

Linear Techniques

The melodic and harmonic dimensions of tonal music may be considered independently, yet they are closely interrelated. How do they work together? We shall begin to answer this question by considering ways in which melody may interrelate with harmony to form *linear progressions*.

LINEAR PROGRESSIONS

Example 4.1 shows the opening of a work by Bach, one of his grand preludes for organ. The piece begins with an ascending line in the right hand, a line that is essentially a C-major scale. The same gesture is immediately imitated by the left hand in the next bar. In fact, you will notice that most of the other lines in this brief passage are similar to the melody of the first measure: they are portions of the C-major scale that acquire a life of their own as they participate in a rhythmically animated texture that develops, by bar 5, into a three-part polyphonic fabric.

You may also notice that we refer to the scale in bar 1 as a “melody”; a scale passage can be, in many respects, one of the purest manifestations of melody. You may find it useful to recall the discussion of melodic and contrapuntal principles in Chapter 2. The scale passage has a definite beginning and end, defined by occurrences of the tonic note in different registers; most importantly, however, *it proceeds entirely by step*. The scale that begins this Prelude—one of the most characteristic features of the piece—is a melodically fluent line that resembles the formations we encountered in our discussion of strict counterpoint.

Consider for a moment that compositional practice, particularly during the Baroque and Classical periods, sought to establish the key definitively at the beginning of the piece. And if you sing the beginning of the prelude up to the

EXAMPLE 4.1:

(a) J. S. Bach, Organ Prelude in C Major, bars 1–5 with foreground interpretation;
 (b) arpeggiation of triad

(a)

(b)

downbeat of bar 2, the scale passage leaves you with little doubt that the work is in C major: it needs no harmonization, no accompanying second voice; the scale passage by itself establishes the key. A closer look will reveal something more than pure melody: consider that a diatonic scale (with the first note repeated an octave higher) comprises eight pitches. Bach's scale, on the other hand, contains ten notes. By repeating the mediant and dominant tones, Bach expands the scale and creates groups within the passage.

This grouping leads us to hear the first, third, and fifth degrees more prominently than the others. In other words, as Example 4.1b illustrates, one

can describe the passage as based on an *arpeggiation* of the C-major triad, with rhythmically weak passing tones filling in the *intervals* of the triad, thereby creating the melodically fluent scale. This passage portrays with great clarity how closely harmony and melody are interrelated.

Now look beyond bar 1 of Example 4.1a. You will soon discover that the harmonic basis of the entire excerpt is the C-major tonic chord, which is being expressed and expanded through linear means. In other words, the intervals of the C-major triad (represented schematically in Example 4.1b) occur horizontally either with stepwise lines or arpeggiations (consonant skips). For instance, the top voice of bar 4 to the downbeat of bar 5 is explicitly an arpeggiation of the C-major triad. Try mentally inserting passing tones between the strong part of each beat and you will recognize the relationship between bars 1 and 4: the top voice of bar 4 is a “variation” of bar 1 transferred up an octave, an arpeggiation of the tonic triad minus the passing tones.

Now examine the top voice of bar 2. The consonant skips *within* each beat create disjunct motion, in contrast to the scale passage of bar 1. Yet there is a “hidden” stepwise relationship that unifies bars 1 and 2. Focus on the notes on the strong part of each beat in bar 2 to the downbeat of bar 3. You will notice that these notes form the line C–C–D–E (see the circled notes in Example 4.1a). Not only do we see another instance of a nonadjacent stepwise relationship between tones, but in this case we realize also that the upper voice from the downbeat of bar 2 to the next downbeat is an expanded repetition of the first three notes of the piece—C–D–E! This motion through the lower third of the tonic triad—C–D–E—can be said to be repeated on two different “levels,” because each occupies a different span of tonal space.¹ Moreover, because of this relationship we perceive the opening melody to the downbeat of bar 3 as an *integrated* melodic gesture.

This elegant beginning to Bach’s prelude concisely illustrates a fundamental principle of tonal music: melodically fluent lines, which have their own melodic identity and character, often participate in the vertical dimension of chord and harmony. That is, they may serve to *expand* a chord into the horizontal dimension by “linearizing” the intervals of the chord, which may then be filled in with passing tones, the basic ingredient of melodic fluency.

Consider the vertical representation of the C-major triad shown in Example 4.1b. From the bottom up, the triad comprises two thirds plus a fourth. These groupings correspond to bar 1 of Bach’s prelude, where repeated notes articulate the third–third–fourth segmentation. In bar 3 (see the slur above the top voice), the motion from C up to G is not divided into a third plus a third as it is in bar 1, but appears as a continuous motion through the interval of a fifth. This motion delineates the boundary—the first and last notes—of the triad, the basic structural element of tonal music. The outer interval of a triad, however, may be expressed not only as a fifth—as in a three-note chord in close position—but also as an octave in a four-voice texture (Example 4.1b).

The initial scale passage completely traverses this octave: our ears perceive both the smaller chordal intervals within the bar and the larger interval that spans the downbeats of bars 1 and 2. In general, the intervals of the triad may serve as the basis for melodic motions associated with the expansion of triads: the third,

fifth, octave; fourth (as the inversion of the fifth), and sixth (as the inversion of the third).

