G-E^b , followed by a step to D (bar 2).⁵

When IV is first heard in bar 2, it might initially be perceived as the intermediate harmony of the harmonic progression. But scale degree $\hat{4}$ is held over as a suspension, and the IV moves to an inverted dominant seventh (V_2^4) on the second beat. Because the seventh is in the bass, the tendency of this chord to resolve is very strong; its resolution highlights the I^6 shown in Example 3.6d. With the stepwise resolution to the inverted tonic chord, the structural cadence is evaded.

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 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.⁶

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 2 and 7, the tones required in the penultimate bar of a species counterpoint exercise (refer to Example 2.8). 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

EXAMPLE 3.7:

Beethoven, Piano Sonata, Op. 13, II, bars 1–8

Adagio cantabile

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*.⁷ 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.

Example 3.7 shows bars 1–8 from the slow movement of Beethoven’s “Pathétique” piano sonata, which illustrates how V functions in different ways in a short span of music. As Example 3.8 indicates, the inversions of V^7 in bars 1–2 are built on *incomplete neighbors* to tones of the tonic triad and function within a T area (review Example 3.6). The V in bar 4, however, is different because it appears in root position and articulates the conclusion of a four-bar group (Example 3.9). Yet this V is not left unresolved; instead, it moves to V^4_2 , which extends the influence of the dominant until I^6 appears. Following I^6 , the bass moves in falling fifths to the II– V^7 –I of the perfect authentic cadence.

Example 3.10 clarifies the various functions of V in Beethoven’s passage. At a local level (bars 1–2), V^4_2 and V^6_5 expand the tonic through neighbor notes that decorate the root and third of tonic harmony. We can therefore regard these manifestations of V^7 as *contrapuntal chords*. The V in bar 7, on the other hand, is part of the concluding perfect authentic cadence and is considered the structural *harmonic V* of the underlying T–Int–D–T framework.

EXAMPLE 3.8:

Beethoven, Piano Sonata, Op. 13, II: expansion of initial tonic

EXAMPLE 3.9:

Beethoven, Piano Sonata, Op. 13, II, bars 1–8: chordal reduction

The V in the middle of the passage functions in yet another fashion. Example 3.10 (which simplifies registers) shows that the bass of bars 1–8 traces stepwise motion through an octave. The root-position V in bar 4 is locally stable and serves as an intermediate goal from the beginning tonic. At a deeper level, however, it functions *within* the broader motion from I to the intermediate II of bar 7. The upper fifth is the most “natural” dividing point of the major and minor

EXAMPLE 3.10:

Beethoven, Piano Sonata, Op. 13, II, bars 1–8: structural bass motion

scales, because of the inherently close relationship of the dominant and tonic. The V in bar 4, therefore, *divides* the space governed by the tonic; in Examples 3.9 and 3.10 we indicate this “dividing dominant” in brackets to illustrate its divisive role as well as its function within the underlying tonic expansion. 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 local tonic.⁸

LARGER CONTEXTS

Our next example, Bach’s figured-bass chorale “Ihr Gestirn, Ihr hohen Lüfte” (Example 3.11), 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 3.12):

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.⁹
2. Bars 2–3 (continued tonic prolongation): Return to original octave in the bass; motion from I to I⁶ via a passing VII⁶.
3. Bar 3 (continued tonic prolongation): Return from I⁶ to I by means of a V₃⁴. (Though the figure implies a VII⁶ chord, A is sustained in the top voice, so that a V₃⁴ 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 $V_2^4-I^6$ 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^6), a continued stepwise motion through E to D might have been expected. Instead, the bass leaps to C \sharp and A, both of which belong to dominant harmony. These tones substitute for the expected E (which would probably support a VII^6 or V_3^4 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^6 to I. This exchange of tones associates the I^6 and I_3^5 chords; however, because of the intervening dominant chords, the return to tonic harmony is not

EXAMPLE 3.11:

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

The musical score consists of three systems of music, each with a circled number indicating the bar number. The first system (bars 1-4) has a circled '3' above it. The second system (bars 5-8) has circled '6' and '9' above it. The third system (bars 9-12) has circled '12' and '16' above it. The bass line includes figured bass notation: 4 | 4 | 6 | 6 | 4 | 2 | 6 | 6. The first system includes trills (tr) in the soprano line. The second system includes a trill (tr) in the soprano line. The third system includes a fermata in the soprano line.

EXAMPLE 3.12:

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

(a) ④

V I VII^{°6} I⁶ VII^{°6} I I⁶ V⁶ V⁷ F: I⁶

I ————— [V] ————— I —————

T

⑨ ⑪

II⁶₅ V⁴⁻³ I V V⁶ V I I⁶ IV II⁷ V⁴⁻³ I

————— III —————

Int

⑬ ⑯

D: III VII^{°6} I⁶ V⁶ I II⁶₅ V⁶₄₋₃ I III⁵ Int

————— 6 —————

Int D T

EXAMPLE 3.12 (continued)

(b) ⑬

F: I⁵ — 6 5 — 6
D: III — I⁶

fully established until bar 6. In essence, the I⁶ chord “looks ahead to” or anticipates the associated root-position tonic chord in bar 6, as indicated by the arrow in the example.¹⁰

In the soprano, notice the broad ascent through an octave from d¹ in bar 1 to d² in bar 5, followed by a continuation to f² in bar 6. This stepwise ascent lacks only scale degree $\hat{6}$ (bar 3) to be completely stepwise: this tone is replaced by the elaborated motion up to D in that bar. The goal of the ascent, f², 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 f¹ 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).