Similar instances of the linear expression of harmonic intervals are shown in Example 4.2, which presents bars 1–4 from Mozart's setting of "Lison dormant." The top voice from bar 1 to the downbeat of bar 2 ascends from C to G, outlining the fifth of tonic harmony in stepwise motion. In this respect the opening is similar to that of Bach's prelude: the linearized interval of the tonic triad is expressed in immediate succession, with no elaborating tones.

In bars 2–4 another linear motion occurs, but in a manner slightly different from the opening. As the beamed notes indicate in Example 4.2, the final note of the initial ascending motion, G, becomes the first note of a descending motion through the third G–F–E, which is elaborated by repeated and neighboring tones. Note also that the tones of this descending third receive more substantive bass support than the rapidly ascending line in bar 1. The corresponding bass tones E–D–C are highlighted through their placement on the downbeat of each bar and move in parallel tenths with the top voice, outlining the triadic interval E–C. This outer-voice motion expands tonic harmony, leading from the I^6 of bar 2 back to root-position tonic harmony in bar 4. Finally, as if to answer the rapid

EXAMPLE 4.2:

Mozart, Variations on "Lison dormant," K. 264, bars 1–8 with foreground interpretation

The musical score for Example 4.2 shows bars 1–8 of Mozart's Variations on "Lison dormant." The score is in 2/4 time, marked "Theme Andante." The top voice in the treble staff shows a linearized interval of the tonic triad (C to G) in bar 1, followed by a descending motion (G–F–E) in bars 2–4. The bass staff shows corresponding bass tones (E–D–C) on the downbeat of each bar, moving in parallel tenths. Harmonic analysis symbols are provided below the bass staff: I T for bar 1, I T for bar 4, II^6 Int for bar 5, V D for bar 6, and I T for bar 7. Circled numbers 4 and 8 are placed above the staff. A bracket labeled "3-prg." spans bars 2–4, and a bracket labeled "5-prg." spans bars 5–7. Fingerings (10) are indicated for the top voice in bars 1, 2, 3, 4, 5, 6, and 7.

initial ascending fifth, the last part of the phrase is based on a more expansive descending fifth from G to C.

Scalar motions such as those in Examples 4.1 and 4.2, which unfold the interval or intervals of an underlying chord, are known as *linear progressions*. These lines most often move within the triadic intervals of the third, fourth, fifth, sixth, and octave. Linear progressions are referred to by the interval they span (third-progression, fifth-progression) and by the direction of motion (ascending or descending). They may prolong a single chord or form a motion that connects related chords.

The linear progression is a central aspect of Schenker's thinking. As he writes in *Free Composition*, "a linear progression is, above all else, the principle means . . . of creating melodic content."² Furthermore, Schenker ascribes the dynamic quality of the linear progression to the *passing tone* of second species counterpoint. Remember that in first species, only note-against-note consonances occur in the contrapuntal framework. In second species, the passing tone on the second beat (against a stationary cantus firmus) traverses the "space" of a melodic third on successive downbeats. Schenker was aware of the far-reaching significance of the passing tone as early as the second volume of *Counterpoint*, which appeared in 1922:

Of the intervals available in strict counterpoint, the first appearance of the dissonant passing tone produces a curious intrusion of the imaginary: it consists in the covert retention, by the ear, of the consonant point of departure that accompanies the dissonant passing tone on its journey through the third-space. . . . The implications of this effect are of great importance: we recognize in the dissonant passing tone the only dependable—indeed the only—vehicle of melodic content.³

Schenker uses the German word *Zug*, which has various meanings, most of which convey the idea of "pulling" or "drawing." Hence the term suggests something dynamic, a motion directed toward a goal. And because the first and last tones belong either to the same harmony or to closely related ones, an inner affinity connects the first tone to the last.

Some characteristic types of linear progressions are illustrated in Example 4.3. In Example 4.3a, the third and the root of the tonic triad form the boundaries of a descending progression that is filled in by the dissonant passing tone D. The second progression ascends from the third to the fifth of the triad, a span of a third that is also filled in with a single passing tone. Both progressions extend, or prolong, a harmony in musical space by connecting the initial and the goal tones with stepwise motion.

Example 4.3c illustrates a descending progression from the fifth to the root of the triad. It therefore horizontalizes the complete triad, transforming it (with two passing tones) from a vertical configuration to a horizontal motion. We see here a broader melodic span that may be harmonized by a variety of intervening chords, as in the progression shown in the second part of the example. Always bear in mind, however, that the line ultimately represents an expression of tonic harmony, delineated in this case by the motion from the fifth of tonic harmony to the tonic note.

EXAMPLE 4.3:

Characteristic linear progressions

(a) (b) (c) (d) (e)

compare 5-prg.

I — P I — P I — P I — IV V₄₋₅ I I — V I — IV

Linear progressions can also expand the motion between two different harmonies. In Example 4.3d, the motion ascends from the fifth of tonic harmony to the third of dominant harmony. In this case G is a common tone between both chords. Also significant is that the first and last tones are both related to dominant harmony, the *goal* of the progression. The descending third-progression illustrated in Example 4.3e likewise elaborates the motion from one harmony to another. Here, also, the interval outlined by the linear progression (C–A) belongs to the goal of the chord progression (IV). In Example 4.4, the bass moves through a fifth, linking I with II₅⁶; in other such cases—which include the motions

EXAMPLE 4.4:

(a) J. S. Bach, Chorale, “Jesu, meine Freude,” bars 1–2; (b) linear expression of vertical triad

(a)

Je - su, mei - ne Freu - de,

(b)

becomes and 5-prg.

I T V D I T I T II₅⁶ Int V D I T

I–V (descending), IV–V, and II–V—the requirement is that the first and last tones should belong to both closely related chords.

Our next example presents the beginning of one of Bach's many settings of the chorale melody "Jesu, meine Freude" (Example 4.4a). In this opening phrase, the upper voice begins with B ($\hat{5}$) and proceeds down by step to E ($\hat{1}$). The soprano melody thus forms a fifth-progression, a line that fills in the E-minor tonic triad (see Example 4.4b).

Like the opening of Bach's organ prelude in Example 4.1, the upper voice of this phrase represents an extension of tonic harmony. However its bass and harmonic structure are more complex: a succession of intervening chords connects the initial tonic to the closing tonic that marks the conclusion of the phrase. The essential harmonic structure of the phrase is shown in stages (Example 4.4b). Over the span of this two-bar phrase, the bass arpeggiates the tonic triad by moving from its root to its fifth and back again: E–B–E. The II_5^6 chord on the downbeat of bar 2 is an intermediate harmony, and we indicate its close relationship to the dominant with an eighth-note flag. The bass motion is further elaborated with passing tones that traverse a descending fifth from I to II_5^6 .⁴ In contrast to the bass motion E–A, the top-voice descending fifth E–B moves more slowly, embracing the entire phrase. Consequently, when the bass has descended a fifth to A on the downbeat of bar 2, the soprano has descended through only four tones of its descending fifth. The fourth and fifth tones (F $\sharp$ –E) are supported by the complete cadential progression that concludes the phrase.⁵

Example 4.5 presents the opening bars from the Trio of Beethoven's Piano Sonata, Op. 2, No. 1. In Example 4.5b, various elements of graphic notation are employed: broken lines and slurs indicate the retention of a single tone over a longer span, while solid slurs indicate motions among different tones.⁶ A notehead without a stem signifies a tone of lesser priority. Among stemmed notes, stem length corresponds to relative structural priority, with the longest stems showing greatest priority. Again, the letter P indicates passing function and N, neighbor function; neighbor function may also be shown with a flag.⁷

If you sing the melody of the right hand, you will notice that the upper voice is a stepwise, melodically fluent line that moves up to a high point in bar 3 and back down in bar 4. As the reduction in Example 4.5b shows, another melodically fluent line lies beneath the eighth notes—A–B $\flat$ –C–B $\flat$ –A (sing this "hidden" melody and you should easily perceive the relationship to the surface version). What, precisely, is the reason that leads us to distinguish this deeper "guiding" line beneath the surface of the music?

To answer this question we will need to consider the left-hand part as well. The motions to and from the bass and tenor registers define two separate stepwise lines, the lower of which defines the harmonic structure. The F (supporting tonic harmony) on the downbeats of bars 1 and 4 is prolonged by its upper and lower neighbors G and E, which support the II and V 6 chords, respectively. Thus each bar contains one principal chord, each contributing a primary bass and top-voice tone in what is essentially a note-against-note framework. Hence our analysis of the "guiding" line of the upper voice is made *in conjunction with* a similar analysis of the bass line. Now we can determine with even greater

EXAMPLE 4.5:

(a) Beethoven, Piano Sonata, Op. 2, No.1, III (Trio), bars 1–4; (b) analytical reduction;
(c) outer voice reduction

(a) **Trio**

(b) Analytical reduction of the Trio section. The score shows the upper voice (treble clef) and the lower voice (bass clef). The upper voice is labeled '3rd prg.' and 'P'. The lower voice is labeled 'N' and 'N'. The harmonic progression is indicated by Roman numerals: I, II, V⁶, and I.

(c) Outer voice reduction of the Trio section. The score shows the upper voice (treble clef) and the lower voice (bass clef). The upper voice is labeled 'P' and 'P'. The lower voice is labeled 'N' and 'N'. The harmonic progression is indicated by the Roman numeral I.

clarity the upper-voice *third progressions* that lead from A to C and back again, moving through the upper third of the F-major tonic triad; this motion prolongs A throughout bars 1–4.⁸

We can now identify several levels of structure in the top voice: (1) the prolongation of A, (2) the linear progressions rising to C and returning to A, and (3) the tones of figuration (neighbor notes, passing tones, and consonant skips) that further embellish these third-progressions. There are, moreover, other relationships among these levels: note the smaller third-progressions (indicated on the music) that foreshadow the larger third-progression A–B^b–C (bar 1 to the downbeat of bar 3). Also significant is the embellished A–F–A figure of bar

1, which is a smaller (and inverted) version of the A–C–A motion that spans the entire four-bar segment.⁹

Finally, consider the brackets in bars 2–4 of Example 4.5b. The concluding passing motion in the upper voice “answers” a similar passing motion in the bass. That is, G–F–E in the bass is followed by the more deeply embedded C–B $\flat$ –A in the upper voice, creating a concealed imitative relationship between the outer voices. This statement-answer pattern is called a *motivic parallelism* (these descending figures are also related to the *ascending* thirds F–G–A and G–A–B $\flat$ in bars 1–2). We will see the unifying effects of parallelisms again in different contexts.¹⁰

Our next excerpt illustrates a more elaborated form of a linear progression that prolongs an underlying chord. Example 4.6 presents bars 8–12 of the exposition from one of Clementi’s sonatinas.¹¹ An examination of the bass reveals the progression I–V 6 –I–V 4 $_3$ –I 6 , which supports the ascending fifth-progression G–A–B–C–D. The melodic span from G to D is a perfect fifth, the boundary interval of the G-major harmony that governs this passage. This is a particularly clear example of how a triad, an element of the vertical dimension of musical structure, may be expressed in the horizontal-temporal dimension with passing tones. Our analysis would be insufficient if we concluded here, however, because we have said little about the details of the musical surface that give this passage its own unique character and that distinguish it from countless other passages based upon fifth-progressions.