EXAMPLE 3.13:

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

① ⑧ ⑮ ⑯

I III II₅⁶ V I
T Int ————— D T

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 3.12). 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 3.12b. 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*.¹¹ 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 3.13 shows the large-scale bass and harmonic structure for the work: I–III– II_5^6 –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 3.14). The complete work will be studied later; at this point we shall consider the bass line and harmonic structure.¹²

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 3.15).

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_2^4 and V_5^6 chords function as contrapuntal chords. The dissonances

EXAMPLE 3.14:

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

Praeludium 1

The image displays the first ten measures of J.S. Bach's Prelude in C major from the Well-Tempered Clavier, Book I. The score is written for piano in C major, 4/4 time. It features a treble clef and a bass clef. The right hand plays a continuous eighth-note pattern, while the left hand plays a steady quarter-note accompaniment. Measure numbers 5 and 9 are indicated by circled numbers above the first and fifth measures of the third system, respectively. The notation includes various note values, rests, and accidentals (sharps and naturals).

EXAMPLE 3.14 (continued)

13

Two systems of musical notation. The first system contains measures 13 and 14. The second system contains measures 15 and 16. Each system has a treble clef staff with a complex rhythmic pattern of eighth and sixteenth notes, and a bass clef staff with a simpler pattern of quarter and eighth notes.

Two systems of musical notation. The first system contains measures 15 and 16. The second system contains measures 17 and 18. Each system has a treble clef staff with a complex rhythmic pattern of eighth and sixteenth notes, and a bass clef staff with a simpler pattern of quarter and eighth notes.

17

Two systems of musical notation. The first system contains measures 17 and 18. The second system contains measures 19 and 20. Each system has a treble clef staff with a complex rhythmic pattern of eighth and sixteenth notes, and a bass clef staff with a simpler pattern of quarter and eighth notes.

Two systems of musical notation. The first system contains measures 19 and 20. The second system contains measures 21 and 22. Each system has a treble clef staff with a complex rhythmic pattern of eighth and sixteenth notes, and a bass clef staff with a simpler pattern of quarter and eighth notes.

21

Two systems of musical notation. The first system contains measures 21 and 22. The second system contains measures 23 and 24. Each system has a treble clef staff with a complex rhythmic pattern of eighth and sixteenth notes, and a bass clef staff with a simpler pattern of quarter and eighth notes.

Two systems of musical notation. The first system contains measures 23 and 24. The second system contains measures 25 and 26. Each system has a treble clef staff with a complex rhythmic pattern of eighth and sixteenth notes, and a bass clef staff with a simpler pattern of quarter and eighth notes.

EXAMPLE 3.14 (continued)

(25)

(29)

(33)

EXAMPLE 3.15:

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

⑤ ⑪

I II₂⁴ V₅⁶ I⁵ — 6 #₂⁴ 6 ₂⁴ G: II⁷ V⁷ I —
 I — [V] —
 T

⑫ ⑯ ⑳

#₃⁴ 6 #₃⁴ 6 ₂⁴ C: II⁷ V⁷ I V⁷ — IV⁷
 I — IV
 Int

㉒ ㉗ ㉛

V⁷ 6₄ 7₄ — 3 6₄ 7₄ — 3 #₇
 V — I
 D T

㉜

6₄ 7₄
 I

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).¹³ 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^7-V^7-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 $^{\circ}\frac{4}{3}-\frac{6}{3}$). 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 3.16, 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 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 3.17). Schenker referred to such structural harmonic “pillars” as *Stufen* (the English translation is “scale steps”). In essence, 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.¹⁴ In Bach’s prelude,

EXAMPLE 3.16:

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

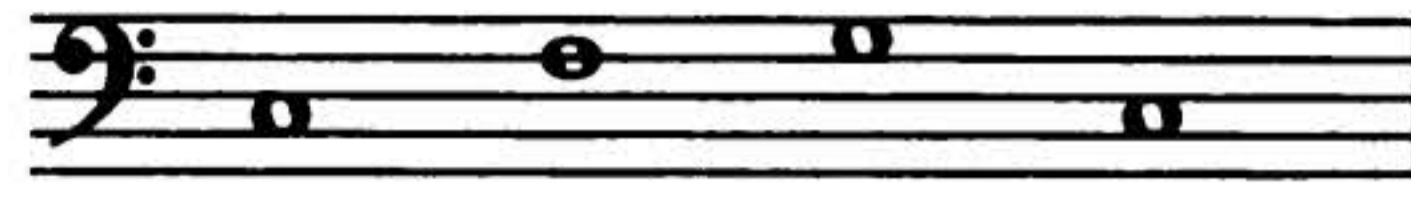
(11)
(19)

I
[V]
I

T
[D]
T

EXAMPLE 3.17:J. S. Bach, Prelude in C major (*WTC I*): harmonic structure

① ②① ②④ ③②-③⑤



I	IV	V	I
T	Int	D	T

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.