Notice that each note of the linear progression (except for the final D) is transferred up an octave within each measure. The linking of two different

EXAMPLE 4.6:

- (a) Clementi, Sonatina, Op. 36, No. 1, bars 8–12 with analytical interpretation;
 (b) outer voice reduction

(a) ⑧

G: I $\overset{6}{V}$ I $\overset{4}{3}{V}$ I 6

(b)

5-prg. 3-prg.

I $\overset{6}{V}$ I $\overset{4}{3}{V}$ I 6

octaves is one of several procedures used by composers to integrate the different registers of a composition. The integration of the two registers in this case is accomplished alternately with a scale passage that connects the registers in stepwise motion, followed by a direct leap up an octave. The alternation provides variety and creates an interplay between the left and right hands that enlivens the musical texture. When the right hand is rhythmically the most active, the bass is essentially silent; silence can be a way of “punctuating” musical space. When the bass then imitates the eighth-note rhythm in the following bar, the right hand reverts to quarter notes. This alternation directs our attention first to the right hand, then to the left, and so forth.

A related but different type of registral shift occurs in the left hand. The first G appears in the lower register, the lower neighbor F[#] and the G appear in the higher register. Here we see how a motion of a descending second, in this case from G to F[#], is inverted to an ascending seventh (G up to F[#]). This technique is called *interval inversion* and is particularly common in instrumental music.

The bass motion from I to I⁶ (G to B), therefore, supports the ascending fifth-progression in the upper voice from g¹ to d². Two elements derived from strict counterpoint prolong and expand tonic harmony: F[#] (supporting V⁶) is a lower neighbor to G, while A (supporting V⁴) is a second-species passing tone that connects the root and third of tonic harmony. Once again we see how counterpoint works interactively with harmony in the development of content and musical space.¹²

The opening of the Air from Bach’s Partita No. 6 in E minor (Example 4.7) illustrates a descending fourth-progression in the bass that was especially common in music of the seventeenth and early eighteenth centuries.¹³ In the harmonic progression from I to V, the intervening V⁶ and IV⁶ chords are contrapuntal chords, built on the passing tones D and C. The descending fourth in this context functions as an inversion of the rising perfect fifth. In other words, this *descending* progression provides another path from I to V, another resource for the shaping of musical space and the expansion of this fundamental harmonic motion.

Example 4.8, from the Courante of Handel’s F-minor Suite, is similar to the previous example in that the fourth-progression in the bass expands the musical space between tonic and dominant harmonies, but in this case the motion is reversed, proceeding from dominant to tonic. This particular chromatic progres-

EXAMPLE 4.7:

J. S. Bach, Partita No. 6, Air, bars 1–2 with analytical interpretation

Air

EXAMPLE 4.8:

Handel, Keyboard Suite No. 8, Courante, bars 43–46 with analytical interpretation

(43)

sion combines aspects of the major and minor modes, incorporating both forms of scale degrees $\hat{6}$ and $\hat{7}$. The motion to the tonic is intensified by the integration of the half steps into the fourth-progression.

Example 4.9 illustrates the elaboration of a single chord, but of a different type than we have previously considered. In this passage from Beethoven's Bagatelle, Op. 119, No. 1, the particular expansion involves the unfolding of a *dissonant* span, the seventh of a dominant seventh chord. As the left hand sustains the vertical seventh from B^b up to A^b , the upper voice "linearizes" the same interval with descending passing tones. This combination of a sustained, vertical chord with its "linearization" clearly illustrates how passing tones can fill in chordal arpeggiations, producing linear progressions that express and project harmonic entities into the horizontal dimension of tonal music.¹⁴

This example also illustrates another common procedure related to linear progressions, particularly those that involve a dissonance. It is clear in the left hand alone that the dominant seventh chord is sustained for four bars and that its seventh, A^b , resolves to the third of tonic harmony in the fifth bar of the example. Because the upper voice is a horizontal expression of the same chord, the high A^b functions in the same way: it does not resolve within the bar, but rather to the high G of tonic harmony. In other words, the resolution of the 7th in the upper voice is *delayed* (through intervening tones) until V^7 resolves to I.¹⁵ This delay is produced by the passing tones of the linear progression, which serve to unfold the chord and retain the presence of A^b . In so doing they lead from an "upper" voice to an "inner" voice of the underlying dominant seventh chord. We will discuss this technique (called "motion into an inner voice") more thoroughly in Chapter 6.

Example 4.9b also shows that the passing tones form groups of thirds. Because all of the chord tones are either stated or implied at the outset, we certainly perceive this grouping with the dominant seventh chord. Notice, however, that the dissonant passing tones G, E^b , and C are *accented* passing tones (Example 4.9a). Because the chordal context is so clearly established by the left hand and boundaries of the motion, the melodic function of these tones within the chord is clear, even though they occupy relatively strong rhythmic positions.

EXAMPLE 4.9:

- (a) Beethoven, Bagatelle, Op. 119, No. 1, bars 25–29 with analytical interpretation;
 (b) linear expression of V^7

(a)

(b)

Near the beginning of this chapter we mentioned that linear progressions normally involve the consonant intervals of major and minor triads, the primary vertical sonorities of tonal music. However, certain dissonant chords—among them the dominant seventh, diminished seventh, and augmented sixth chords—are also used by composers. Species counterpoint demonstrates the principle that dissonances function subordinately in a context defined by consonances. Likewise, dissonant chords are secondary relative to the consonant triads to which they resolve. Thus, we may designate the linear motions that expand dissonant harmonies as “secondary” linear progressions.¹⁶

LINEAR INTERVALLIC PATTERNS

Harmonic sequences often involve a repeated interval pattern between a pair of voices; these are known as *linear intervallic patterns*.¹⁷ Sequences and associated linear intervallic patterns produce harmonic prolongations and larger structural connections. And, like linear progressions, linear intervallic patterns prolong a single harmonic class or expand the space *between* classes in T–Int–D–T frameworks.

Handel's keyboard Passacaille in G minor provides a good example of the varied voice-leading patterns associated with a single sequence type. This work employs the descending-fifth sequence. Example 4.10 shows the sequence in its basic form, the complete circle of fifths with every chord in root position.

Consider the linear characteristics of this sequence. The interval pattern repeated by the outer voices is 5–10, an alternation of a perfect with an imperfect consonance. Note that we are not focusing here on a single-line linear progression, but on a recurring pattern that involves two voices moving in a complementary manner.¹⁸ In textures of more than two voices, chords naturally arise

EXAMPLE 4.10:

(a) Handel, Passacaille, bars 5–8; (b) outer voice reduction

(a) ⑤

I

V — I

(b)

I — IV — VII — III — VI — II — V — I

T D T

in conjunction with the repeated pattern, thereby forming chordal sequences. The chords in the pattern, like the linear chords discussed in Chapter 3, therefore result from contrapuntal motion.

In evaluating this passage, consider that the bass of a descending-fifth sequence pattern typically incorporates two intertwined, stepwise lines. In Example 4.10b, compare the line G–F–E^b–D, formed by the bass notes on the downbeats, with the line C–B^b–A–G, formed by the notes in the second part of each bar. The upper line—which begins on the tonic and receives greater rhythmic emphasis—seems primary, while the lower line appears to follow. Consequently, the linear intervallic pattern expands the motion from I to V in the overall motion I–V–I. The chords in the second part of each bar break up the parallel fifths and octaves that would otherwise occur between the chords on the downbeats.

The next example presents the beginning of Handel's Passacaille, the theme of the variations (Example 4.11). Here we see a variant form of the descending-fifth

EXAMPLE 4.11:

(a) Handel, Passacaille, bars 1–4; (b) outer voice reduction

(a)

I ——— III ——— II⁶

V I

(b)

I ——— III ——— II⁶ V I
T Int D T

sequence: the outer-voice framework is shaped by the succession 5–8, an alternation of two perfect consonances. Notice, however, that in bar 2 the pattern is 5–10 instead of 5–8. Changes like these, even if apparently incidental, can often clarify aspects of the structural framework, in this case T–Int–D–T.

In the previous example (the first variation) it is initially difficult to make decisions about chordal functions within the linear intervallic pattern, because the bass consists of motion by fifths. In Example 4.11 the situation is different. The sequence is a variant of the descending-fifth progression in which root-position chords alternate with six-three chords. In bar 2, however, the pattern is 5–10 (instead of 5–8). This “exception” allows the B^b-major chord to appear in root position (the bass is the lowest note heard thus far), producing stability *in the midst* of the sequence that highlights the function of the B^b chord as a *scale step* in the progression I–III–II⁶–V–I. Thus an apparently insignificant change in surface detail—the change in the intervallic pattern—significantly influences the analytical interpretation of the passage.

Example 4.12, a passage from Mozart’s Piano Sonata in C major, K. 545, is also organized by a descending-fifth sequence in which root-position chords alternate with six-three chords. Many of the roman numerals have been enclosed in parentheses, differentiating these fleeting chords (produced locally through contrapuntal motion) from the broader context of the harmonic prolongation in which they function.

The first part of Example 4.12b shows the pattern 10–10, which is repeated before the intermediate II⁶ appears. In this case, the sequential pattern leads from I⁶ to I, expanding tonic harmony. In the second part of the example, we have “normalized” the register. Much of the charm of this excerpt results from the interplay of two different registers in the right hand, resulting from the elaboration of this pattern through interval inversion. If you compare the two parts of Example 4.12b, you will discover that the seconds inherent in the upper voice of the basic pattern are realized as descending sevenths in the actual music. Nevertheless, the framework based on a series of tenths is not undermined by the contrasting registers; in fact, the pattern serves to unify these registers.

Example 4.13, from Handel’s Passacaille, illustrates the common linear intervallic pattern 8–10. In contrast to the 5–10 pattern of Example 4.10, the upper-voice tone remains constant throughout each bar, traversing a fourth-progression from G to D. (As we have seen, linear progressions are often associated with linear intervallic patterns.)

The rapid sixteenth-note scale passages, which are characteristic of virtuosic writing for keyboard instruments, prolong each tone of the fourth-progression by the technique called *transfer of register*. In other words, the right hand consists of scalar figuration that leads from the high to the middle register of the keyboard. Note also that were it not for the tenths in the second part of each bar, the bass and upper voice would proceed in parallel octaves. In intervallic patterns involving a perfect consonance (such as 5–10 and 8–10), the alternating interval improves the voice leading between adjacent chords.