THE IMAGINARY CONTINUO

Bach's chorale melody with figured bass (Example 3.11) and prelude (Example 3.14) 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 3.15 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*.¹⁵ 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 3.18, which represents the opening of the slow movement from Beethoven's Piano Sonata, Op. 10, No. 1. We examine this passage in detail in Chapter 7, but we show here the imaginary continuo of bars 1–8; some introductory remarks at this point will later clarify the process of leading from analysis of the score to a fully developed Schenkerian graph. (The music is provided in Example 7.13.) The reduction in Example 3.18 largely speaks for itself, though we list next some of the salient features of 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. The analyst should indicate generally "pure" voice leading in the imaginary continuo, even when exceptions appear in instrumental textures. In other words, sevenths should move down by step, leading

EXAMPLE 3.18:

Beethoven, Piano Sonata, Op. 10, No. 1, II, bars 1–8: imaginary continuo

The image shows two systems of musical notation for piano accompaniment. Each system consists of a grand staff with a treble and bass clef. The bass line is annotated with figured bass notation. The first system covers bars 1-4, and the second system covers bars 5-8. The figured bass notation is as follows:

System 1 (bars 1-4): I, V₅⁶, I, V₅⁶, I, V

System 2 (bars 5-8): I, I⁶, IV, IV⁶, V₅⁶, I, V

tones should not be doubled, parallel fifths and octaves should not occur, and so forth. In bar 3 of Example 3.18, for instance, we show the resolution of the alto $d^{\flat 1}$, which leads to the doubled third in the tonic triad.

3. In simple figured-bass realizations, the movement of the performer's right hand is usually compact, involving stepwise motion or small leaps. Observing this principle when you write out the continuo will enable you to determine the path of the inner voices ("alto" and "tenor") and will later facilitate the recognition of the *structural* upper voice (as opposed to inner-voice motions).

We cannot overemphasize the benefits of identifying the imaginary continuo as a first step in analysis. In this and the preceding chapters we have seen how some tones in the upper voice and some chords in the lower voice reside at different levels of tonal structure. Particularly in instrumental textures, which often incorporate complex figuration and wide-ranging changes of register, the imaginary continuo can clarify prolongations, stepwise connections, and the melodically fluent character of the underlying 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 3.19; the patterns are drawn from previous examples studied in this chapter.

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 3.19:

A. *Bass arpeggiation expanding a triad by moving from one inversion to another* (Example 3.11, 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 1–2; Example 3.7, bars 1–3)



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

3. Alternating in upper voices and bass (Example 3.14, bars 1–4)

C. *Passing motion*

1. In the bass (Example 3.11, bars 3–4)

2. In the upper voices (Example 3.14, bars 24–27)

3. Parallel tenths (Example 3.5, bar 1)

D. Voice exchange between the outer voices (Example 3.11, bar 14)

E. Applied dominant chord (Example 3.7, bars 6–7)

F. *Leaps in bass* (Example 3.1, bar 6). In this example the bass motion from I to I⁶ 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.

G. *Prolongation through transformation* (Example 3.14, bars 19–21). The prolongation includes the addition of $\flat 7$, which transforms the initial prolonged tonic triad into V^7 of IV. This type of prolongation also includes 5–6 motions (Examples 3.14 and 3.15, bars 4–5).

I — $\flat 7$ — IV
T — Int

H. *Elaboration of a chord* (Example 3.1, bars 8–9; Example 3.14, bars 31–35)

$V_4^6 = 5_3$ compare V_4^5

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

I. *Elaborating motions between two chords* (Example 3.9, bars 3–4: passing motion in the bass). Other types of elaborating motions may include chordally supported passing motion in an upper voice. See Example 3.6, 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.

P P becomes
I ————— V
T D
I 6 $\flat 6_3$ — V

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."¹⁶

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.

Exercises

1. Workbook Exercises.

- a. Assignment No. 5: Mozart, Piano Sonata, K. 457, III (Allegro assai), bars 1–16
- b. Assignment No. 6: Chopin, Valse Brillante, Op. 34, No. 2, bars 17–36
- c. Assignment No. 7: Beethoven, Piano Sonata, Op. 10, No. 2, I, bars 1–12
- d. Assignment No. 8: Schumann, "Little Study," from *Album for the Young*, Op. 68, No. 14, bars 1–16
- e. Assignment No. 9: Beethoven, Op. 2, No. 3, III, Trio, bars 1–24
- f. Reexamine Assignment No. 1 (Beethoven: Seven Variations on "God Save the King," Theme) and illustrate the bass-line and harmonic structure
- g. Reexamine Assignment No. 3 (Chopin, Nocturne in F minor, Op. 55, No. 1, bars 1–8) and illustrate the bass-line and harmonic structure
- h. Reexamine Assignment No. 4 (Bellini, "Casta Diva," bars 16–23) and illustrate the bass-line and harmonic structure

2. Additional Pieces for Analysis.

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