Example 4.14, our last excerpt from Handel’s Passacaille, shows another situation in which the note in the upper voice is sustained in each statement of the pattern. This is the first example we have encountered in which one of the voices

EXAMPLE 4.12:

(a) Mozart, Piano Sonata, K. 545, I, bars 18–22; (b) outer voice reduction

(a)

(b)

from

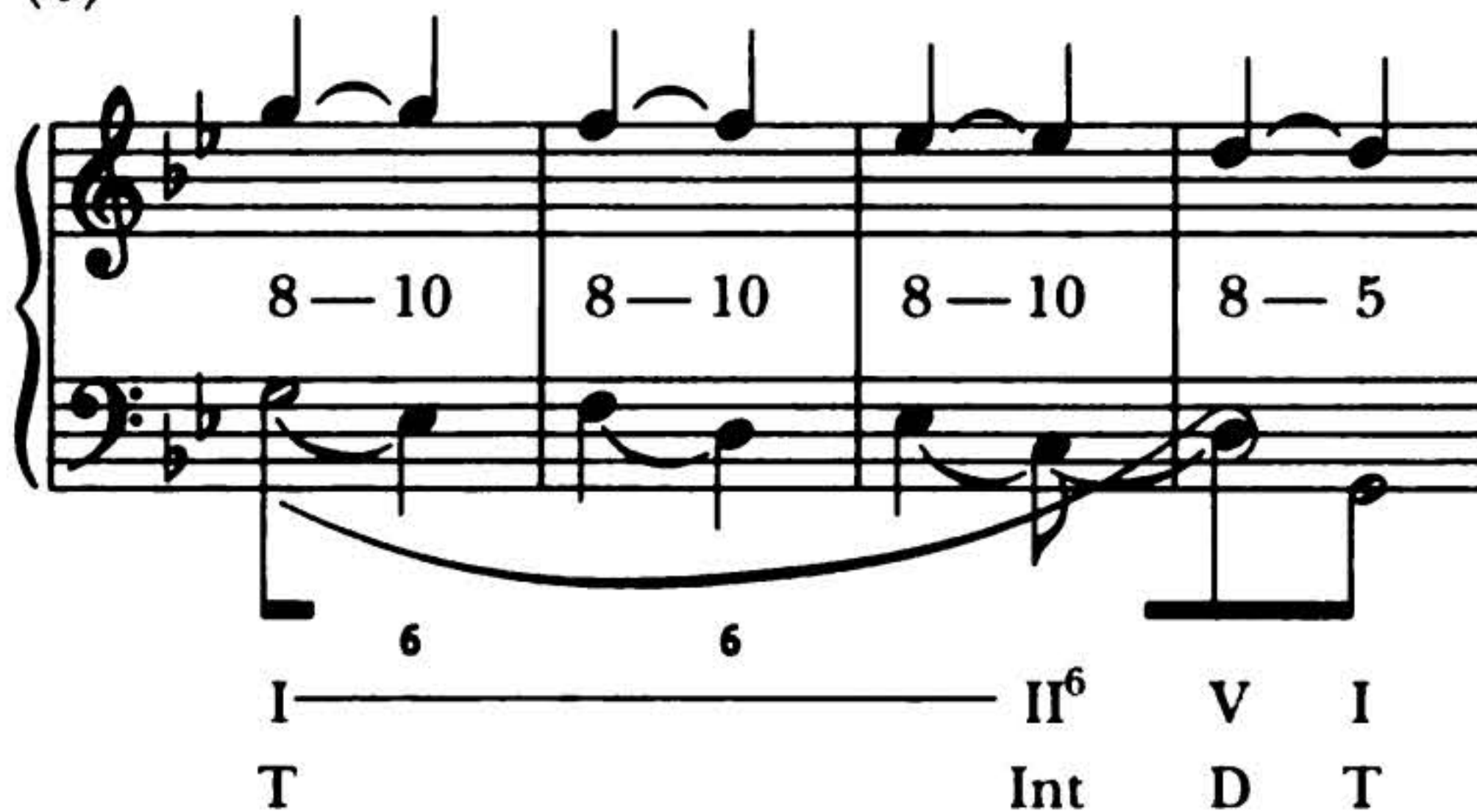
EXAMPLE 4.13:

(a) Handel, *Passacaille*, bars 33–36; (b) outer voice reduction

(a) 33



(b)



is dissonant with the other (10–7). The seventh between the outer voices in the second half of each bar is prepared as a common tone by the preceding tenth; the dissonance then resolves to the tenth on the downbeat of the next bar (which prepares the following seventh, and so forth). These local seventh chords intensify motion into the triads on the downbeats. Consequently, we regard the function of this linear intervallic pattern as leading from the tonic at the beginning of the phrase to the dominant in the cadential measure; the chords in the second half of each bar mitigate the parallels between the triads on the successive downbeats.

In the excerpts we have examined thus far, we have only shown linear intervallic patterns associated with the descending-fifth sequence. We shall conclude this section with patterns that work in conjunction with other sequence types.

EXAMPLE 4.14:

(a) Handel, *Passacaille*, bars 41–44; (b) outer voice reduction

(a) 41

(b)

Compare the passage in Example 4.15 with its reduction. In the music, chordal skips animate (and somewhat conceal) a stepwise linear intervallic pattern. The 5–6 contrapuntal motion creates the alternating $\frac{5}{3}$ and $\frac{6}{3}$ chords of the *ascending 5–6 sequence*. In this pattern, the 5–6 motion breaks up the parallel fifths that would otherwise occur in a series of rising root-position triads.

Because of the repeated leaps in the soprano melody, we must look to the tenor voice to understand the continuity of the upper voice shown in the reduction (notice that we have placed the implied tones in parentheses). In other words, the intervals of the fifth and sixth above the bass occur alternately between two voices (soprano and tenor). The polyphonic skips in the soprano serve to *elaborate* the underlying stepwise line inherent in this sequence.¹⁹ This rising series of 5–6 motions therefore prolongs tonic harmony (I^6-I). Through

EXAMPLE 4.15:

(a) Dowland, "Come Again, Sweet Love," bars 15–20; (b) linear reduction

(a) ⑮

S
To see, to hear, to touch, to kiss, to die_____

A
To see, to hear, to touch, to kiss, to die_____

T
To see to hear, to touch, to kiss, to die, to die with

B
To see, to hear, to touch, to kiss, to die, to

(b)

I⁶ ————— I

the rising fourths in the soprano, the dialogue between the soprano and the lower voices, and the rhythmic animation of the complementary quarter-note motion, Dowland creates a sense of growing excitement that perfectly suits the emotional intensity of the text.

In Example 4.16, the 5–6 motion is enhanced through the use of chromatic passing tones. As a result the $\frac{6}{3}$ chords not only intervene between the root-position chords, but also (bars 12 and 13) function as applied dominant chords. In the upper voice, the chromatic passing tones G $\sharp$ in bar 11 and C $\sharp$ in bar 14 similarly intensify the motion to the following chords. As Example 4.16b shows, a chromatic passing motion occurs in every bar of the example beginning with the motion from III to VI, the chord that begins the sequence. The sequence moves from VI to I⁶, with the bass rising a fifth overall. Notice that the outer voices proceed in parallel tenths, a common succession of intervals in the ascending 5–6 sequence.²⁰

EXAMPLE 4.16:

(a) Mendelssohn, *Song Without Words*, Op. 62, No. 1, bars 10–15; (b) linear reduction

(a)

⑩

cresc. — — — — —

⑭

sempre *cresc.* *cresc.* — — — — —

(b)

10 10 10 10 10

5 — 6 5 — 6 5 — 6 5 — 6 6

G: III VI I⁶

Our next example, the opening bars of the last movement from Beethoven's Piano Sonata, Op. 79 (Example 4.17), is based on the descending 5–6 sequence (sometimes called the *falling thirds* sequence). A comparison of the bass and the main notes of the upper voice reveals a 10–6 pattern that continues through the end of bar 3, where the bass changes direction and proceeds by leap to the V. This change in direction suggests that the I^6 in bar 3 is an intermediate goal in the phrase (Example 4.17b). Notice that the bass of the linear intervallic pattern traverses a descending sixth-progression. It is important to bear in mind that linear progressions are usually part of linear intervallic patterns.

This example also provides a clear illustration of the distinction between “chord” and “harmony.” As we described above, intervening chords in sequences arise through the contrapuntal motion between a pair of voices; individually they do not represent harmonies. Here only the I and I^6 , the tonic chords that begin and end the sequence, represent harmonies in a structural sense (as do the concluding V and I chords).²¹

That the expansion of tonic harmony largely shapes the organization of the phrase is evident not only from the linear progression in the bass. If you compare the notes between the outer voices at the beginning and end of the linear intervallic pattern, you will discover a voice exchange (Example 4.17b). Remember that a voice exchange expands a chord through an arpeggiation of its tones between two voices. In this case, B to G in the upper voice is accompanied by G to B in the lower (the ascending third from I to I^6 is expressed as a descending sixth

EXAMPLE 4.17:

(a) Beethoven, Piano Sonata, Op. 79, III, bars 1–4; (b) linear reduction

(a) **Vivace**

(b)

10 6 10–6

from and

I T I^6 V I

D T

EXAMPLE 4.18 (continued)

(b) 45 48

(c)

(d)

voice of the underlying D major triad (the local tonic). The deeper stepwise connection is from A to G, which appears over the II^6 (Int) chord. From a broader perspective, we see that the suspensions and linear progression expand the T area of the T–Int–D–T framework.

THE NEIGHBOR NOTE

We have begun to discover ways in which harmony and counterpoint interact in the formation of linear progressions and intervallic patterns. In this final section we explore briefly another type of contrapuntal formation that may serve to

expand tonal structure on various levels: the neighbor note. Schenker, of course, was not the first to write about neighbor notes, but he was the first to recognize their full significance at different levels of tonal structure; consequently, he gave them special attention in his work. Neighbor notes can serve many purposes in tonal music: for now, we will consider two representative examples.

In the opening bars of Brahms's Waltz in A^b, Op. 39, No. 15 (Example 4.19), tonic harmony is prolonged throughout the phrase and supports C as the main tone in the upper voice in bars 1, 2, and 4. Although A^b also occurs in the bass on the downbeat of bar 3, the chord in that bar is a neighboring ⁶/₄, which supports D^b in the upper voice as a neighbor to C.

Pay special attention to bar 3: the upper neighbor D^b *does not* resolve to C on the second beat. This C is a passing tone within the line D^b–C–B^b, a motion that sustains the neighbor D^b for the duration of the bar (the D^b in the bass and tenor on beat 2 helps to confirm this point). The resolution of D^b to C occurs *across* the bar, and corresponds with the restatement of root-position tonic harmony. Thus scale degree $\hat{3}$ is prolonged in the upper voice by the tone succession C–D^b–C. The different functions of c² in bars 3 and 4 provide further clarification that repeated tones may embody different meanings.

Example 4.20 shows another instance of the prolonging function of a neighbor note; here, it occurs within a linear progression in the first movement of Beethoven's "Moonlight" Sonata. After four bars of introduction, the main part of the movement begins. As the reduction shows, the upper voice traverses a third-progression, G[#]–F[#]–E, which is supported by the harmonic progression from I to III. This third-progression is elaborated and *expanded* by A, the upper neighbor to G[#].

You will see in the reduction that we interpret the A as an *incomplete* upper neighbor (IN). In other words, it relates as a neighbor only to the first G[#]. The second G[#] is supported by the cadential six-four of the cadence and therefore is an *accented passing tone* that resolves to F[#], the second tone of the linear progression (the sixth and fourth of a cadential six-four usually enter either as suspensions or accented passing tones). The elaboration of a linear progression with an incomplete upper neighbor figure is very common in tonal music. Incidentally, you will notice that we have represented the neighbor note in the reduction with an eighth-note flag, a notation commonly used in Schenkerian graphs to indicate neighbor notes; the bass tones of intermediate harmonies are also indicated in this manner.²³

EXAMPLE 4.19:

Brahms, Waltz, Op. 39, No. 15, bars 1–4

EXAMPLE 4.20:

(a) Beethoven, Piano Sonata, Op. 27, No. 2, I, bars 5–9; (b) linear reduction

(a)

(b)

LINEAR INTERVALLIC PATTERNS: SUMMARY

Examples 4.21 and 4.22 show common linear intervallic patterns. These summaries are not exhaustive and do not represent every possible type of sequence, but they provide an overview of important possibilities and how these patterns function in T-Int-D-T frameworks. In general, linear intervallic patterns expand and create breadth within a single harmony—such as I moving to I⁶—or

EXAMPLE 4.21:

Descending linear intervallic patterns: (a–d) root movement by descending fifth (includes $\frac{6}{3}$ variant); (e–g) descending 5–6 pattern (includes root-position variant)

(a)

10 8 10 8 10 8

I T V D I T

(b)

10 6 10 6 10 6

I T II⁶ Int V D I T

(c)

10 5 10 5 10 5

I T II₅⁶ Int V D I T

(d)

10 7 10 7 10 7

I T V D I T

EXAMPLE 4.21 (continued)

(e)

10 10 10 10 10 10

6 6 6

I II V⁷ I
T Int D T

(f)

10 6 10 6 10 6

6 6 6

I I⁶ IV V I
T T Int D T

(g)

10 5 10 5 10 5

6 6 6

I IV V⁷ I
T Int D T

bridge the gap between two related harmonies—such as I moving to IV, II⁶, or II₅⁶. The examples depict descending and ascending patterns, which correspond to the following sequences: descending fifth, descending 5–6, and ascending 5–6 (each sequence type comprises a *model* and a *variant*).

We show each intervallic (outer-voice) pattern with numbers between the staves. Roman numerals designate structural harmonies; figured-bass symbols, where applicable, specify the sonorities of the imaginary continuo. Bear in mind that any of the upper voices (soprano, alto, and tenor) may appear in the “soprano” position; a reordering results in a different linear intervallic pattern than those shown. The type of harmonic sequence, however, as well as the succession of figured bass symbols remain constant. Notice also that the patterns are *diatonic*. Chromatic sequences and linear intervallic patterns can generally be considered transformations of diatonic models.

EXAMPLE 4.22:

Ascending linear intervallic patterns: (a–d) ascending 5–6 pattern (includes root-position variant)

(a)

Example (a) shows a piano exercise with an ascending 5-6 pattern in root position. The right hand plays a sequence of eighth notes: 5, 6, 5, 6, 5, 6, followed by a whole note. The left hand plays a sequence of eighth notes: 6, 6, 6, followed by a whole note. The pattern is labeled with Roman numerals: I T, IV Int, V D, I T.

(b)

Example (b) shows a piano exercise with an ascending 10-10 pattern in root position. The right hand plays a sequence of eighth notes: 10, 10, 10, 10, 10, 10, followed by a whole note. The left hand plays a sequence of eighth notes: 6, 6, 6, followed by a whole note. The pattern is labeled with Roman numerals: I T, IV Int, V⁷ D, I T.

(c)

Example (c) shows a piano exercise with an ascending 5-8 pattern in root position. The right hand plays a sequence of eighth notes: 5, 8, 5, 8, 5, 8, followed by a whole note. The left hand plays a sequence of eighth notes: 6, 6, 6, followed by a whole note. The pattern is labeled with Roman numerals: I T, IV Int, V D, I T.

(d)

Example (d) shows a piano exercise with an ascending 10-5 pattern in root position. The right hand plays a sequence of eighth notes: 10, 5, 10, 5, 10, 5, followed by a whole note. The left hand plays a sequence of eighth notes: 6, 6, 6, followed by a whole note. The pattern is labeled with Roman numerals: I T, IV Int, V D, I T.